Section I

LIVE ANIMALS; ANIMAL PRODUCTS

LEGAL NOTES

Notes.

1. - Any reference in this Section to a particular genus or species of an animal, except where the context otherwise requires, includes a reference to the young of that genus or species.

2. - Except where the context otherwise requires, throughout the Nomenclature any reference to “dried” products also covers products which have been dehydrated, evaporated or freeze-dried.

EXPLANATORY NOTES

Section I

LIVE ANIMALS; ANIMAL PRODUCTS

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2. - Except where the context otherwise requires, throughout the Nomenclature any reference to “dried” products also covers products which have been dehydrated, evaporated or freeze-dried.

Chapter 1

Live animals

LEGAL NOTES

Note.

1. - This Chapter covers all live animals except:

(a) Fish and crustaceans, molluscs and other aquatic invertebrates, of heading 03.01, 03.06, 03.07 or 03.08;

(b) Cultures of micro-organisms and other products of heading 30.02; and

(c) Animals of heading 95.08.

EXPLANATORY NOTES

Chapter 1

Live animals

Note.

1. - This Chapter covers all live animals except:

(a) Fish and crustaceans, molluscs and other aquatic invertebrates, of heading 03.01, 03.06, 03.07 or 03.08;

(b) Cultures of micro-organisms and other products of heading 30.02; and

(c) Animals of heading 95.08.

GENERAL

This Chapter covers all living creatures (for food or other purposes) **except**:

(1) Fish and crustaceans, molluscs and other aquatic invertebrates.

(2) Cultures of micro-organisms and other products of **heading 30.02**.

(3) Animals forming part of circuses, menageries or other similar travelling animal shows (**heading 95.08**).

Animals, including insects, which die during transport are classified in headings **02.01 to 02.05, 02.07, 02.08 or 04.10** if they are edible animals fit for human consumption. In other cases they are classified in **heading 05.11**.

Heading 0101

Live horses, asses, mules and hinnies.

EXPALNATORY NOTES

01.01 - Live horses, asses, mules and hinnies (+).

- Horses:

0101.21 - - Pure-bred breeding animals

0101.29 - - Other

0101.30 - Asses

0101.90 - Other

This heading covers horses (mares, stallions, geldings, foals and ponies), asses, mules and hinnies, whether domestic or wild.

Mules are the hybrid offspring of the ass and the mare. The hinny is bred from the stallion and the ass.

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Subheading Explanatory Note.

Subheading 0101.21

For the purposes of subheading 0101.21, the expression “pure-bred breeding animals” covers only those breeding animals which are regarded as “pure-bred” by the competent national authorities.

0101.2

- Horses:

0101.21

-- Pure-bred breeding animals

0101.29

-- Other

0101.30

- Asses

0101.90

- Other

Heading 0102

Live bovine animals.

EXPLANATORY NOTES

01.02 - Live bovine animals (+).

- Cattle:

0102.21 - - Pure-bred breeding animals

0102.29 - - Other

- Buffalo:

0102.31 - - Pure-bred breeding animals

0102.39 - - Other

0102.90 - Other

This heading covers all animals of the sub-family Bovinae, whether or not domestic and irrespective of their intended use (e.g., stock, raising, fattening, breeding, slaughter). These include, inter alia:

(1) **Cattle**:

This category covers bovine animals of the genus Bos, which is divided into four sub-genera: Bos, Bibos, Novibos and Poephagus. These include, inter alia:

(A) The common ox (Bos Taurus), the Zebu or humped ox (Bos indicus) and the Watussi ox.

(B) The Asiatic oxen of the sub-genus Bibos, such as the gaur (Bos gaurus), the gayal (Bos frontalis) and the banteng (Bos sondaicus or Bos javanicus).

(C) Animals of the sub-genus Poephagus, such as the Tibetan yak (Bos grunniens).

(2) **Buffalo**:

This category covers animals of the genera Bubalus, Syncerus and Bison. These include, inter alia:

(A) Animals of the genus Bubalus, including the Indian or water buffalo (Bubalus bubalus), the Asiatic buffalo or arni (Bubalus arni) and the Celebese anoa or pigmy buffalo (Bubalus depressicornis or Anoa depressicornis).

(B) African buffaloes of the genus Syncerus, such as the dwarf buffalo (Syncerus nanus) and the large Caffrarian buffalo (Syncerus caffer).

(C) Animals of the genus Bison, i.e., the American bison (Bison bison) or “buffalo” and the European bison (Bison bonasus).

(D) The Beeffalo (a cross between a bison and a domestic beef animal).

(3) **Other**, including the four-horned antelope (Tetracerus quadricornis) and the spiral-horned antelopes of the genera Taurotragus and Tragelaphus.

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Subheading Explanatory Note.

Subheading 0102.21 and 0102.31

For the purposes of subheadings 0102.21 and 0102.31, the expression “pure-bred breeding animals” covers only those breeding animals which are regarded as “pure-bred” by the competent national authorities.

0102.2

- Cattle:

0102.21

-- Pure-bred breeding animals

0102.29

-- Other

0102.3

- Buffalo:

0102.31

-- Pure-bred breeding animals

0102.39

-- Other

0102.90

- Other

Heading 0103

Live swine.

EXPLANATORY NOTES

01.03 - Live swine (+).

0103.10 - Pure-bred breeding animals

- Other:

0103.91 - - Weighing less than 50 kg

0103.92 - - Weighing 50 kg or more

This heading covers both domestic pigs and wild pigs (e.g., wild boars).

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Subheading Explanatory Notes.

Subheading 0103.10

For the purposes of subheading 0103.10, the expression “pure-bred breeding animals” covers only those breeding animals which are regarded as “pure-bred” by the competent national authorities.

Subheadings 0103.91 and 0103.92

For the purposes of subheadings 0103.91 and 0103.92, the specified weight limits relate to the weight of each animal.

0103.10

- Pure-bred breeding animals

0103.9

- Other:

0103.91

-- Weighing less than 50 kg

0103.92

-- Weighing 50 kg or more

Heading 0104

Live sheep and goats.
EXPLANATORY NOTES

01.04 - Live sheep and goats.

0104.10 - Sheep

0104.20 - Goats

This heading covers domestic or wild sheep (rams, ewes, and lambs) and domestic or wild goats and kids.

0104.10

- Sheep

0104.20

- Goats

Heading 0105

Live poultry, that is to say, fowls of the species Gallus domesticus, ducks, geese, turkeys and guinea EXPLANATORY NOTES

01.05 - Live poultry, that is to say, fowls of the species Gallus domesticus, ducks, geese, turkeys and guinea fowls (+).

- Weighing not more than 185 g:

0105.11 - - Fowls of the species Gallus domesticus

0105.12 - - Turkeys

0105.13 - - Ducks

0105.14 - - Geese

0105.15 - - Guinea fowls

- Other:

0105.94 - - Fowls of the species Gallus domesticus

0105.99 - - Other

This heading covers only live domestic birds of the kinds specified in the heading. Fowls of the species Gallus domesticus include chickens and capons. Other live birds (e.g., partridges, pheasants, pigeons, wild ducks, and wild geese) are **excluded** (**heading 01.06**).

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Subheading Explanatory Note.

Subheadings 0105.11, 0105.12, 0105.13, 0105.14 and 0105.15

For the purposes of subheadings 0105.11, 0105.12, 0105.13, 0105.14 and 0105.15, the specified weight limit relates to the weight of each bird.

0105.1

- Weighing not more than 185 g:

0105.11

-- Fowls of the species Gallus domesticus

0105.12

-- Turkeys

0105.13

-- Ducks

0105.14

-- Geese

0105.15

-- Guinea fowls

0105.9

- Other:

0105.94

-- Fowls of the species Gallus domesticus

0105.99

-- Other

Heading 0106

Other live animals.

EXPLANATORY NOTES

01.06 - Other live animals.

- Mammals:

0106.11 - - Primates

0106.12 - - Whales, dolphins and porpoises (mammals of the order Cetacea); manatees and dugongs (mammals of the order Sirenia); seals, sea lions and walruses (mammals of the suborder Pinnipedia)

0106.13 - - Camels and other camelids (Camelidae)

0106.14 - - Rabbits and hares

0106.19 - - Other

0106.20 - Reptiles (including snakes and turtles)

- Birds:

0106.31 - - Birds of prey

0106.32 - - Psittaciformes (including parrots, parakeets, macaws and cockatoos)

0106.33 - - Ostriches; emus (Dromaius novaehollandiae)

0106.39 - - Other

- Insects:

0106.41 - - Bees

0106.49 - - Other

0106.90 - Other

This heading includes, inter alia, the following domestic or wild animals:

(A) **Mammals**:

(1) Primates.

(2) Whales, dolphins and porpoises (mammals of the order Cetacea); manatees and dugongs (mammals of the order Sirenia); seals, sea lions and walruses (mammals of the suborder Pinnipedia).

(3) Other (e.g., reindeer, cats, dogs, lions, tigers, bears, elephants, camels (including dromedaries), zebras, rabbits, hares, deer, antelope (other than those of the sub-family Bovinae), chamois, foxes, minks and other animals for fur farms).

(B) **Reptiles (including snakes and turtles)**.

(C) **Birds**:

(1) Birds of prey.

(2) Psittaciformes (including parrots, parakeets, macaws and cockatoos).

(3) Other (e.g., partridges, pheasants, quail, woodcocks, snipe, pigeons, grouse, ortolan, wild ducks, wild geese, thrushes, blackbirds, larks, finches, tits, humming birds, peacocks, swans and other birds not specified in heading 01.05).

(D) **Insects**, e.g., bees (whether or not in travelling boxes or cages or hives).

(E) **Other**, e.g., frogs.

This heading **excludes** animals forming part of circuses, menageries or other similar travelling animal shows (**heading 95.08**).

0106.1

- Mammals:

0106.11

-- Primates

0106.12

-- Whales, dolphins and porpoises (mammals of the order Cetacea); manatees and dugongs (mammals of the order Sirenia); seals, sea lions and walruses (mammals of the suborder Pinnipedia)

0106.13

-- Camels and other camelids (Camelidae)

0106.14

-- Rabbits and hares

0106.19

-- Other

0106.20

- Reptiles (including snakes and turtles)

0106.3

- Birds:

0106.31

-- Birds of prey

0106.32

-- Psittaciformes (including parrots, parakeets, macaws and cockatoos)

0106.33

-- Ostriches; emus (Dromaius novaehollandiae)

0106.39

-- Other

0106.4

- Insects:

0106.41

-- Bees

0106.49

-- Other

0106.90

- Other

Chapter 2

Meat and edible meat offal

LEGAL NOTES

Note.

1. - This Chapter does not cover:

(a) Products of the kinds described in headings 02.01 to 02.08 or 02.10, unfit or unsuitable for human consumption;

(b) Edible, non-living insects (heading 04.10);

(c) Guts, bladders or stomachs of animals (heading 05.04) or animal blood (heading 05.11 or 30.02); or

(d) Animal fat, other than products of heading 02.09 (Chapter 15).

EXPLANATORY NOTES

Chapter 2

Meat and edible meat offal

Note.

1. - This Chapter does not cover:

(a) Products of the kinds described in headings 02.01 to 02.08 or 02.10, unfit or unsuitable for human consumption;

(b) Edible, non-living insects (heading 04.10);

(c) Guts, bladders or stomachs of animals (heading 05.04) or animal blood (heading 05.11 or 30.02); or

(d) Animal fat, other than products of heading 02.09 (Chapter 15).

GENERAL

This Chapter applies to meat in carcasses (i.e., the body of an animal with or without the head), half-carcasses (resulting from the lengthwise splitting of a carcass), quarters, pieces, etc., to meat offal, and to flours and meals of meat or meat offal, of all animals (**except** fish and crustaceans, molluscs and other aquatic invertebrates - **Chapter 3**), suitable for human consumption.

Meat and meat offal unsuitable or unfit for human consumption are **excluded** (**heading 05.11**). Flours, meals and pellets unfit for human consumption, obtained from meat or meat offal, are also **excluded** (**heading 23.01**).

Offal generally can be grouped in four categories:

(1) That which is mainly used for human consumption (e.g., heads and cuts thereof (including ears), feet, tails, hearts, tongues, thick skirts, thin skirts, cauls, throats, thymus glands).

(2) That which is used solely in the preparation of pharmaceutical products (e.g., gall bags, adrenal glands, and placenta).

(3) That which can be used for human consumption or for the preparation of pharmaceutical products (e.g., livers, kidneys, lungs, brains, pancreas, spleens, spinal cords, ovaries, uteri, testes, udders, thyroid glands, pituitary glands).

(4) That, such as skins, which can be used for human consumption or for other purposes (e.g., manufacture of leather).

The offal referred to in paragraph (1), fresh, chilled, frozen, salted, in brine, dried or smoked, remains classified in this Chapter **unless** it is unfit for human consumption, in which case it is to be classified in **heading 05.11**.

The offal referred to in paragraph (2) falls in **heading 05.10** when fresh, chilled, frozen or otherwise provisionally preserved and in **heading 30.01** when dried.

The offal referred to in paragraph (3) is classified as follows:

(a) In **heading 05.10** when provisionally preserved for the preparation of pharmaceutical products (e.g., in glycerol, acetone, alcohol, formaldehyde, sodium borate).

(b) In **heading 30.01** when dried.

(c) In Chapter 2 when suitable for human consumption, but in **heading 05.11** if unfit for human consumption.

The offal referred to in paragraph (4) is classified in Chapter 2 when suitable for human consumption or generally in **heading 05.11** or **Chapter 41** if unfit for human consumption.

Guts, bladders and stomachs of animals (other than fish), whether or not edible, are classified in **heading 05.04**.

Animal fat presented separately is **excluded** (**Chapter 15**) (except in the case of pig fat, free of lean meat, and poultry fat, not rendered or otherwise extracted, which fall in heading 02.09 even if fit only for industrial use), but fat presented in the carcass or adhering to meat is treated as forming part of the meat.

Distinction between meat and meat offal of this Chapter and those of Chapter 16.

This Chapter covers meat and meat offal in the following states only, whether or not they have been previously scalded or similarly treated but not cooked:

(1) Fresh (including meat and meat offal, packed with salt as a temporary preservative during transport).

(2) Chilled, that is, reduced in temperature generally to around 0 °C, without being frozen.

(3) Frozen, that is, cooled to below the product's freezing point until it is frozen throughout.

(4) Salted, in brine, dried or smoked.

Meat and meat offal, slightly sprinkled with sugar or with an aqueous solution of sugar are also classified in this Chapter.

Meat and meat offal in the states referred to in Items (1) to (4) above remain classified in this Chapter whether or not they have undergone tenderising treatment with proteolytic enzymes (e.g., papain) or have been cut, chopped or minced (ground). In addition, mixtures or combinations of products of different headings of the Chapter (e.g., poultry meat of heading 02.07 covered with pig fat of heading 02.09) remain classified in this Chapter.

Meat and meat offal not falling in any heading of this Chapter are classified in **Chapter 16**, e.g.:

(a) Sausages and similar products, whether or not cooked (**heading 16.01**).

(b) Meat and meat offal cooked in any way (boiled, steamed, grilled, fried or roasted), or otherwise prepared or preserved by any process not provided for in this Chapter, including those merely covered with batter or bread crumbs, truffled or seasoned (e.g., with pepper and salt), as well as liver pastes and patés (**heading 16.02**).

This Chapter also includes meat and meat offal suitable for human consumption, whether or not cooked, in the form of flour or meal.

It should be noted that meat and meat offal of this Chapter remain classified here even if put up in airtight packings (e.g., dried meat in cans). In most cases, however, products put up in these packings have been prepared or preserved otherwise than as provided for in the headings of this Chapter and, accordingly, are classified in **Chapter 16**.

Similarly, meat and meat offal of this Chapter remain classified here (e.g., fresh or chilled meat of bovine animals) when subjected to packaging by means of a Modified Atmospheric Packaging (MAP) process. In a MAP process the atmosphere surrounding the product is altered or controlled (e.g., by removing or reducing the oxygen content and replacing it with or increasing the nitrogen or carbon dioxide content).

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Subheading Explanatory Note.

With bone in

The expression “with bone in” means meat with all bones intact, as well as meat where some or part of the bones have been removed (e.g., shankless and semi-boneless hams). This expression does not cover products where the bones have been removed and thereafter reinserted so that they are no longer connected to the meat tissues.

Heading 0201

Meat of bovine animals, fresh or chilled.

EXPLANATORY NOTES

02.01 - Meat of bovine animals, fresh or chilled.

0201.10 - Carcasses and half-carcasses

0201.20 - Other cuts with bone in

0201.30 - Boneless

This heading covers fresh or chilled meat of domestic or wild bovine animals of heading 01.02.

0201.10

- Carcasses and half-carcasses

0201.20

- Other cuts with bone in

0201.30

- Boneless

Heading 0202

Meat of bovine animals, frozen.

EXPLANATORY NOTES

02.02 - Meat of bovine animals, frozen.

0202.10 - Carcasses and half-carcasses

0202.20 - Other cuts with bone in

0202.30 - Boneless

This heading covers frozen meat of domestic or wild bovine animals of heading 01.02.

0202.10

- Carcasses and half-carcasses

0202.20

- Other cuts with bone in

0202.30

- Boneless

Heading 0203

Meat of swine, fresh, chilled or frozen.

EXPLANATORY NOTES

02.03 - Meat of swine, fresh, chilled or frozen.

- Fresh or chilled:

0203.11 - - Carcasses and half-carcasses

0203.12 - - Hams, shoulders and cuts thereof, with bone in

0203.19 - - Other

- Frozen:

0203.21 - - Carcasses and half-carcasses

0203.22 - - Hams, shoulders and cuts thereof, with bone in

0203.29 - - Other

This heading covers fresh, chilled or frozen meat of pigs and other swine, whether domestic or wild (e.g., wild boars). The heading includes streaky pork and similar meats interlarded with a high proportion of fat, and fat with an adhering layer of meat.

0203.1

- Fresh or chilled:

0203.11

-- Carcasses and half-carcasses

0203.12

-- Hams, shoulders and cuts thereof, with bone in

0203.19

-- Other

0203.2

- Frozen:

0203.21

-- Carcasses and half-carcasses

0203.22

-- Hams, shoulders and cuts thereof, with bone in

0203.29

-- Other

Heading 0204

Meat of sheep or goats, fresh, chilled or frozen.

EXPLANATORY NOTES

02.04 - Meat of sheep or goats, fresh, chilled or frozen (+).

0204.10 - Carcasses and half-carcasses of lamb, fresh or chilled

- Other meat of sheep, fresh or chilled:

0204.21 - - Carcasses and half-carcasses

0204.22 - - Other cuts with bone in

0204.23 - - Boneless

0204.30 - Carcasses and half-carcasses of lamb, frozen

- Other meat of sheep, frozen:

0204.41 - - Carcasses and half-carcasses

0204.42 - - Other cuts with bone in

0204.43 - - Boneless

0204.50 - Meat of goats

This heading covers fresh, chilled or frozen meat of sheep (rams, ewes and lambs), goats or kids, whether domestic or wild.

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Subheading Explanatory Note.

Subheadings 0204.10 and 0204.30

For the purposes of subheadings 0204.10 and 0204.30, meat of lamb is meat derived from an animal of the ovine species not more than 12 months of age. The flesh is of fine grain and texture, pinkish-red in colour and of velvety appearance. The weight of carcasses does not exceed 26 kg.

0204.10

- Carcasses and half-carcasses of lamb, fresh or chilled

0204.2

- Other meat of sheep, fresh or chilled:

0204.21

-- Carcasses and half-carcasses

0204.22

-- Other cuts with bone in

0204.23

-- Boneless

0204.30

- Carcasses and half-carcasses of lamb, frozen

0204.4

- Other meat of sheep, frozen:

0204.41

-- Carcasses and half-carcasses

0204.42

-- Other cuts with bone in

0204.43

-- Boneless

0204.50

- Meat of goats

Heading 0205

Meat of horses, asses, mules or hinnies, fresh, chilled or frozen.

EXPLANATORY NOTES

02.05 - Meat of horses, asses, mules or hinnies, fresh, chilled or frozen.

This heading covers fresh, chilled or frozen meat of those animals which, when live, are classified in heading 01.01.

0205.00

Meat of horses, asses, mules or hinnies, fresh, chilled or frozen.

Heading 0206

Edible offal of bovine animals, swine, sheep, goats, horses, asses, mules or hinnies, fresh, chilled or frozen.

EXPLANATORY NOTES

02.06 - Edible offal of bovine animals, swine, sheep, goats, horses, asses, mules or hinnies, fresh, chilled or frozen.

0206.10 - of bovine animals, fresh or chilled

- Of bovine animals, frozen:

0206.21 - - Tongues

0206.22 - - Livers

0206.29 - - Other

0206.30 - of swine, fresh or chilled

- Of swine, frozen:

0206.41 - - Livers

0206.49 - - Other

0206.80 - other, fresh or chilled

0206.90 - other, frozen

The edible offal of this heading includes the following : heads and cuts thereof (including ears), feet, tails, hearts, udders, livers, kidneys, sweetbreads (thymus glands and pancreas), brains, lungs, throats, thick skirts, thin skirts, spleens, tongues, caul, spinal cords, edible skin, reproductive organs (e.g., uteri, ovaries and testes), thyroid glands, pituitary glands. For the principles to be applied for the classification of offal, see the General Explanatory Note to this Chapter.

0206.10

- Of bovine animals, fresh or chilled

0206.2

- Of bovine animals, frozen:

0206.21

-- Tongues

0206.22

-- Livers

0206.29

-- Other

0206.30

- Of swine, fresh or chilled

0206.4

- Of swine, frozen:

0206.41

-- Livers

0206.49

-- Other

0206.80

- Other, fresh or chilled

0206.90

- Other, frozen

Heading 0207

Meat and edible offal, of the poultry of heading 01.05, fresh, chilled or frozen.

EXPLANATORY NOTES

02.07 - Meat and edible offal, of the poultry of heading 01.05, fresh, chilled or frozen.

- Of fowls of the species Gallus domesticus:

0207.11 - - Not cut in pieces, fresh or chilled

0207.12 - - Not cut in pieces, frozen

0207.13 - - Cuts and offal, fresh or chilled

0207.14 - - Cuts and offal, frozen

- Of turkeys:

0207.24 - - Not cut in pieces, fresh or chilled

0207.25 - - Not cut in pieces, frozen

0207.26 - - Cuts and offal, fresh or chilled

0207.27 - - Cuts and offal, frozen

- Of ducks:

0207.41 - - Not cut in pieces, fresh or chilled

0207.42 - - Not cut in pieces, frozen

0207.43 - - Fatty livers, fresh or chilled

0207.44 - - Other, fresh or chilled

0207.45 -- Other, frozen

- Of geese:

0207.51 - - Not cut in pieces, fresh or chilled

0207.52 - - Not cut in pieces, frozen

0207.53 - - Fatty livers, fresh or chilled

0207.54 - - Other, fresh or chilled

0207.55 - - Other, frozen

0207.60 - Of guinea fowls

This heading covers only fresh, chilled or frozen meat and edible offal of domestic poultry which, when live, are classified in heading 01.05.

The poultry offal of greatest importance in international trade is chicken, goose or duck livers. These include “fatty livers” of geese or ducks which may be distinguished from other livers by the fact that they are much larger and heavier, firmer and richer in fat; their colour varies from whitish beige to light chestnut, while the other livers are in general of a dark or light reddish colour.

0207.1

- Of fowls of the species Gallus domesticus:
0207.11

-- Not cut in pieces, fresh or chilled
0207.12

-- Not cut in pieces, frozen
0207.13

-- Cuts and offal, fresh or chilled
0207.14

-- Cuts and offal, frozen
0207.2

- Of turkeys:
0207.24

-- Not cut in pieces, fresh or chilled
0207.25

-- Not cut in pieces, frozen
0207.26

-- Cuts and offal, fresh or chilled
0207.27

-- Cuts and offal, frozen
0207.4

- Of ducks:
0207.41

-- Not cut in pieces, fresh or chilled
0207.42

-- Not cut in pieces, frozen
0207.43

-- Fatty livers, fresh or chilled
0207.44

-- Other, fresh or chilled
0207.45

-- Other, frozen

0207.5

- Of geese:

0207.51

-- Not cut in pieces, fresh or chilled

0207.52

-- Not cut in pieces, frozen

0207.53

-- Fatty livers, fresh or chilled

0207.54

-- Other, fresh or chilled

0207.55

-- Other, frozen

0207.60

- Of guinea fowls

Heading 0208

Other meat and edible meat offal, fresh, chilled or frozen.

EXPLANATORY NOTES

02.08 - other meat and edible meat offal, fresh, chilled or frozen.

0208.10 - of rabbits or hares

0208.30 - of primates

0208.40 - of whales, dolphins and porpoises (mammals of the order Cetacea); of manatees and dugongs (mammals of the order Sirenia); of seals, sea lions and walruses (mammals of the suborder Pinnipedia)

0208.50 - of reptiles (including snakes and turtles)

0208.60 - Of camels and other camelids (Camelidae)

0208.90 - Other

This heading covers meat and meat offal of the animals classified in heading 01.06, provided that they are suitable for human consumption (e.g., rabbit, hare, frog, reindeer, beaver, whale, and turtle).

0208.10

- Of rabbits or hares

0208.30

- Of primates

0208.40

- Of whales, dolphins and porpoises (mammals of the order Cetacea); of manatees and dugongs (mammals of the order Sirenia); of seals, sea lions and walruses (mammals of the suborder Pinnipedia)

0208.50

- Of reptiles (including snakes and turtles)

0208.60

- Of camels and other camelids (Camelidae)

0208.90

- Other

Heading 0209

Pig fat, free of lean meat, and poultry fat, not rendered or otherwise extracted, fresh, chilled, frozen, salted, in brine, dried or smoked.

EXPLANATORY NOTES

02.09 - Pig fat, free of lean meat, and poultry fat, not rendered or otherwise extracted, fresh, chilled, frozen, salted, in brine, dried or smoked.

0209.10 - Of pigs

0209.90 - Other

The pig fat of this heading is restricted to fat free of lean meat; such fat falls in the heading even if suitable only for industrial use. Meat in forms commonly eaten as such is **excluded** (**heading 02.03** or **02.10** as the case may be, for example, streaky pork and similar meats interlarded with a high proportion of fat, and fat with an adhering layer of meat).

This heading includes, in particular, the fat found mainly round the pig's viscera and which, when rendered, or otherwise extracted, is classified in **heading 15.01**.

Fat of domestic or wild poultry (e.g., of geese), not rendered or otherwise extracted, also falls in the heading; when rendered or otherwise extracted it is **excluded** (**heading 15.01**).

Fat from marine mammals is **excluded** (**Chapter 15**).

0209.10

- Of pigs

0209.90

- Other

Heading 0210

Meat and edible meat offal, salted, in brine, dried or smoked; edible flours and meals of meat or meat offal.

EXPLANATORY NOTES

02.10 - Meat and edible meat offal, salted, in brine, dried or smoked; edible flours and meals of meat or meat offal.

- Meat of swine:

0210.11 - - Hams, shoulders and cuts thereof, with bone in

0210.12 - - Bellies (streaky) and cuts thereof

0210.19 - - Other

0210.20 - Meat of bovine animals

- Other, including edible flours and meals of meat or meat offal:

0210.91 - - Of primates

0210.92 - - Of whales, dolphins and porpoises (mammals of the order Cetacea); of manatees and dugongs (mammals of the order Sirenia); of seals, sea lions and walruses (mammals of the suborder Pinnipedia)

0210.93 - - Of reptiles (including snakes and turtles)

0210.99 - - Other

This heading applies to all kinds of meat and edible meat offal which have been prepared as described in the heading, **other than** pig fat, free of lean meat, and poultry fat, not rendered or otherwise extracted (**heading 02.09**). The heading includes streaky pork and similar meats interlarded with a high proportion of fat, and fat with an adhering layer of meat, provided they have been prepared as described in the heading.

Salted, dried (including dehydrated or freeze-dried) or smoked meat (e.g., bacon, ham, shoulder) remains classified in this heading if it has been enclosed in guts, stomachs, bladders, skins or similar casings (natural or artificial), **provided** that it has not been previously chopped or minced and combined with other ingredients (**heading 16.01**).

Edible flours and meals of meat or meat offal also fall in this heading; flours and meals of meat or meat offal unfit for human consumption (e.g., for feeding animals) are **excluded** (**heading 23.01**).

The provisions of Explanatory Note to heading 02.06 apply, mutatis mutandis, to edible meat offal of this heading.

0210.1

- Meat of swine:

0210.11

-- Hams, shoulders and cuts thereof, with bone in

0210.12

-- Bellies (streaky) and cuts thereof

0210.19

-- Other

0210.20

- Meat of bovine animals

0210.9

- Other, including edible flours and meals of meat or meat offal:

0210.91

-- Of primates

0210.92

-- Of whales, dolphins and porpoises (mammals of the order Cetacea); of manatees and dugongs (mammals of the order Sirenia); of seals, sea lions and walruses (mammals of the suborder Pinnipedia)

0210.93

-- Of reptiles (including snakes and turtles)

0210.99

-- Other

Chapter 3

Fish and crustaceans, molluscs and other aquatic invertebrates

LEGAL NOTES

Notes.

1. - This Chapter does not cover:

(a) Mammals of heading 01.06;

(b) Meat of mammals of heading 01.06 (heading 02.08 or 02.10);

(c) Fish (including livers, roes and milt thereof) or crustaceans, molluscs or other aquatic invertebrates, dead and unfit or unsuitable for human consumption by reason of either their species or their condition (Chapter 5); flours, meals or pellets of fish or of crustaceans, molluscs or other aquatic invertebrates, unfit for human consumption (heading 23.01); or

(d) Caviar or caviar substitutes prepared from fish eggs (heading 16.04).

2. - In this Chapter the term “pellets” means products which have been agglomerated either directly by compression or by the addition of a small quantity of binder.

3. - Headings 03.05 to 03.08 do not cover flours, meals and pellets, fit for human consumption (heading 03.09).

EXPLANATORY NOTES

Chapter 3

Fish and crustaceans, molluscs and other

Aquatic invertebrates

Notes.

1. - This Chapter does not cover:

(a) Mammals of heading 01.06;

(b) Meat of mammals of heading 01.06 (heading 02.08 or 02.10);

(c) Fish (including livers, roes and milt thereof) or crustaceans, molluscs or other aquatic invertebrates, dead and unfit or unsuitable for human consumption by reason of either their species or their condition (Chapter 5); flours, meals or pellets of fish or of crustaceans, molluscs or other aquatic invertebrates, unfit for human consumption (heading 23.01); or

(d) Caviar or caviar substitutes prepared from fish eggs (heading 16.04).

2. - In this Chapter the term “pellets” means products which have been agglomerated either directly by compression or by the addition of a small quantity of binder.

3. - Headings 03.05 to 03.08 do not cover flours, meals and pellets, fit for human consumption (heading 03.09).

GENERAL

This Chapter covers all fish and crustaceans, molluscs and other aquatic invertebrates, whether live or dead, presented for direct consumption, or for industrial purposes (canning, etc.), for spawning, for aquaria, etc., with the **exception** of dead fish (including livers and roes thereof), crustaceans, molluscs and other aquatic invertebrates which are unfit or unsuitable for human consumption by reason of either their species or their condition (**Chapter 5**).

The term “chilled” means that the temperature of a product has been reduced, generally to around 0 °C, without the product being frozen. The expression “frozen” means that the product has been cooled to below the product’s freezing point until it is frozen throughout.

This Chapter also covers edible fish roes and milt, not prepared or preserved, or prepared or preserved only by processes provided for in this Chapter. Otherwise prepared or preserved edible roes and milt, or those suitable for immediate consumption as caviar or caviar substitutes are classified in **heading 16.04**.

Distinction between goods of this Chapter and those of Chapter 16.

This Chapter is limited to fish (including livers and roes thereof) and crustaceans, molluscs and other aquatic invertebrates in the states described in the headings. Subject to this proviso, they remain classified in the Chapter whether or not they have been cut, chopped, minced, ground, etc. In addition, mixtures or combinations of products of different headings of the Chapter (e.g., fish of **headings 03.02** to **03.04** combined with crustaceans of **heading 03.06**) remain classified in this Chapter.

On the other hand, fish and crustaceans, molluscs and other aquatic invertebrates are classified in **Chapter 16** if they have been cooked or otherwise prepared or preserved by processes not provided for in this Chapter (e.g., fish fillets merely covered with batter or bread crumbs, cooked fish). It should, however, be noted that smoked fish and smoked crustaceans, molluscs and other aquatic invertebrates, which may have undergone cooking during or before the smoking process, and crustaceans in their shells simply steamed or boiled in water, remain classified in **headings 03.05, 03.06, 03.07** and **03.08**, respectively. Molluscs that have been subjected only to scalding or other types of heat shock (which do not entail cooking as such), necessary to open the shell or stabilize the mollusc prior to transportation or freezing, also remain in this Chapter. Flours, meals and pellets obtained from cooked fish and cooked crustaceans, molluscs or other aquatic invertebrates remain classified in **heading 03.09**.

It should also be noted that fish and crustaceans, molluscs and other aquatic invertebrates of this Chapter remain classified here even if put up in airtight containers (e.g., smoked salmon in cans). In most cases, however, products put up in these packings have been prepared or preserved otherwise than as provided for in the headings of this Chapter, and accordingly fall to be classified in **Chapter 16**.

Similarly, fish and crustaceans, molluscs and other aquatic invertebrates of this Chapter remain classified here (e.g., fresh or chilled fish) when subjected to packaging by means of a Modified Atmospheric Packaging (MAP) process. In a MAP process the atmosphere surrounding the product

is altered or controlled (e.g., by removing or reducing the oxygen content and replacing it with or increasing the nitrogen or carbon dioxide content).

In addition to the exclusions referred to above, the Chapter also **excludes**:

(a) Mammals of **heading 01.06**.

(b) Meat of mammals of heading 01.06 (**heading 02.08 or 02.10**).

(c) Fish waste and inedible roes (e.g., salted cod roes used as fishing bait) (**heading 05.11**).

(d) Flours, meals and pellets of fish or of crustaceans, molluscs or other aquatic invertebrates, unfit for human consumption (**heading 23.01**).

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Heading 0301

Live fish.

EXPLANATORY NOTES

03.01 - Live fish (+).

	- Ornamental fish
0301.11	- - Freshwater
0301.19	- - Other
	- Other live fish:
0301.91	- - Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aguabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchus chrysogaster)
0301.92	- - Eels (Anguilla spp.)
0301.93	- - Carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.)
0301.94	- - Atlantic and Pacific bluefin tunas (Thunnus thynnus, Thunnus orientalis)
0301.95	- - Southern bluefin tunas (Thunnus maccoyii)
0301.99	- - Other

This heading covers all live fish, whatever their intended use (e.g., ornamental fish).

The fish of this heading are normally transported in suitable containers (aquaria, fish tanks, etc.) in which they can be kept alive in conditions similar to those found in their natural environment.

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Subheading Explanatory Note.

Subheadings 0301.11 and 0301.19

The expression “ornamental fish” means live fish which, because of their colours or shapes, are normally used for ornamental purposes, in particular, in aquaria.

0301.1

- Ornamental fish:

0301.11

-- Freshwater

0301.19

-- Other

0301.9

- Other live fish:

0301.91

-- Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aguabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchus chrysogaster)

0301.92

-- Eels (Anguilla spp.)

0301.93

-- Carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.)

0301.94

-- Atlantic and Pacific bluefin tunas (Thunnus thynnus, Thunnus orientalis)

0301.95

-- Southern bluefin tunas (Thunnus maccoyii)

0301.99

-- Other

Heading 0302

Fish, fresh or chilled, excluding fish fillets and other fish meat of heading 03.04.

EXPLANATORY NOTES

03.02 - Fish, fresh or chilled, excluding fish fillets and other fish meat of heading 03.04 (+).

- Salmonidae, excluding edible fish offal of subheadings 0302.91 to 0302.99:

0302.11 - - Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aguabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchus chrysogaster)

0302.13 - - Pacific salmon (Oncorhynchus nerka, Oncorhynchus gorbuscha, Oncorhynchus keta, Oncorhynchus tschawytscha, Oncorhynchus kisutch, Oncorhynchus masou and Oncorhynchus rhodurus)

0302.14 - - Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)

0302.19 - - Other

- Flat fish (Pleuronectidae, Bothidae, Cynoglossidae, Soleidae, Scophthalmidae and Citharidae), excluding edible fish offal of subheadings 0302.91 to 0302.99:

0302.21 - - Halibut (Reinhardtius hippoglossoides, Hippoglossus hippoglossus, Hippoglossus stenolepis)

0302.22 - - Plaice (Pleuronectes platessa)

0302.23 - - Sole (Solea spp.)

0302.24 - - Turbots (Psetta maxima)

0302.29 - - Other

- Tunas (of the genus Thunnus), skipjack tuna (stripe-bellied bonito) (Katsuwonus pelamis), excluding edible fish offal of subheadings 0302.91 to 0302.99

0302.31 - - Albacore or longfinned tunas (Thunnus alalunga)

0302.32 - - Yellowfin tunas (Thunnus albacares)

0302.33 - - Skipjack tuna (stripe-bellied bonito) (Katsuwonus pelamis)

0302.34 - - Bigeye tunas (Thunnus obesus)

0302.35 - - Atlantic and Pacific bluefin tunas (Thunnus thynnus, Thunnus orientalis)

0302.36 - - Southern bluefin tunas (Thunnus maccoyii)

0302.39 - - Other

- Herrings (Clupea harengus, Clupea pallasii), anchovies (Engraulis spp.), sardines (Sardina pilchardus, Sardinops spp.), sardinella (Sardinella spp.), brisling or sprats (Sprattus sprattus), mackerel (Scomber scombrus, Scomber australasicus, Scomber japonicus), Indian mackerels (Rastrelliger spp.), seerfishes (Scomberomorus spp.), jack and horse mackerel (Trachurus spp.), jacks, crevalles (Caranx spp.), cobia (Rachycentron canadum), silver pomfrets (Pampus spp.), Pacific saury (Cololabis saira), scads (Decapterus spp.), capelin (Mallotus villosus), swordfish (Xiphias gladius), Kawakawa (Euthynnus affinis), bonitos (Sarda spp.), marlins, sailfishes, spearfish (Istiophoridae),excluding edible fish offal of subheadings 0302.91 to 0302.99 :

0302.41 - - Herrings (Clupea harengus, Clupea pallasii)

0302.42 - - Anchovies (Engraulis spp.)

0302.43 - - Sardines (Sardina pilchardus, Sardinops spp.), sardinella (Sardinella spp.), brisling or sprats (Sprattus sprattus)

0302.44 - - Mackerel (Scomber scombrus, Scomber australasicus, Scomber japonicus)

0302.45 - - Jack and horse mackerel (Trachurus spp.)

0302.46 - - Cobia (Rachycentron canadum)

0302.47 - - Swordfish (Xiphias gladius)

0302.49 - - Other

- Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, M erlucciidae, Moridae and Muraenolepididae, excluding edible fish offal of subheadings 0302.91 to 0302.99:

0302.51 - - Cod (Gadus morhua, Gadus ogac, Gadus macrocephalus)

0302.52 - - Haddock (Melanogrammus aeglefinus)

0302.53 - - Coalfish (Pollachius virens)

0302.54 - - Hake (Merluccius spp., Urophycis spp.)

0302.55 - - Alaska Pollock (Theragra chalcogramma)

0302.56 - - Blue whitings (Micromesistius poutassou, Micromesistius australis)

0302.59 - - Other

- Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., and Ictalurus spp.), carp (Cyprinus spp., Carassius spp, Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.), excluding edible fish offal of subheadings 0302.91 to 0302.99:

0302.71 - - Tilapias (Oreochromis spp.)

0302.72 - - Catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.)

0302.73 - - Carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.)

0302.74 - - Eels (Anguilla spp.)

0302.79 - - Other

- Other fish, excluding edible fish offal of subheadings 0302.91 to 0302.99:

0302.81 - - Dogfish and other sharks

0302.82 - - Rays and skates (Rajidae)

0302.83 - - Toothfish (Dissostichus spp.)

0302.84 - - Seabass (Dicentrarchus spp.)

0302.85 - - Seabream (Sparidae)

0302.89 - - Other

- Livers, roes, milt, fish fins, heads, tails, maws and other edible fish offal:

0302.91 - - Livers, roes and milt

0302.92 - - Shark fins

0302.99 - - Other

This heading covers fish, fresh or chilled, whether whole, headless, gutted, or in cuts containing bones or cartilage. However, the heading **does not include** fish fillets and other fish meat of **heading 03.04**. The fish may be packed with salt or ice or sprinkled with salt water as a temporary preservative during transport.

Fish slightly sugared or packed with a few bay leaves remains in this heading.

Edible fish offal separated from the rest of the body of the fish (e.g., skins, tails, maws (swim bladders), heads and halves of heads (with or without the brains, cheeks, tongues, eyes, jaws, or lips), stomachs, fins, tongues), as well as livers, roes and milt, fresh or chilled, are also classified in this heading.

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Subheading Explanatory Note

Subheading 0302.92

For the purposes of subheading 0302.92, the term “shark fins” covers dorsal, pectoral, ventral, anal fins and the lower lobe of the tail (caudal fin) of sharks. However, the upper parts of shark tails **are not** regarded as shark fins.

0302.1

- Salmonidae, excluding edible fish offal of subheadings 0302.91 to 0302.99:

0302.11

-- Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aguabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchus chrysogaster)

0302.13

-- Pacific salmon (Oncorhynchus nerka, Oncorhynchus gorbuscha, Oncorhynchus keta, Oncorhynchus tschawytscha, Oncorhynchus kisutch, Oncorhynchus masou and Oncorhynchus rhodurus)

0302.14

-- Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)

0302.19

-- Other

0302.2

- Flat fish (Pleuronectidae, Bothidae, Cynoglossidae, Soleidae, Scophthalmidae and Citharidae), excluding edible fish offal of subheadings 0302.91 to 0302.99:

0302.21

-- Halibut (Reinhardtius hippoglossoides, Hippoglossus hippoglossus, Hippoglossus stenolepis)

0302.22

-- Plaice (Pleuronectes platessa)

0302.23

-- Sole (Solea spp.)

0302.24

-- Turbots (Psetta maxima)

0302.29

-- Other

0302.3

- Tunas (of the genus Thunnus), skipjack tuna (stripe-bellied bonito) (Katsuwonus pelamis), excluding edible fish offal of subheadings 0302.91 to 0302.99:

0302.31

-- Albacore or longfinned tunas (Thunnus alalunga)

0302.32

-- Yellowfin tunas (Thunnus albacares)

0302.33

-- Skipjack tuna (stripe-bellied bonito) (Katsuwonus pelamis)

0302.34

-- Bigeye tunas (Thunnus obesus)

0302.35

-- Atlantic and Pacific bluefin tunas (Thunnus thynnus, Thunnus orientalis)

0302.36

-- Southern bluefin tunas (Thunnus maccoyii)

0302.39

-- Other

0302.4

- Herrings (Clupea harengus, Clupea pallasii), anchovies (Engraulis spp.), sardines (Sardina pilchardus, Sardinops spp.), sardinella (Sardinella spp.), brisling or sprats (Sprattus sprattus), mackerel (Scomber scombrus, Scomber australasicus, Scomber japonicus), Indian mackerels (Rastrelliger spp.), seerfishes (Scomberomorus spp.), jack and horse mackerel (Trachurus spp.), jacks, crevalles (Caranx spp.), cobia (Rachycentron canadum), silver pomfrets (Pampus spp.), Pacific saury (Cololabis saira), scads (Decapterus spp.), capelin (Mallotus villosus), swordfish (Xiphias gladius), Kawakawa (Euthynnus affinis), bonitos (Sarda spp.), marlins, sailfishes, spearfish (Istiophoridae), excluding edible fish offal of subheadings 0302.91 to 0302.99 :

0302.41

-- Herrings (Clupea harengus, Clupea pallasii)

0302.42

-- Anchovies (Engraulis spp.)

0302.43

-- Sardines (Sardina pilchardus, Sardinops spp.), sardinella (Sardinella spp.), brisling or sprats (Sprattus sprattus)

0302.44

-- Mackerel (Scomber scombrus, Scomber australasicus, Scomber japonicus)

0302.45

-- Jack and horse mackerel (Trachurus spp.)

0302.46

-- Cobia (Rachycentron canadum)

0302.47

-- Swordfish (Xiphias gladius)

0302.49

-- Other

0302.5

- Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, excluding edible fish offal of subheadings 0302.91 to 0302.99:

0302.51

-- Cod (Gadus morhua, Gadus ogac, and Gadus macrocephalus)

0302.52

-- Haddock (Melanogrammus aeglefinus)

0302.53

-- Coalfish (Pollachius virens)

0302.54

-- Hake (Merluccius spp., Urophycis spp.)

0302.55

-- Alaska Pollock (Theragra chalcogramma)

0302.56

-- Blue whitings (Micromesistius poutassou, Micromesistius australis)

0302.59

-- Other

0302.7

- Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., and Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.), excluding edible fish offal of subheadings 0302.91 to 0302.99:

0302.71

-- Tilapias (Oreochromis spp.)

0302.72

-- Catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.)

0302.73

-- Carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.)

0302.74

-- Eels (Anguilla spp.)

0302.79

-- Other

0302.8

- Other fish, excluding edible fish offal of subheadings 0302.91 to 0302.99:

0302.81

-- Dogfish and other sharks

0302.82

-- Rays and skates (Rajidae)

0302.83

-- Toothfish (Dissostichus spp.)

0302.84

-- Seabass (Dicentrarchus spp.)

0302.85

-- Seabream (Sparidae)

0302.89

-- Other

0302.9

- Livers, roes, milt, fish fins, heads, tails, maws and other edible fish offal:

0302.91

-- Livers, roes and milt

0302.92

-- Shark fins

0302.99

-- Other

Heading 0303

Fish, frozen, excluding fish fillets and other fish meat of heading 03.04.

EXPLANATORY NOTES

03.03 - Fish, frozen, excluding fish fillets and other fish meat of heading 03.04 (+).

- Salmonidae, excluding edible fish offal of subheadings 0303.91 to 0303.99:

0303.11 - - Sockeye salmon (red salmon) (Oncorhynchus nerka)

0303.12 - - Other Pacific salmon (Oncorhynchus gorbuscha, Oncorhynchus keta, Oncorhynchus tschawytscha, Oncorhynchus kisutch, Oncorhynchus masou and Oncorhynchus rhodurus)

0303.13 - - Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)

0303.14 - - Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aguabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchus chrysogaster)

0303.19 - - Other

- Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., and Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.), excluding edible fish offal of subheadings 0303.91 to 0303.99:

0303.23 - - Tilapias (Oreochromis spp.)

0303.24 - - Catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.)

0303.25 - - Carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.)

0303.26 - - Eels (Anguilla spp.)

0303.29 - - Other

- Flat fish (Pleuronectidae, Bothidae, Cynoglossidae, Soleidae, Scophthalmidae and Citharidae), excluding edible fish offal of subheadings 0303.91 to 0303.99:

0303.31 - - Halibut (Reinhardtius hippoglossoides, Hippoglossus hippoglossus, Hippoglossus stenolepis)

0303.32 - - Plaice (Pleuronectes platessa)

0303.33 - - Sole (Solea spp.)

0303.34 - - Turbots (Psetta maxima)

0303.39 - - Other

- Tunas (of the genus Thunnus), skipjack tuna (stripe-bellied bonito)(Katsuwonus pelamis), excluding edible fish offal of subheadings 0303.91 to 0303.99

0303.41 - - Albacore or longfinned tunas (Thunnus alalunga)

0303.42 - - Yellowfin tunas (Thunnus albacares)

0303.43 - - Skipjack tuna (stripe-bellied bonito) (Katsuwonus pelamis)

0303.44 - - Bigeye tunas (Thunnus obesus)

0303.45 - - Atlantic and Pacific bluefin tunas (Thunnus thynnus, Thunnus orientalis)

0303.46 - - Southern bluefin tunas (Thunnus maccoyii)

0303.49 - - Other

- Herrings (Clupea harengus, Clupea pallasii), anchovies (Engraulis spp.), sardines (Sardina pilchardus, Sardinops spp.), sardinella (Sardinella spp.), brisling or sprats (Sprattus sprattus), mackerel (Scomber scombrus, Scomber australasicus, Scomber japonicus), Indian mackerels (Rastrelliger spp.), seerfishes (Scomberomorus spp.), jack and horse mackerel (Trachurus spp.), jacks, crevalles (Caranx spp.), cobia (Rachycentron canadum), silver pomfrets (Pampus spp.), Pacific saury (Cololabis saira), scads (Decapterus spp.), capelin (Mallotus villosus), swordfish (Xiphias gladius), Kawakawa (Euthynnus affinis), bonitos (Sarda spp.), marlins, sailfishes, spearfish (Istiophoridae), excluding edible fish offal of subheadings 0303.91 to 0303.99 :

0303.51 - - Herrings (Clupea harengus, Clupea pallasii)

0303.53 - - Sardines (Sardina pilchardus, Sardinops spp.), sardinella (Sardinella spp.), brisling or sprats (Sprattus sprattus)

0303.54 - - Mackerel (Scomber scombrus, Scomber australasicus, Scomber japonicus)

0303.55 - - Jack and horse mackerel (Trachurus spp.)

0303.56 - - Cobia (Rachycentron canadum)

0303.57 - - Swordfish (Xiphias gladius)

0303.59 - - Other

- Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, excluding edible fish offal of subheadings 0303.91 to 0303.99:

0303.63 - - Cod (Gadus morhua, Gadus ogac, Gadus macrocephalus)

0303.64 - - Haddock (Melanogrammus aeglefinus)

0303.65 - - Coalfish (Pollachius virens)

0303.66 - - Hake (Merluccius spp., Urophycis spp.)

0303.67 - - Alaska Pollock (Theragra chalcogramma)

0303.68 - - Blue whitings (Micromesistius poutassou, Micromesistius australis)

0303.69 - - Other

- Other fish, excluding edible fish offal of subheadings 0303.91 to 0303.99:

0303.81 - - Dogfish and other sharks

0303.82 - - Rays and skates (Rajidae)

0303.83 - - Toothfish (Dissostichus spp.)

0303.84 - - Seabass (Dicentrarchus spp.)

0303.89 - - Other

- Livers, roes, milt, fish fins, heads, tails, maws and other edible fish offal:

0303.91 - - Livers, roes and milt

0303.92 - - Shark fins

0303.99 - - Other

The provisions of the Explanatory Note to heading 03.02 apply, mutatis mutandis, to the products of this heading.

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Subheading Explanatory Note

Subheading 0303.92

The provisions of the Subheading Explanatory Note to subheading 0302.92 apply, mutatis mutandis, to the products of this subheading.

0303.1

- Salmonidae, excluding edible fish offal of subheadings 0303.91 to 0303.99:

0303.11

-- Sockeye salmon (red salmon) (Oncorhynchus nerka)

0303.12

-- Other Pacific salmon (Oncorhynchus gorbuscha, Oncorhynchus keta, Oncorhynchus tschawytscha, Oncorhynchus kisutch, Oncorhynchus masou and Oncorhynchus rhodurus)

0303.13

-- Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)

0303.14

-- Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aguabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchus chrysogaster)

0303.19

-- Other

0303.2

- Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., and Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.), excluding edible fish offal of subheadings 0303.91 to 0303.99:

0303.23

-- Tilapias (Oreochromis spp.)

0303.24

-- Catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.)

0303.25

-- Carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.)

0303.26

-- Eels (Anguilla spp.)

0303.29

-- Other

0303.3

- Flat fish (Pleuronectidae, Bothidae, Cynoglossidae, Soleidae, Scophthalmidae and Citharidae), excluding edible fish offal of subheadings 0303.91 to 0303.99:

0303.31

-- Halibut (Reinhardtius hippoglossoides, Hippoglossus hippoglossus, Hippoglossus stenolepis)

0303.32

-- Plaice (Pleuronectes platessa)

0303.33

-- Sole (Solea spp.)

0303.34

-- Turbots (Psetta maxima)

0303.39

-- Other

0303.4

- Tunas (of the genus Thunnus), skipjack tuna (stripe-bellied bonito) (Katsuwonus pelamis), excluding edible fish offal of subheadings 0303.91 to 0303.99:

0303.41

-- Albacore or longfinned tunas (Thunnus alalunga)

0303.42

-- Yellowfin tunas (Thunnus albacares)

0303.43

-- Skipjack tuna (stripe-bellied bonito) (Katsuwonus pelamis)

0303.44

-- Bigeye tunas (Thunnus obesus)

0303.45

-- Atlantic and Pacific bluefin tunas (Thunnus thynnus, Thunnus orientalis)

0303.46

-- Southern bluefin tunas (Thunnus maccoyii)

0303.49

-- Other

0303.5

- Herrings (Clupea harengus, Clupea pallasii), anchovies (Engraulis spp.), sardines (Sardina pilchardus, Sardinops spp.), sardinella (Sardinella spp.), brisling or sprats (Sprattus sprattus), mackerel (Scomber scombrus, Scomber australasicus, Scomber japonicus), Indian mackerels (Rastrelliger spp.), seerfishes (Scomberomorus spp), jack and horse mackerel (Trachurus spp.), jacks, crevalles (Caranx spp.), cobia (Rachycentron canadum), silver pomfrets (Pampus spp.), Pacific saury (Cololabis saira), scads (Decapterus spp.), capelin (Mallotus villosus), swordfish (Xiphias gladius), Kawakawa (Euthynnus affinis), bonitos (Sarda spp.), marlins, sailfishes, spearfish (Istiophoridae), excluding edible fish offal of subheadings 0303.91 to 0303.99 :

0303.51

-- Herrings (Clupea harengus, Clupea pallasii)

0303.53

-- Sardines (Sardina pilchardus, Sardinops spp.), sardinella (Sardinella spp.), brisling or sprats (Sprattus sprattus)

0303.54

-- Mackerel (Scomber scombrus, Scomber australasicus, Scomber japonicus)

0303.55

-- Jack and horse mackerel (Trachurus spp.)

0303.56

-- Cobia (Rachycentron canadum)

0303.57

-- Swordfish (Xiphias gladius)

0303.59

-- Other

0303.6

- Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, excluding edible fish offal of subheadings 0303.91 to 0303.99:

0303.63

-- Cod (Gadus morhua, Gadus ogac, and Gadus macrocephalus)

0303.64

-- Haddock (Melanogrammus aeglefinus)

0303.65

-- Coalfish (Pollachius virens)

0303.66

-- Hake (Merluccius spp., Urophycis spp.)

0303.67

-- Alaska Pollock (Theragra chalcogramma)

0303.68

-- Blue whitings (Micromesistius poutassou, Micromesistius australis)

0303.69

-- Other

0303.8

- Other fish, excluding edible fish offal of subheadings 0303.91 to 0303.99:

0303.81

-- Dogfish and other sharks

0303.82

-- Rays and skates (Rajidae)

0303.83

-- Toothfish (Dissostichus spp.)

0303.84

-- Seabass (Dicentrarchus spp.)

0303.89

-- Other

0303.9

- Livers, roes, milt, fish fins, heads, tails, maws and other edible fish offal:

0303.91

-- Livers, roes and milt

0303.92

-- Shark fins

0303.99

-- Other

Heading 0304

Fish fillets and other fish meat (whether or not minced), fresh, chilled or frozen.

EXPLANATORY NOTES

03.04 - Fish fillets and other fish meat (whether or not minced), fresh, chilled or frozen.

- Fresh or chilled fillets of tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.):

0304.31 - - Tilapias (Oreochromis spp.)

0304.32 - - Catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.)

0304.33 - - Nile Perch (Lates niloticus)

0304.39 - - Other

- Fresh or chilled fillets of other fish:

0304.41 - - Pacific salmon (Oncorhynchus nerka, Oncorhynchus gorbuscha, Oncorhynchus keta, Oncorhynchus tschawytscha, Oncorhynchus kisutch, Oncorhynchus masou and Oncorhynchus rhodurus), Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)

0304.42 - - Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aguabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchus chrysogaster)

0304.43 - - Flat fish (Pleuronectidae, Bothidae, Cynoglossidae, Soleidae, Scophthalmidae and Citharidae)

0304.44 - - Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae

0304.45 - - Swordfish (Xiphias gladius)

0304.46 - - Toothfish (Dissostichus spp.)

0304.47 - - Dogfish and other sharks

0304.48 - - Rays and skates (Rajidae)

0304.49 - - Other

- Other, fresh or chilled:

0304.51 - - Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.)

0304.52 - - Salmonidae

0304.53 - - Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae

0304.54 - - Swordfish (Xiphias gladius)

0304.55 - - Toothfish (Dissostichus spp.)

0304.56 - - Dogfish and other sharks

0304.57 - - Rays and skates (Rajidae)

0304.59 - - Other

- Frozen fillets of tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., and Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, and Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.):

0304.61 - - Tilapias (Oreochromis spp.)

0304.62 - - Catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.)

0304.63 - - Nile Perch (Lates niloticus)

0304.69 - - Other

- Frozen fillets of fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae:

0304.71 - - Cod (Gadus morhua, Gadus ogac, Gadus macrocephalus)

0304.72 - - Haddock (Melanogrammus aeglefinus)

0304.73 - - Coalfish (Pollachius virens)

0304.74 - - Hake (Merluccius spp., Urophycis spp.)

0304.75 - - Alaska Pollock (Theragra chalcogramma)

0304.79 - - Other

- Frozen fillets of other fish:

0304.81 - - Pacific salmon (Oncorhynchus nerka, Oncorhynchus gorbuscha, Oncorhynchus keta, Oncorhynchus tschawytscha, Oncorhynchus kisutch, Oncorhynchus masou and Oncorhynchus rhodurus), Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)

0304.82 - - Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aguabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchus chrysogaster)

0304.83 - - Flat fish (Pleuronectidae, Bothidae, Cynoglossidae, Soleidae, Scophthalmidae and Citharid ae)

0304.84 - - Swordfish (Xiphias gladius)

0304.85 - - Toothfish (Dissostichus spp.)

0304.86 - - Herrings (Clupea harengus, Clupea pallasii)

0304.87 - - Tunas (of the genus Thunnus), skipjack or stripe-bellied bonito (Euthynnus (Katsuwonus) pelamis)

0304.88 - - Dogfish, other sharks, rays and skates (Rajidae)

0304.89 - - Other

- Other, frozen:

0304.91 - - Swordfish (Xiphias gladius)

0304.92 - - Toothfish (Dissostichus spp.)

0304.93 - - Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.)

304.94 - - Alaska Pollock (Theragra chalcogramma)

304.95 - - Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, other than Alaska Pollock (Theragra chalcogramma)

0304.96 - - Dogfish and other sharks

0304.97 - - Rays and skates (Rajidae)

0304.99 - - Other

This heading covers:

(1) **Fish fillets.**

For the purposes of this heading the term **fish fillets** means the strips of meat cut parallel to the backbone of the fish and constituting the right or left side of a fish insofar as the head, guts, fins (dorsal, anal, caudal, ventral, pectoral) and bones (spinal column or main backbone, ventral or costal bones, branchial bone or stapes, etc.) have been removed and the two sides are not joined together, for example by the back or belly.

The classification of these products is not affected by the possible presence of the skin, sometimes left attached to the fillet to hold it together or to facilitate subsequent slicing. Classification is similarly unaffected by the presence of pin bones or other minor bones which may not have been completely removed.

Fillets cut in pieces are also classified as fillets in this heading.

Cooked fillets, and fillets merely covered with batter or bread crumbs, whether or not frozen, are classified in **heading 16.04**.

(2) **Other fish meat** (whether or not minced), i.e., fish meat from which the bones have been removed. As in the case of fish fillets, classification of fish meat is unaffected by the presence of minor bones which may not have been completely removed.

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This heading covers fish fillets and other fish meat (whether or not minced) in the following states only:

(i) Fresh or chilled, whether or not packed with salt or ice or sprinkled with salt water as a temporary preservative during transport.

(ii) Frozen, often presented in the form of frozen blocks.

Fish fillets and other fish meat (whether or not minced) slightly sugared or packed with a few bay leaves remain in this heading.

0304.3

- Fresh or chilled fillets of tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.) :

0304.31

-- Tilapias (Oreochromis spp.)

0304.32

-- Catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.)

0304.33

-- Nile Perch (Lates niloticus)

0304.39

-- Other

0304.4

- Fresh or chilled fillets of other fish:

0304.41

-- Pacific salmon (Oncorhynchus nerka, Oncorhynchus gorbuscha, Oncorhynchus keta, Oncorhynchus tschawytscha, Oncorhynchus kisutch, Oncorhynchus masou and Oncorhynchus rhodurus), Atlantic salmon (Salmo salar) and Danube salmon (Huchohucho)

0304.42

-- Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aguabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchus chrysogaster)

0304.43

-- Flat fish (Pleuronectidae, Bothidae, Cynoglossidae, Soleidae, Scophthalmidae and Citharidae)

0304.44

-- Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae

0304.45

-- Swordfish (Xiphias gladius)

0304.46

-- Toothfish (Dissostichus spp.)

0304.47

-- Dogfish and other sharks

0304.48

-- Rays and skates (Rajidae)

0304.49

-- Other

0304.5

- Other, fresh or chilled:

0304.51

-- Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.)

0304.52

-- Salmonidae

0304.53

-- Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae

0304.54

-- Swordfish (Xiphias gladius)

0304.55

-- Toothfish (Dissostichus spp.)

0304.56

-- Dogfish and other sharks

0304.57

-- Rays and skates (Rajidae)

0304.59

-- Other

0304.6

- Frozen fillets of tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., and Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, and Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.) :

0304.61

-- Tilapias (Oreochromis spp.)

0304.62

-- Catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.)

0304.63

-- Nile Perch (Lates niloticus)

0304.69

-- Other

0304.7

- Frozen fillets of fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae:

0304.71

-- Cod (Gadus morhua, Gadus ogac, and Gadus macrocephalus)

0304.72

-- Haddock (Melanogrammus aeglefinus)

0304.73

-- Coalfish (Pollachius virens)

0304.74

-- Hake (Merluccius spp., Urophycis spp.)

0304.75

-- Alaska Pollock (Theragra chalcogramma)

0304.79

-- Other

0304.8

- Frozen fillets of other fish:

0304.81

-- Pacific salmon (Oncorhynchus nerka, Oncorhynchus gorbuscha, Oncorhynchus keta, Oncorhynchus tschawytscha, Oncorhynchus kisutch, Oncorhynchus masou and Oncorhynchus rhodurus), Atlantic salmon (Salmo salar) and Danube salmon (Huchohucho)

0304.82

-- Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aguabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchus chrysogaster)

0304.83

-- Flat fish (Pleuronectidae, Bothidae, Cynoglossidae, Soleidae, Scophthalmidae and Citharidae)

0304.84

-- Swordfish (Xiphias gladius)

0304.85

-- Toothfish (Dissostichus spp.)

0304.86

-- Herrings (Clupea harengus, Clupea pallasii)

0304.87

-- Tunas (of the genus Thunnus), skipjack tuna (stripe-bellied bonito) (Katsuwonus pelamis)

0304.88

-- Dogfish, other sharks, rays and skates (Rajidae)

0304.89

-- Other

0304.9

- Other, frozen:

0304.91

-- Swordfish (Xiphias gladius)

0304.92

-- Toothfish (Dissostichus spp.)

0304.93

-- Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.)

0304.94

-- Alaska Pollock (Theragra chalcogramma)

0304.95

-- Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, other than Alaska Pollock (Theragra chalcogramma)

0304.96

-- Dogfish and other sharks

0304.97

-- Rays and skates (Rajidae)

0304.99

-- Other

Heading 0305

Fish, dried, salted or in brine; smoked fish, whether or not cooked before or during the smoking process.

EXPLANATORY NOTES

03.05 -Fish, dried, salted or in brine; smoked fish, whether or not cooked before or during the smoking process.

0305.20 - Livers, roes and milt of fish, dried, smoked, salted or in brine

- Fish filets, dried, salted or in brine, but not smoked:

0305.31 - - Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.)

0305.32 - - Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae

0305.39 - - Other

- Smoked fish, including fillets, other than edible fish offal:

0305.41 - - Pacific salmon (Oncorhynchus nerka, Oncorhynchus gorbuscha, Oncorhynchus keta, Oncorhynchus tschawytscha, Oncorhynchus kisutch, Oncorhynchus masou and Oncorhynchus rhodurus), Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)

0305.42 - - Herrings (Clupea harengus, Clupea pallasii)

0305.43 - - Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aguabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchus chrysogaster)

0305.44 - - Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.)

0305.49 - - Other

- Dried fish, other than edible fish offal, whether or not salted but not smoked:

0305.51 - - Cod (Gadus morhua, Gadus ogac, Gadus macrocephalus)

0305.52 - - Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.)

0305.53 - - Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, other than cod (Gadus morhua, Gadus ogac, Gadus macrocephalus)

0305.54 - - Herrings (Clupea harengus, Clupea pallasii), anchovies (Engraulis spp.), sardines (Sardina pilchardus, Sardinops spp.), sardinella (Sardinella spp.), brisling or sprats (Sprattus sprattus), mackerel (Scomber scombrus, Scomber australasicus, Scomber japonicus), Indian mackerels (Rastrelliger spp.), seerfishes (Scomberomorus spp.), jack and horse mackerel (Trachurus spp.), jacks, crevalles (Caranx spp.), cobia (Rachycentron canadum), silver pomfrets (Pampus spp.), Pacific saury (Cololabis saira), scads (Decapterus spp.), capelin (Mallotus villosus), swordfish (Xiphias gladius), Kawakawa (Euthynnus affinis), bonitos (Sarda spp.), marlins, sailfishes, spearfish (Istiophoridae)

0305.59 - - Other

- Fish, salted but not dried or smoked and fish in brine, other than edible fish offal:

0305.61 - - Herrings (Clupea harengus, Clupea pallasii)

0305.62 - - Cod (Gadus morhua, Gadus ogac, Gadus macrocephalus)

0305.63 - - Anchovies (Engraulis spp.)

0305.64 - - Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.)

0305.69 - - Other

- Fish fins, heads, tails, maws and other edible fish offal:

0305.71 - - Shark fins

0305.72 - - Fish heads, tails and maws

0305.79 - - Other

This heading covers fish (whole, headless, in pieces, in fillets or minced) and edible fish offal which are:

(1) Dried;

(2) Salted or in brine; or

(3) Smoked.

The salt used in the preparation of fish, salted or in brine, may contain added sodium nitrite or sodium nitrate. Small quantities of sugar may be used in the preparation of salted fish without affecting the classification of the fish in this heading.

Fish having undergone two or more of these processes, fit for human consumption, and remain classified in this heading.

Smoked fish is sometimes submitted, either before smoking or during smoking (hot smoking), to a heat treatment which partly or wholly cooks the meat; this does not affect its classification in this heading **provided** that it has not undergone any other processing which deprives it of the character of smoked fish.

The principal varieties of fish prepared in the manner covered by this heading are sardines, anchovies, pilchards, sprats, tunas, mackerel, salmon, herring, cod, haddock and halibut.

Edible fish offal separated from the rest of the body of the fish (e.g., skins, tails, maws (swim bladders), heads and halves of heads (with or without the brains, cheeks, tongues, eyes, jaws or lips), stomachs, fins, tongues), as well as livers, roes and milt, dried, salted, in brine or smoked, are also classified in this heading.

The heading **does not cover**:

(a) Inedible fish offal (e.g., of a kind used in industrial applications) and fish waste (**heading 05.11**).

(b) Cooked fish (subject to the above provisions regarding smoked fish) and fish prepared in any other way, for example preserved in oil or vinegar or in a marinade, and caviar and caviar substitutes (**heading 16.04**).

(c) Fish soups (**heading 21.04**).

Subheading Explanatory Note.

Subheading 0305.71

The provisions of the Subheading Explanatory Note to subheading 0302.92 apply, mutatis mutandis, to the products of this subheading.

This subheading includes, inter alia, unskinned sharks' fins, simply dried, and parts of sharks' fins which have been immersed in hot water, skinned or shredded before drying.

0305.20

- Livers, roes and milt of fish, dried, smoked, salted or in brine

CLASSIFICATION OPINIONS

1. Lumpfish roe, in brine, with a salt content of 15 to 18 % by weight, presented in 105 kg barrels. Due to the high salt content, the product is intended for further processing before consumption.

Application of GIRs 1 and 6.

Adoption: 2014

0305.3

- Fish fillets, dried, salted or in brine, but not smoked:

0305.31

-- Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.)

0305.32

-- Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae

0305.39

-- Other

0305.4

- Smoked fish, including fillets, other than edible fish offal:

0305.41

-- Pacific salmon (Oncorhynchus nerka, Oncorhynchus gorbuscha, Oncorhynchus keta, Oncorhynchus tschawytscha, Oncorhynchus kisutch, Oncorhynchus masou and Oncorhynchus rhodurus), Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)

0305.42

-- Herrings (Clupea harengus, Clupea pallasii)

0305.43

-- Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aguabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchus chrysogaster)

0305.44

-- Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.)

0305.49

-- Other

0305.5

- Dried fish, other than edible fish offal, whether or not salted but not smoked:

0305.51

-- Cod (Gadus morhua, Gadus ogac, and Gadus macrocephalus)

0305.52

-- Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.)

0305.53

-- Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, other than cod (Gadus morhua, Gadus ogac, Gadus macrocephalus)

0305.54

-- Herrings (Clupea harengus, Clupea pallasii), anchovies (Engraulis spp.), sardines (Sardina pilchardus, Sardinops spp.), sardinella (Sardinella spp.), brisling or sprats (Sprattus sprattus), mackerel (Scomber scombrus, Scomber australasicus, Scomber japonicus), Indian mackerels (Rastrelliger spp.), seerfishes (Scomberomorus spp.), jack and horse mackerel (Trachurus spp.), jacks, crevalles (Caranx spp.), cobia (Rachycentron canadum), silver pomfrets (Pampus spp.), Pacific saury (Cololabis saira), scads (Decapterus spp.), capelin (Mallotus villosus), swordfish (Xiphias gladius), Kawakawa (Euthynnus affinis), bonitos (Sarda spp.), marlins, sailfishes, spearfish (Istiophoridae)

0305.59

-- Other

0305.6

- Fish, salted but not dried or smoked and fish in brine, other than edible fish offal:

0305.61

-- Herrings (Clupea harengus, Clupea pallasii)

0305.62

-- Cod (Gadus morhua, Gadus ogac, and Gadus macrocephalus)

0305.63

-- Anchovies (Engraulis spp.)

0305.64

-- Tilapias (Oreochromis spp.), catfish (Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.), carp (Cyprinus spp., Carassius spp., Ctenopharyngodon idellus, Hypophthalmichthys spp., Cirrhinus spp., Mylopharyngodon piceus, Catla catla, Labeo spp., Osteochilus hasselti, Leptobarbus hoeveni, Megalobrama spp.), eels (Anguilla spp.), Nile perch (Lates niloticus) and snakeheads (Channa spp.)

0305.69

-- Other

0305.7

- Fish fins, heads, tails, maws and other edible fish offal:

0305.71

-- Shark fins

0305.72

-- Fish heads, tails and maws

0305.79

-- Other

Heading 0306

Crustaceans, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; smoked crustaceans, whether in shell or not, whether or not cooked before or during the smoking process; crustaceans, in shell, cooked by steaming or by boiling in water, whether or not chilled, frozen, dried, salted or in brine.

EXPLANATORY NOTES

03.06 - Crustaceans, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; smoked crustaceans, whether in shell or not, whether or not cooked before or during the smoking process; crustaceans, in shell, cooked by steaming or by boiling in water, whether or not chilled, frozen, dried, salted or in brine.

- Frozen:

0306.11 - - Rock lobster and other sea crawfish (Palinurus spp., Panulirus spp., Jasus spp.)

0306.12 - - Lobsters (Homarus spp.)

0306.14 - - Crabs

0306.15 - - Norway lobsters (Nephrops norvegicus)

0306.16 - - Cold-water shrimps and prawns (Pandalus spp., Crangon crangon)

0306.17 - - Other shrimps and prawns

0306.19 - - Other

- Live, fresh or chilled:

0306.31 - - Rock lobster and other sea crawfish (Palinurus spp., Panulirus spp., Jasus spp.)

0306.32 - - Lobsters (Homarus spp.)

0306.33 - - Crabs

0306.34 - - Norway lobsters (Nephrops norvegicus)

0306.35 - - Cold-water shrimps and prawns (Pandalus spp., Crangon crangon)

0306.36 - - Other shrimps and prawns

0306.39 - - Other

- Other:

0306.91 - - Rock lobster and other sea crawfish (Palinurus spp., Panulirus spp., Jasus spp.)

0306.92 - - Lobsters (Homarus spp.)

0306.93 - - Crabs

0306.94 - - Norway lobsters (Nephrops norvegicus)

0306.95 - - Shrimps and prawns

0306.99 - - Other

This heading covers:

(1) Crustaceans, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine.

(2) Smoked crustaceans, whether in shell or not, whether or not cooked before or during the smoking process.

(3) Crustaceans, in their shells, cooked by steaming or by boiling in water (whether or not small quantities of provisional chemical preserving agents have been added); they may also be chilled, frozen, dried, salted or in brine.

The main kinds of crustaceans are lobsters, sea crawfish, crayfish, crabs, shrimps and prawns.

The heading also covers parts of crustaceans (e.g., “tails” of lobsters or crayfish, crabs’ claws), **provided** those not in shell have been subjected to no other processes than those specified in (1) above.

The heading **does not cover:**

(a) Sea-urchins and other aquatic invertebrates of **heading 03.08**.

(b) Crustaceans (including parts thereof) prepared or preserved by processes not provided for in this heading (e.g., shelled crustaceans boiled in water) (**heading 16.05**).

0306.1

- Frozen:

0306.11

-- Rock lobster and other sea crawfish (Palinurus spp., Panulirus spp., Jasus spp.)

0306.12

-- Lobsters (Homarus spp.)

0306.14

-- Crabs

0306.15

-- Norway lobsters (Nephrops norvegicus)

0306.16

-- Cold-water shrimps and prawns (Pandalus spp., Crangon crangon)

0306.17

-- Other shrimps and prawns

0306.19

-- Other

0306.3

- Live, fresh or chilled:

0306.31

-- Rock lobster and other sea crawfish (Palinurus spp., Panulirus spp., Jasus spp.)

0306.32

-- Lobsters (Homarus spp.)

0306.33

-- Crabs

0306.34

-- Norway lobsters (Nephrops norvegicus)

0306.35

-- Cold-water shrimps and prawns (Pandalus spp., Crangon crangon)

0306.36

-- Other shrimps and prawns

0306.39

-- Other

0306.9

- Other:

0306.91

-- Rock lobster and other sea crawfish (Palinurus spp., Panulirus spp., Jasus spp.)

0306.92

-- Lobsters (Homarus spp.)

0306.93

-- Crabs

0306.94

-- Norway lobsters (Nephrops norvegicus)

0306.95

-- Shrimps and prawns

0306.99

-- Other

Heading 0307

Molluscs, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; smoked molluscs, whether in shell or not, whether or not cooked before or during the smoking process.

EXPLANATION NOTES

03.07 - Molluscs, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; smoked molluscs, whether in shell or not, whether or not cooked before or during the smoking process.

- Oysters:

0307.11 - - Live, fresh or chilled

0307.12 - - Frozen

0307.19 - - Other

- Scallops and other molluscs of the family Pectinidae:

0307.21 - - Live, fresh or chilled

0307.22 - - Frozen

0307.29 - - Other

- Mussels (Mytilus spp., Perna spp.):

0307.31 - - Live, fresh or chilled

0307.32 - - Frozen

0307.39 - - Other

- Cuttle fish and squid:

0307.42 - - Live, fresh or chilled

0307.43 - - Frozen

0307.49 - - Other

- Octopus (Octopus spp.):

0307.51 - - Live, fresh or chilled

0307.52 - - Frozen

0307.59 - - Other

0307.60 - Snails, other than sea snails

- Clams, cockles and ark shells (families Arcidae, Arcticidae, Cardiidae, Donacidae, Hiatellidae, Mactridae, Mesodesmatidae, Myidae, Semelidae, Solecurtidae, Solenidae, Tridacnidae and Veneridae):

0307.71 - - Live, fresh or chilled

0307.72 - - Frozen

0307.79 - - Other

- Abalone (Haliotis spp.) and stromboid conchs (Strombus spp.):

0307.81 - - Live, fresh or chilled abalone (Haliotis spp.)

0307.82 - - Live, fresh or chilled stromboid conchs (Strombus spp.)

0307.83 - - Frozen abalone (Haliotis spp.)

0307.84 - - Frozen stromboid conchs (Strombus spp.)

0307.87 - - other abalone (Haliotis spp.)

0307.88 - - other stromboid conchs (Strombus spp.)

- Other

0307.91 - - Live, fresh or chilled

0307.92 - - Frozen

0307.99 - - Other

This heading covers:

(1) Molluscs, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine.

(2) Smoked molluscs, whether in shell or not, whether or not cooked before or during the smoking process.

The main kinds of molluscs are oysters, scallops, mussels, cuttle fish, squid, octopus, snails, clams, cockles, ark shells, and abalone and stromboid conchs.

This heading also covers molluscs that have been subjected only to scalding or other types of heat shock (which do not entail cooking as such), necessary to open the shell or stabilize the mollusc prior to transportation or freezing.

This heading also covers parts of molluscs, **provided** they have been subjected to no other processes than those specified in (1) or (2) above.

The heading also includes oyster spat (small oysters intended for cultivation), fit or suitable for human consumption.

The heading **does not cover** molluscs prepared or preserved by processes not provided for in this heading (e.g., molluscs cooked in boiling water or preserved in vinegar) (**heading 16.05**).

0307.1

- Oysters:

0307.11

-- Live, fresh or chilled

0307.12

-- Frozen

0307.19

-- Other

0307.2

- Scallops and other molluscs of the family Pectinidae:

0307.21

-- Live, fresh or chilled

0307.22

-- Frozen

0307.29

-- Other

0307.3

- Mussels (Mytilus spp., Perna spp.) :

0307.31

-- Live, fresh or chilled

0307.32

-- Frozen

0307.39

-- Other

0307.4

- Cuttle fish and squid:

0307.42

-- Live, fresh or chilled

0307.43

-- Frozen

0307.49

-- Other

0307.5

- Octopus (Octopus spp.) :

0307.51

-- Live, fresh or chilled

0307.52

-- Frozen

0307.59

-- Other

0307.60

- Snails, other than sea snails

0307.7

- Clams, cockles and ark shells (families Arcidae, Arcticidae, Cardiidae, Donacidae, Hiatellidae, Mactridae, Mesodesmatidae, Myidae, Semelidae, Solecurtidae, Solenidae, Tridacnidae and Veneridae):

0307.71

-- Live, fresh or chilled

0307.72

-- Frozen

0307.79

-- Other

0307.8

- Abalone (Haliotis spp.) and stromboid conchs (Strombus spp.) :

0307.81

-- Live, fresh or chilled abalone (Haliotis spp.)

0307.82

-- Live, fresh or chilled stromboid conchs (Strombus spp.)

0307.83

-- Frozen abalone (Haliotis spp.)

0307.84

-- Frozen stromboid conchs (Strombus spp.)

0307.87

-- Other abalone (Haliotis spp.)

0307.88

-- Other stromboid conchs (Strombus spp.)

0307.9

- Other:

0307.91

-- Live, fresh or chilled

0307.92

-- Frozen

0307.99

-- Other

Heading 0308

Aquatic invertebrates other than crustaceans and molluscs, live, fresh, chilled, frozen, dried, salted or in brine; smoked aquatic invertebrates other than crustaceans and molluscs, whether or not cooked before or during the smoking process.

EXPLANATORY NOTES

03.08 - Aquatic invertebrates other than crustaceans and molluscs, live, fresh, chilled, frozen, dried, salted or in brine; smoked aquatic invertebrates other than crustaceans and molluscs, whether or not cooked before or during the smoking process.

- Sea cucumbers (Stichopus japonicus, Holothuroidea):

0308.11 - - Live, fresh or chilled

0308.12 - - Frozen

0308.19 - - Other

- Sea urchins (Strongylocentrotus spp., Paracentrotus lividus, Loxechinus albus, Echinus esculentus):

0308.21 - - Live, fresh or chilled

0308.22 - - Frozen

0308.29 - - Other

0308.30 - - Jellyfish (Rhopilema spp.)

0308.90 - Other

This heading covers:

(1) Aquatic invertebrates other than crustaceans and molluscs, live, fresh, chilled, frozen, dried, salted or in brine.

(2) Smoked aquatic invertebrates other than crustaceans and molluscs, whether or not cooked before or during the smoking process.

The principal varieties of aquatic invertebrates are sea-urchins, sea cucumbers (beches-de-mer) and jellyfish.

This heading also covers parts of aquatic invertebrates (e.g., gonads of sea-urchins), **provided** they have been subjected to no other processes than those specified in (1) or (2) above.

The heading **does not cover** aquatic invertebrates prepared or preserved by processes not provided for in this heading (e.g., aquatic invertebrates boiled in water or preserved in vinegar) (**heading 16.05**).

0308.1

- Sea cucumbers (Stichopus japonicus, Holothuroidea):
0308.11

-- Live, fresh or chilled
0308.12

-- Frozen
0308.19

-- Other
0308.2

- Sea urchins (Strongylocentrotus spp., Paracentrotus lividus, Loxechinus albus, Echinus esculentus):
0308.21

-- Live, fresh or chilled
0308.22

-- Frozen
0308.29

-- Other
0308.30

- Jellyfish (Rhopilema spp.)
0308.90

- Other

Heading 0309

Flours, meals and pellets of fish, crustaceans, molluscs and other aquatic invertebrates, fit for human consumption.

EXPLANATORY NOTES

03.09 - Flours, meals and pellets of fish, crustaceans, molluscs and other aquatic invertebrates, fit for human consumption.

0309.10 - Of fish

0309.90 - Other

This heading covers flours, meals and pellets obtained from fish, crustaceans, molluscs and other aquatic invertebrates, whether or not cooked.

Fish flour and fish meal, defatted (for example by a solvent-extract method) or subjected to heat treatment, fit for human consumption, remain classified here.

The heading **does not cover** flours, meals and pellets of fish, crustaceans, molluscs and other aquatic invertebrates, unfit for human consumption (**heading 23.01**).

0309.10

- Of fish

0309.90

- Other

CLASSIFICATION OPINIONS

1. Freeze-dried cuttle fish (Sepia officinalis) in powder form, obtained from fresh cuttle fish. It is intended for use in food preparations.

Application of GIRs 1 (Note 3 to Chapter 3) and 6.

Adoption: 2016

Chapter 4

Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included

LEGAL NOTES

Notes.

1. - The expression “milk” means full cream milk or partially or completely skimmed milk.

2. - For the purposes of heading 04.03, yogurt may be concentrated or flavoured and may contain added sugar or other sweetening matter, fruit, nuts, cocoa, chocolate, spices, coffee or coffee extracts, plants, parts of plants, cereals or bakers’ wares, provided that any added substance is not used for the purpose of replacing, in whole or in part, any milk constituent, and the product retains the essential character of yogurt.

3. - For the purposes of heading 04.05:

(a) The term “butter” means natural butter, whey butter or recombined butter (fresh, salted or rancid, including canned butter) derived exclusively from milk, with a milkfat content of 80 % or more but not more than 95 % by weight, a maximum milk solids-not-fat content of 2 % by weight and a maximum water content of 16 % by weight. Butter does not contain added emulsifiers, but may contain sodium chloride, food colours, neutralising salts and cultures of harmless lactic-acid-producing bacteria.

(b) The expression “dairy spreads” means a spreadable emulsion of the water-in-oil type, containing milkfat as the only fat in the product, with a milkfat content of 39 % or more but less than 80 % by weight.

4. - Products obtained by the concentration of whey and with the addition of milk or milkfat are to be classified as cheese in heading 04.06 provided that they have the three following characteristics :

(a) A milkfat content, by weight of the dry matter, of 5 % or more;

(b) A dry matter content, by weight, of at least 70 % but not exceeding 85 %; and

(c) They are moulded or capable of being moulded.

5. - This Chapter does not cover:

(a) Non-living insects, unfit for human consumption (heading 05.11);

(b) Products obtained from whey, containing by weight more than 95 % lactose, expressed as anhydrous lactose, calculated on the dry matter (heading 17.02);

(c) Products obtained from milk by replacing one or more of its natural constituents (for example, butyric fats) by another substance (for example, oleic fats) (heading 19.01 or 21.06); or

(d) Albumins (including concentrates of two or more whey proteins, containing by weight more than 80 % whey proteins, calculated on the dry matter) (heading 35.02) or globulins (heading 35.04).

6.- For the purposes of heading 04.10, the term “insects” means edible non-living insects, whole or in parts, fresh, chilled, frozen, dried, smoked, salted or in brine, as well as flours and meals of insects, fit for human consumption. However, it does not cover edible non-living insects otherwise prepared or preserved (generally Section IV).

Subheading Notes.

1.- For the purposes of subheading 0404.10, the expression “modified whey” means products consisting of whey constituents, that is, whey from which all or part of the lactose, proteins or minerals have been removed, whey to which natural whey constituents have been added, and products obtained by mixing natural whey constituents.

2. - For the purposes of subheading 0405.10 the term “butter” does not include dehydrated butter or ghee (subheading 0405.90).

EXPLANATORY NOTES

Chapter 4

Dairy produce; birds' eggs; natural honey;

Edible products of animal origin,

Not elsewhere specified or included

Notes.

1. - The expression “milk” means full cream milk or partially or completely skimmed milk.

2. - For the purposes of heading 04.03, yogurt may be concentrated or flavoured and may contain added sugar or other sweetening matter, fruit, nuts, cocoa, chocolate, spices, coffee or coffee extracts, plants, parts of plants, cereals or bakers’ wares, provided that any added substance is not used for the purpose of replacing, in whole or in part, any milk constituent, and the product retains the essential character of yogurt.

3. - For the purposes of heading 04.05:

(a) The term “butter” means natural butter, whey butter or recombined butter (fresh, salted or rancid, including canned butter) derived exclusively from milk, with a milkfat content of 80 % or more but not more than 95 % by weight, a maximum milk solids-not-fat content of 2 % by weight and a maximum water content of 16 % by weight. Butter does not contain added emulsifiers, but may contain sodium chloride, food colours, neutralising salts and cultures of harmless lactic-acid-producing bacteria.

(b) The expression “dairy spreads” means a spreadable emulsion of the water-in-oil type, containing milkfat as the only fat in the product, with a milkfat content of 39 % or more but less than 80 % by weight.

4. - Products obtained by the concentration of whey and with the addition of milk or milkfat are to be classified as cheese in heading 04.06 provided that they have the three following characteristics :

(a) A milkfat content, by weight of the dry matter, of 5 % or more;

(b) A dry matter content, by weight, of at least 70 % but not exceeding 85 %; and

(c) They are moulded or capable of being moulded.

5. - This Chapter does not cover:

(a) Non-living insects, unfit for human consumption (heading 05.11);

(b) Products obtained from whey, containing by weight more than 95 % lactose, expressed as anhydrous lactose, calculated on the dry matter (heading 17.02);

(c) Products obtained from milk by replacing one or more of its natural constituents (for example, butyric fats) by another substance (for example, oleic fats) (heading 19.01 or 21.06); or

(d) Albumins (including concentrates of two or more whey proteins, containing by weight more than 80 % whey proteins, calculated on the dry matter) (heading 35.02) or globulins (heading 35.04).

6.- For the purposes of heading 04.10, the term “insects” means edible non-living insects, whole or in parts, fresh, chilled, frozen, dried, smoked, salted or in brine, as well as flours and meals of insects, fit for human consumption. However, it does not cover edible non-living insects otherwise prepared or preserved (generally Section IV).

Subheading Notes.

1.- For the purposes of subheading 0404.10, the expression “modified whey” means products consisting of whey constituents, that is, whey from which all or part of the lactose, proteins or minerals have been removed, whey to which natural whey constituents have been added, and products obtained by mixing natural whey constituents.

2. - For the purposes of subheading 0405.10 the term “butter” does not include dehydrated butter or ghee (subheading 0405.90).

GENERAL

This Chapter covers:

(I) **Dairy products:**

(A) **Milk**, i.e., full cream milk and partially or completely skimmed milk.

(B) **Cream**.

(C) **Buttermilk, curdled milk and cream, yogurt, kephir and other fermented or acidified milk and cream**.

(D) **Whey**.

(E) **Products consisting of natural milk constituents, not elsewhere specified or included**.

(F) **Butter and other fats and oils derived from milk; dairy spreads**.

(G) **Cheese and curd**.

The products mentioned at Items (A) to (E) above may contain, in addition to natural milk constituents (e.g., milk enriched in vitamins or mineral salts), small quantities of stabilising agents which serve to maintain the natural consistency of the product during transport in liquid state (disodium phosphate, trisodium citrate and calcium chloride, for instance) as well as very small quantities of anti-oxidants or of vitamins not normally found in the product. Certain of these products may also contain small quantities of chemicals (e.g., sodium bicarbonate) necessary for their processing; products in the form of powder or granules may contain anticaking agents (for example, phospholipids, and amorphous silicon dioxide).

For the purposes of Note 4 (b) to this Chapter the expression “butyric fats” means milk fats and the expression “oleic fats” means fats other than milk fats, in particular vegetable fats (e.g., olive oil).

On the other hand, the Chapter **excludes** products obtained from whey, containing by weight more than 95 % lactose, expressed as anhydrous lactose, calculated on the dry matter (**heading 17.02**). For the purposes of calculating the percentage weight of lactose in a product the expression “dry matter” should be taken to exclude both free water and water of crystallisation.

The Chapter also **excludes**, *inter alia*, the following:

(a) Food preparations based on dairy products (in particular, **heading 19.01**).

(b) Products obtained from milk by replacing one or more of the natural constituents (e.g., butyric fats) by another substance (e.g., oleic fats) (**heading 19.01** or **21.06**).

(c) Ice cream and other edible ice (**heading 21.05**).

(d) Medicaments of **Chapter 30**.

(e) Casein (**heading 35.01**), milk albumin (**heading 35.02**) and hardened casein (**heading 39.13**).

(II) **Birds’ eggs and egg yolks**.

(III) **Natural honey**.

(IV) **Insects and other edible products of animal origin, not elsewhere specified or included**.

Heading 0401

Milk and cream, not concentrated nor containing added sugar or other sweetening matter.

EXPLANATORY NOTES

04.01 - Milk and cream, not concentrated nor containing added sugar or other sweetening matter.

0401.10 - of a fat content, by weight, not exceeding 1 %

0401.20 - of a fat content, by weight, exceeding 1 % but not exceeding 6 %

0401.40 - of a fat content, by weight, exceeding 6 % but not exceeding 10 %

0401.50 - Of a fat content, by weight, exceeding 10 %

This heading covers milk (as defined in Note 1 to this Chapter) and cream, whether or not pasteurised, sterilised or otherwise preserved, homogenised or peptonised; but it **excludes** milk and cream which have been concentrated or which contain added sugar or other sweetening matter (**heading 04.02**) and curdled, fermented or acidified milk and cream (**heading 04.03**).

The products of this heading may be frozen and may contain the additives referred to in the General Explanatory Note to this Chapter. The heading also covers reconstituted milk and cream having the same qualitative and quantitative composition as the natural products.

0401.10

- Of a fat content, by weight, not exceeding 1 %

0401.20

- Of a fat content, by weight, exceeding 1 % but not exceeding 6 %

0401.40

- Of a fat content, by weight, exceeding 6 % but not exceeding 10 %

0401.50

- Of a fat content, by weight, exceeding 10 %

Heading 0402

Milk and cream, concentrated or containing added sugar or other sweetening matter.

EXPLANATORY NOTES

04.02 - Milk and cream, concentrated or containing added sugar or other sweetening matter (+).

0402.10 - in powder, granules or other solid forms, of a fat content, by weight, not exceeding 1.5 %

- In powder, granules or other solid forms, of a fat content, by weight, exceeding 1.5 %:

0402.21 - - Not containing added sugar or other sweetening matter

0402.29 - - Other

- Other:

0402.91 - - Not containing added sugar or other sweetening matter

0402.99 - - Other

This heading covers milk (as defined in Note 1 to this Chapter) and cream, concentrated (for example, evaporated) or containing added sugar or other sweetening matter, whether liquid, paste or solid (in blocks, powder or granules) and whether or not preserved or reconstituted.

Milk powder may contain small quantities of starch (not exceeding 5 % by weight), added, in particular, to maintain the reconstituted milk in its normal physical state.

The heading **does not cover**:

(a) Curdled, fermented or acidified milk or cream (**heading 04.03**).

(b) Beverages consisting of milk flavoured with cocoa or other substances (**heading 22.02**).

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Subheading Explanatory Note.

Subheadings 0402.10, 0402.21 and 0402.29

These subheadings **do not cover** concentrated milk or cream in the form of paste (**subheadings 0402.91** and **0402.99**).

0402.10

- In powder, granules or other solid forms, of a fat content, by weight, not exceeding 1.5 %

0402.2

- In powder, granules or other solid forms, of a fat content, by weight, exceeding 1.5 %:

0402.21

-- Not containing added sugar or other sweetening matter

0402.29

-- Other

0402.9

- Other:

0402.91

-- Not containing added sugar or other sweetening matter

0402.99

-- Other

CLASSIFICATION OPINIONS

1. Concentrated milk with added sugar in the form of a liquid, consisting of approximately 51 % concentrated milk and 49 % sucrose.

Application of GIRs 1 and 6.

Adoption: 2004

Heading 0403

Yogurt; buttermilk, curdled milk and cream, kephir and other fermented or acidified milk and cream, whether or not concentrated or containing added sugar or other sweetening matter or flavoured or containing added fruit, nuts or cocoa.

EXPLANATORY NOTES

04.03 - Yogurt; buttermilk, curdled milk and cream, kephir and other fermented or acidified milk and cream, whether or not concentrated or containing added sugar or other sweetening matter or flavoured or containing added fruit, nuts or cocoa.

0403.20 - Yogurt

0403.90 - Other

This heading covers buttermilk, and all fermented or acidified milk and cream and includes curdled milk and cream, yogurt and kephir. The products of this heading may be in liquid, paste or solid (including frozen) form and may be concentrated (e.g., evaporated or in blocks, powder or granules) or preserved.

Fermented milk of this heading may consist of milk powder of heading 04.02 containing small quantities of added lactic ferments, with a view to its use in prepared meat products or as an additive for animal feed.

Acidified milk of this heading may consist of milk powder of heading 04.02 containing small quantities of added acid (including lemon juice) in crystal form in order to produce curdled milk on reconstitution with water.

Apart from the additives mentioned in the General Explanatory Note to this Chapter, the products of this heading may also contain added sugar or other sweetening matter, flavourings, fruit (including pulp and jams), nuts or cocoa.

In addition, yogurt may contain added chocolate, spices, coffee or coffee extracts,plants, parts of plants, cereals or bakers' wares, provided that any of these substances are not used for the purpose of replacing, in whole or in part, any milk constituent, and the product retains the essential character of yogurt.

0403.20

- Yogurt

0403.90

- Other

Heading 0404

Whey, whether or not concentrated or containing added sugar or other sweetening matter; products consisting of natural milk constituents, whether or not containing added sugar or other sweetening matter, not elsewhere specified or included.

EXPLANATORY NOTES

04.04 - Whey, whether or not concentrated or containing added sugar or other sweetening matter; products consisting of natural milk constituents, whether or not containing added sugar or other sweetening matter, not elsewhere specified or included.

0404.10 - Whey and modified whey, whether or not concentrated or containing added sugar or other sweetening matter

0404.90 - Other

This heading covers whey (i.e., the natural constituents of milk which remain after the fat and casein have been removed) and modified whey (see Subheading Note 1 to this Chapter). These products may be in liquid, paste or solid (including frozen) form, and may be concentrated (e.g., in powder) or preserved.

The heading also covers fresh or preserved products consisting of milk constituents, which do not have the same composition as the natural product, provided they are not more specifically covered elsewhere. Thus the heading includes products which lack one or more natural milk constituents, milk to which natural milk constituents have been added (to obtain, for example, a protein-rich product).

Apart from natural milk constituents and the additives mentioned in the General Explanatory Note to this Chapter, the products of this heading may also contain added sugar or other sweetening matter.

The powdered products of this heading, particularly whey, may contain small quantities of added lactic ferments, with a view to their use in prepared meat products or as additives for animal feed.

The heading **does not cover**:

(a) Skimmed milk or reconstituted milk having the same qualitative and quantitative composition as natural milk (**heading 04.01** or **04.02**).

(b) Whey cheese (**heading 04.06**).

(c) Products obtained from whey, containing by weight more than 95 % lactose, expressed as anhydrous lactose, calculated on the dry matter (**heading 17.02**).

(d) Food preparations based on natural milk constituents but containing other substances not allowed in the products of this Chapter (in particular, **heading 19.01**).

(e) Albumins (including concentrates of two or more whey proteins, containing by weight more than 80 % whey proteins, calculated on the dry matter) (**heading 35.02**) or globulins (**heading 35.04**).

0404.10

- Whey and modified whey, whether or not concentrated or containing added sugar or other sweetening matter

0404.90

- Other

CLASSIFICATION OPINIONS

1. Bovine colostrum collected within the first 24 hours following calving, in the form of a frozen liquid, composed of, by weight, 18 – 25 % solids, 4 – 5 % fat, and 10 – 15 % protein where approximately 50 % of protein content are immunoglobulins (IgG). The product is presented in bulk form and is not processed or altered prior to importation.

Application of GIRs 1 and 6.

Adoption: 2018

Heading 0405

Butter and other fats and oils derived from milk; dairy spreads.

EXPLANATORY NOTES

04.05 - Butter and other fats and oils derived from milk; dairy spreads.

0405.10 - Butter

0405.20 - Dairy spreads

0405.90 - Other

This heading covers:

(A) **Butter.**

This group covers natural butter, whey butter and recombined butter (fresh, salted or rancid, including canned butter). Butter must be derived exclusively from milk and must have a milkfat content of 80 % or more but not more than 95 % by weight, a maximum milk solids-not-fat content of 2 % by weight and a maximum water content of 16 % by weight. Butter contains no added emulsifiers, but may contain sodium chloride, food colours, neutralising salts and cultures of harmless lactic-acid-producing bacteria. (See Note 3 (a) to this Chapter).

Butter obtained from goats or sheep's milk is also covered by this group.

(B) **Dairy spreads.**

This group covers dairy spreads, i.e., spreadable emulsions of the water-in-oil type, containing milkfat as the only fat in the product, and having a milkfat content of 39 % or more but less than 80 % by weight (see Note 3 (b) to this Chapter). Dairy spreads may contain optional ingredients such as cultures of harmless lactic-acid-producing bacteria, vitamins, sodium chloride, sugars, gelatine, starches; food colours; flavours; emulsifiers; thickening agents and preservatives.

(C) **Other fats and oils derived from milk.**

This group covers fats and oils derived from milk (e.g., milkfat, butterfat and butteroil). Butteroil is the product obtained by extracting the water and non-fat content from butter or cream.

This group further includes dehydrated butter and ghee (a kind of butter made most commonly from the milk of buffaloes or cows), as well as products consisting of a mixture of butter and small quantities of herbs, spices, flavourings, garlic, etc. (provided they retain the character of the products falling in this heading).

The heading **does not cover** fat spreads containing fats other than milkfats or containing less than 39 % by weight of milkfat (generally **heading 15.17** or **21.06**).

0405.10

- Butter

0405.20

- Dairy spreads

1. **Butterfat mixture in the form of a water-in-oil type spreadable emulsion** and used in the food industry, consisting of, by weight, 68.75 % butter oil, 17 % sugar, 13 % water and 1.25 % casein. Adoption: 1997

2. **Butterfat mixture in the form of a water-in-oil emulsion** used in the food industry, consisting of, by weight, 70.4 % fat (97.8 % fat - dry matter), 1.06 % protein (1.5 % protein - dry matter) and 1.3 % lactose, and having a moisture content of 28.0 %. This dairy spread is sometimes referred to as "high fat cream cheese". **Application of GIRs 1 (Note 3 (b) to Chapter 4) and 6.** Adoption: 2001

3. **Butterfat mixture in the form of a water-in-oil emulsion** used in the food industry, consisting of, by weight, 72.5 % fat (98.8 % fat - dry matter), 0.996 % protein (1.4 % protein - dry matter) and 1.4 % lactose, and having a moisture content of 26.6 %. This dairy spread is sometimes referred to as "high fat cream cheese". **Application of GIRs 1 (Note 3 (b) to Chapter 4) and 6.** Adoption: 2001

0405.90

- Other

Heading 0406

Cheese and curd.

EXPLANATORY NOTES

04.06 - Cheese and curd (+).

0406.10 - Fresh (unripened or uncured) cheese, including whey cheese, and curd

0406.20 - Grated or powdered cheese, of all kinds

0406.30 - Processed cheese, not grated or powdered

0406.40 - Blue-veined cheese and other cheese containing veins produced by *Penicillium roqueforti*

0406.90 - other cheese

This heading covers all kinds of cheese, viz.:

(1) Fresh cheese (including cheese made from whey or buttermilk) and curd. Fresh cheese is an unripened or uncured cheese which is ready for consumption shortly after manufacture (e.g., Ricotta, Broccio, cottage cheese, cream cheese, Mozzarella).

(2) Grated or powdered cheese.

(3) Processed cheese, also known as process cheese. It is manufactured by comminuting, mixing, melting and emulsifying, with the aid of heat and emulsifying or acidifying agents (including melting salts), one or more varieties of cheese and one or more of the following: cream or other dairy products, salt, spices, flavouring, colouring and water.

(4) Blue-veined cheese and other cheese containing veins produced by *Penicillium roqueforti*.

(5) Soft cheese (e.g., Camembert, Brie).

(6) Medium-hard cheese and hard cheese (e.g., Cheddar, Gouda, Gruyère, Parmesan).

Whey cheeses are obtained by concentrating whey and adding milk or milk fat. They are classified in this heading only if they have the three following characteristics:

(a) A milkfat content, by weight of the dry matter, of 5 % or more;

(b) A dry matter content, by weight, of at least 70 % but not exceeding 85 %;

(c) They are moulded or capable of being moulded.

The presence of meat, fish, crustaceans, herbs, spices, vegetables, fruit, nuts, vitamins, skimmed milk powder, etc., does not affect classification **provided** that the goods retain the character of cheese.

Cheeses which have been coated with batter, dough or bread crumbs remain classified in this heading whether or not they have been pre-cooked, provided that the goods retain the character of cheese.

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Subheading Explanatory Note.

Subheading 0406.40

This subheading covers cheese containing visible veins in the body of the cheese that may be blue, green, greenish-blue or whitish-grey in colour, such as Bleu d'Auvergne, Bleu de Causses, Bleu de Quercy, Blue Cheshire, Blue Dorset, Blue Wensleydale, Cabrales, Danish Blue (Danablu), Gorgonzola, Mycella, Roquefort, Saingorlon and Stilton, as well as cheeses with proprietary or trade names, provided they meet the above criterion.

04.06 - Cheese and curd (+).

0406.10 - Fresh (unripened or uncured) cheese, including whey cheese, and curd

0406.20 - Grated or powdered cheese, of all kinds

0406.30 - Processed cheese, not grated or powdered

0406.40 - Blue-veined cheese and other cheese containing veins produced by *Penicillium roqueforti*

0406.90 - other cheese

This heading covers all kinds of cheese, viz.:

(1) Fresh cheese (including cheese made from whey or buttermilk) and curd. Fresh cheese is an unripened or uncured cheese which is ready for consumption shortly after manufacture (e.g., Ricotta, Broccio, cottage cheese, cream cheese, Mozzarella).

(2) Grated or powdered cheese.

(3) Processed cheese, also known as process cheese. It is manufactured by comminuting, mixing, melting and emulsifying, with the aid of heat and emulsifying or acidifying agents (including melting salts), one or more varieties of cheese and one or more of the following: cream or other dairy products, salt, spices, flavouring, colouring and water.

(4) Blue-veined cheese and other cheese containing veins produced by *Penicillium roqueforti*.

(5) Soft cheese (e.g., Camembert, Brie).

(6) Medium-hard cheese and hard cheese (e.g., Cheddar, Gouda, Gruyère, Parmesan).

Whey cheeses are obtained by concentrating whey and adding milk or milk fat. They are classified in this heading only if they have the three following characteristics:

(a) A milkfat content, by weight of the dry matter, of 5 % or more;

(b) A dry matter content, by weight, of at least 70 % but not exceeding 85 %;

(c) They are moulded or capable of being moulded.

The presence of meat, fish, crustaceans, herbs, spices, vegetables, fruit, nuts, vitamins, skimmed milk powder, etc., does not affect classification **provided** that the goods retain the character of cheese.

Cheeses which have been coated with batter**,** dough or bread crumbs remain classified in this heading whether or not they have been pre-cooked, provided that the goods retain the character of cheese.

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Subheading Explanatory Note.

Subheading 0406.40

This subheading covers cheese containing visible veins in the body of the cheese that may be blue, green, greenish-blue or whitish-grey in colour, such as Bleu d'Auvergne, Bleu de Causses, Bleu de Quercy, Blue Cheshire, Blue Dorset, Blue Wensleydale, Cabrales, Danish Blue (Danablu), Gorgonzola, Mycella, Roquefort, Saingorlon and Stilton, as well as cheeses with proprietary or trade names, provided they meet the above criterion.

0406.10

- Fresh (unripened or uncured) cheese, including whey cheese, and curd

CLASSIFICATION OPINIONS

1. Mozzarella cheese, sliced into small pieces and coated with spices, put up together with pepperoni in a sealed bag of plastics having a net weight of 280 g, the cheese and the pepperoni being separated by a piece of wax paper. The bag contains a portion-controlled amount of topping for one extra-large pizza, which consists of 76 % Mozzarella cheese, 22 % pepperoni, approximately 1 % spices, canola oil and approximately 1 % calcium silicate. Sixty-five such bags are presented together in a single box, and are intended for use in the food service industry (pizzerias).
The pepperoni presented with the cheese is classified separately in heading 16.01. **Application of GIRs 1 and 6.**
See also Opinion 1601.00/1.
Adoption*:* 2015

2. Fresh cheese, composed of concentrated, fermented skimmed milk (80 %), fruit preparation (strawberry) (10 %), sugar (7.6 %), modified starch, strawberry seeds, black carrot juice concentrate, natural flavouring, and thickener, mineral concentrate from milk, lemon juice concentrate and acid regulators. It also contains the two cultures *Lactobacillus* bulgaricus and Streptococcus thermophilus. The protein content in the dairy part is 9.5 % (8.4 %

in the product in total). During the production process the product has undergone a gentle “heat shock” and a quark separator is used in order to remove the whey. In addition, a smoothing process is used to improve the consistency. The product is put up for retail sale in a plastic container with a net content of 160 g, and consists of two layers – the lower layer being a fruit preparation (strawberry), while the upper layer is in the form of a white dairy product. **Application of GIRs 1 and 6.** Adoption*:* 2017

0406.20

- Grated or powdered cheese, of all kinds

0406.30

- Processed cheese, not grated or powdered

CLASSIFICATION OPINIONS

1. Processed cheese, made by comminuting cheese, mixing the comminuted cheese with butter, whey powder, sodium phosphate and water, heating the mixture, and then moulding it into 2 kg blocks.

Adoption: 1996

0406.40

- Blue-veined cheese and other cheese containing veins produced by Penicillium roqueforti

0406.90

- Other cheese

CLASSIFICATION NOTES

1. A product consisting of two mild, soft-ripened round Camembert pieces (diameter 7 cm, height 2 cm) coated with bread crumbs and pre-fried in oil, each put up in a white paper-frill, sealed together in a foil of plastics and packed together with two portion packs of cranberry jam.

Adoption: 1994

Heading 0407

Birds' eggs, in shell, fresh, preserved or cooked.

EXPLANATORY NOTES

04.07 - Birds' eggs, in shell, fresh, preserved or cooked.

- Fertilised eggs for incubation:

0407.11 - - Of fowls of the species *Gallus domesticus*

0407.19 - - Other

- Other fresh eggs:

0407.21 - - Of fowls of the species *Gallus domesticus*

0407.29 - - Other

0407.90 - Other

This heading covers fertilised eggs for incubation and other fresh (including chilled) eggs of all birds. It also covers preserved or cooked eggs, in shell.

0407.1

- Fertilised eggs for incubation:

0407.11

-- Of fowls of the species Gallus domesticus

0407.19

-- Other

0407.2

- Other fresh eggs:

0407.21

-- Of fowls of the species Gallus domesticus

0407.29

-- Other

0407.90

- Other

Heading 0408

Birds' eggs, not in shell, and egg yolks, fresh, dried, cooked by steaming or by boiling in water, moulded, frozen or otherwise preserved, whether or not containing added sugar or other sweetening matter.

EXPLANATORY NOTES

04.08 - Birds' eggs, not in shell, and egg yolks, fresh, dried, cooked by steaming or by boiling in water, moulded, frozen or otherwise preserved, whether or not containing added sugar or other sweetening matter.

- Egg yolks:

0408.11 - - Dried

0408.19 - - Other

- Other:

0408.91 - - Dried

0408.99 - - Other

This heading covers whole eggs, not in the shell, and egg yolks of all birds. The products of this heading may be fresh, dried, cooked by steaming or by boiling in water, moulded (e.g., cylindrical “long eggs”), frozen or otherwise preserved. All these fall in the heading whether or not containing added sugar or other sweetening matter and whether for use as food or for industrial purposes (e.g., in tanning).

The heading **does not cover**:

(a) Oil of egg yolk (**heading 15.06**).

(b) Egg preparations containing seasoning, spices or other additives (**heading 21.06**).

(c) Lecithin (**heading 29.23**).

(d) Separate egg white (egg albumin) (**heading 35.02**).

0408.1

- Egg yolks:

0408.11

-- Dried

0408.19

-- Other

0408.9

- Other:

0408.91

-- Dried

0408.99

-- Other

Heading 0409

Natural honey.

EXPLANATORY NOTES

04.09 - Natural honey.

This heading covers honey produced by bees (*Apis mellifera*) or by other insects, centrifuged, or in the comb or containing comb chunks, provided that neither sugar nor any other substance has been added. Such honey may be designated by floral source, origin or colour.

The heading **excludes** artificial honey and mixtures of natural and artificial honey (**heading 17.02**).

0409.00

Natural honey.

Heading 0410

Insects and other edible products of animal origin, not elsewhere specified or included.
EXPLANATORY NOTES

04.10 - Insects and other edible products of animal origin, not elsewhere specified or included.

0410.10 - Insects

0410.90 - Other

This heading covers insects (as defined in Note 6 to this Chapter) and other products of animal origin suitable for human consumption, not specified or included elsewhere in the Nomenclature. However, non-living insects unfit for human consumption (including flours and meals thereof) are classified in **heading 05.11**.

It includes:

(1) **Turtles' eggs**. These are eggs laid by river or marine turtles; they may be fresh, dried or otherwise preserved.

Turtle-egg oil is **excluded** (**heading 15.06**).

(2) **Salanganes' nests** ("birds' nests"). These consist of a substance secreted by the bird which solidifies rapidly on exposure to air.

The nests may be presented untreated, or they may have been cleaned to remove feathers, down, dust and other impurities in order to render them suitable for consumption. They are generally in the form of whitish strips or threads.

Salanganes' nests have a high protein content and are used almost exclusively to make soups or other food preparations.

The heading **excludes** animal blood, edible or not, liquid or dried (**heading 05.11** or **30.02**).

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0410.10

- Insects

0410.90

- Other

CLASSIFICATION OPINIONS

1. **Propolis**, a natural resinous mixture produced by honey bees. It is in the form of solid sticky resinous substances from yellow to dark brown, consisting of approximately 50 % by weight of resins, 30 % by weight of waxes and fatty acids, 10 % by weight of essential oils, 5 % by weight of pollen, and 5 % by weight of other organics and minerals. It normally undergoes further preparation before human consumption. **Application of GIR 1 and 6.** Adoption: 2021



Chapter 5

Products of animal origin, not elsewhere specified or included

LEGAL NOTES

Notes.

1. - This Chapter does not cover:

(a) Edible products (other than guts, bladders and stomachs of animals, whole and pieces thereof, and animal blood, liquid or dried);

(b) Hides or skins (including furskins) other than goods of heading 05.05 and parings and similar waste of raw hides or skins of heading 05.11 (Chapter 41 or 43);

(c) Animal textile materials, other than horsehair and horsehair waste (Section XI); or

(d) Prepared knots or tufts for broom or brush making (heading 96.03).

2.- for the purposes of heading 05.01, the sorting of hair by length (provided the root ends and tip ends respectively are not arranged together) shall be deemed not to constitute working.

3.- Throughout the Nomenclature, elephant, hippopotamus, walrus, narwhal and wild boar tusks, rhinoceros horns and the teeth of all animals are regarded as “ivory”.

4.- Throughout the Nomenclature, the expression “horsehair” means hair of the manes or tails of equine or bovine animals. Heading 05.11 covers, *inter alia*, horsehair and horsehair waste, whether or not put up as a layer with or without supporting material.

EXPLANATORY NOTES

Chapter 5

Products of animal origin,

Not elsewhere specified or included

Notes.

1. - This Chapter does not cover:

(a) Edible products (other than guts, bladders and stomachs of animals, whole and pieces thereof, and animal blood, liquid or dried);

(b) Hides or skins (including furskins) other than goods of heading 05.05 and parings and similar waste of raw hides or skins of heading 05.11 (Chapter 41 or 43);

(c) Animal textile materials, other than horsehair and horsehair waste (Section XI); or

(d) Prepared knots or tufts for broom or brush making (heading 96.03).

2.- for the purposes of heading 05.01, the sorting of hair by length (provided the root ends and tip ends respectively are not arranged together) shall be deemed not to constitute working.

3.- Throughout the Nomenclature, elephant, hippopotamus, walrus, narwhal and wild boar tusks, rhinoceros horns and the teeth of all animals are regarded as “ivory”.

4.- Throughout the Nomenclature, the expression “horsehair” means hair of the manes or tails of equine or bovine animals. Heading 05.11 covers, *inter alia*, horsehair and horsehair waste, whether or not put up as a layer with or without supporting material.

GENERAL

This Chapter covers a variety of materials of animal origin, unworked or having undergone a simple process of preparation, which are not normally used as food (**except** certain blood, guts, bladders and stomachs of animals) and which are not dealt with in other Chapters of the Nomenclature.

The following are **excluded** from this Chapter:

(a) Animal fats (**Chapter 2** or **15**).

(b) Uncooked edible skins of animals (**Chapter 2**) or of fish (**Chapter 3**). (When cooked, such skins are classified in **Chapter 16**.)

(c) Edible fish fins, heads, tails, maws (swim bladders) and other edible fish offal (**Chapter3**).

(d) Organo-therapeutic glands or other organs, dried, whether or not powdered (**Chapter 30**).

(e) Fertilisers of animal origin (**Chapter 31**).

(f) Raw hides and skins (**except** birdskins and parts of birdskins, with their feathers or down, unworked, cleaned, disinfected or treated for preservation, but not otherwise worked) (**Chapter 41**).

(g) Furskins (**Chapter 43**).

(h) Silk and wool and other textile raw materials of animal origin (**except** horsehair and horsehair waste) (**Section XI**).

(ij) Natural or cultured pearls (**Chapter 71**).

Heading 0501

Human hair, unworked, whether or not washed or scoured; waste of human hair.

EXPLANATORY NOTES

05.01 - Human hair, unworked, whether or not washed or scoured; waste of human hair.

This heading covers human hair, unworked, whether or not washed or scoured, including hair laid parallel but not arranged so that the root ends and tip ends are respectively together, and waste human hair.

Human hair (other than waste) which has been processed beyond simple washing or scouring, e.g., thinned, dyed, bleached, curled or prepared for the manufacture of postiches, wigs, etc., and also human hair which has been arranged so that the root ends and tip ends are respectively together, is **excluded** (**heading 67.03**, see corresponding Explanatory Note). This exclusion does not apply to waste human hair, which is always classified in this heading, even if it results from, for example, bleached or dyed hair.

The heading also **excludes**:

(a) Straining cloth made from human hair (**heading 59.11**).

(b) Hair-nets made of human hair (**heading 65.05**).

(c) Other articles made of human hair (**heading 67.04**).

0501.00

Human hair, unworked, whether or not washed or scoured; waste of human hair.

Heading 0502

Pigs', hogs' or boars' bristles and hair; badger hair and other brush making hair; waste of such bristles or hair.

EXPLANATORY NOTES

05.02 - Pigs', hogs' or boars' bristles and hair; badger hair and other brush making hair; waste of such bristles or hair.

0502.10 - Pigs’, hogs’ or boars’ bristles and hair and waste thereof

0502.90 - Other

These goods may be in bulk, in loose bundles, or in tied bunches in which the bristles or hairs are laid parallel and the root ends more or less levelled. They may be raw or they may have been cleaned, bleached, dyed or sterilised.

Other brush making hair includes that of the skunk, squirrel and marten.

The heading **excludes**, however, bristles or hairs when in the form of prepared knots or tufts (i.e., made up into unmounted bundles ready for incorporation without division in brooms or brushes or requiring only certain minor processes to be ready for such incorporation); these fall in **heading 96.03** (see Note 3 to Chapter 96).

0502.10

- Pigs', hogs' or boars' bristles and hair and waste thereof

0502.90

- Other

Heading 0504

Guts, bladders and stomachs of animals (other than fish), whole and pieces thereof, fresh, chilled, frozen, salted, in brine, dried or smoked.

EXPLANATORY NOTES

05.04 - Guts, bladders and stomachs of animals (other than fish), whole and pieces thereof, fresh, chilled, frozen, salted, in brine, dried or smoked.

This heading covers guts, bladders and stomachs of animals (**other than** those of fish, which fall in **heading 05.11**), whether whole or in pieces, and whether or not edible, fresh, chilled, frozen, salted, in brine, dried or smoked. If otherwise prepared or preserved such products are **excluded** (generally **Chapter 16**).

This heading includes:

(1) Rennet bags (calf, kid, etc.), whether or not cut or dried; these are used for the extraction of rennet.

(2) Tripe and paunches. (When cooked, they are classified in **Chapter 16**.)

(3) Unworked goldbeater's skin, which is the outer envelope of the caecum of the ox or sheep.

The heading also covers guts and goldbeater's skin (of the ox, in particular) which have been split or cut lengthwise into strips, whether or not the inner coats have been removed by scraping.

Guts are mainly used as sausage casings. They are also used for the manufacture of sterile surgical catgut (**heading 30.06**), tennis racket strings (**heading 42.06**) or musical instrument strings (**heading 92.09**).

The heading also **excludes** "artificial guts" made by extrusion of a paste of hide or skin fibres, subsequently hardened with a solution of formaldehyde and phenols (**heading 39.17**) and "artificial" guts made by glueing together split natural guts (**heading 42.06**).

0504.00

Guts, bladders and stomachs of animals (other than fish), whole and pieces thereof, fresh, chilled, frozen, salted, in brine, dried or smoked.

Heading 0505

Skins and other parts of birds, with their feathers or down, feathers and parts of feathers (whether or not with trimmed edges) and down, not further worked than cleaned, disinfected or treated for preservation; powder and waste of feathers or parts of feathers.

EXPLANATORY NOTES

05.05 - Skins and other parts of birds, with their feathers or down, feathers and parts of feathers (whether or not with trimmed edges) and down, not further worked than cleaned, disinfected or treated for preservation; powder and waste of feathers or parts of feathers (+).

0505.10 - Feathers of a kind used for stuffing; down

0505.90 - Other

This heading covers:

(1) Skins and other parts of birds (e.g., heads, wings) with their feathers or down, and

(2) Feathers and parts of feathers (whether or not with trimmed edges), and down,

Providedthey are either unworked, or merely cleaned, disinfected or treated for preservation, but not otherwise worked or mounted.

The heading also covers powder, meal and waste of feathers or parts of feathers.

The goods of this heading are of a kind intended for use as bed feathers, for ornamental purposes (usually after further preparation) or for other purposes. For classification purposes, no distinction is made between the different kinds of feathers.

The parts of feathers of this heading include feathers split along their length, barbs cut from the scape or attached to a thin shaving of the scape (whether or not with trimmed edges), quills and scapes.

Feathers and down packed for retail sale in cloth bags and clearly of a kind not constituting cushions or pillows are classified in this heading. Feathers simply strung together for convenience of transport also remain classified in this heading.

The heading **excludes** skins and other parts of birds, feathers and parts of feathers which have undergone working other than that permitted in this heading (e.g., bleaching, dyeing, curling or waving), or which have been mounted, and articles of feathers, etc.; these are generally classified in **heading 67.01** (see the Explanatory Note thereto). Worked quills, and articles made from quills, however, are classified according to their character (e.g.: angling floats - **heading 95.07**, toothpicks **heading 96.01**).

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Subheading Explanatory Note.

Subheading 0505.10

“Feathers of a kind used for stuffing” means feathers of poultry (in particular goose or duck), of pigeon, of partridge or the like, other than large wing or tail feathers and large feathers rejected on grading. “Down” is the finest and softest part of the plumage of goose or duck in particular and differs from feathers in not having rigid scapes. Such feathers and down are mainly used for stuffing articles of bedding or other articles such as cushions and insulating clothing (for example, anoraks).

0505.10

- Feathers of a kind used for stuffing; down

0505.90

- Other

Heading 0506

Bones and horn-cores, unworked, defatted, simply prepared (but not cut to shape), treated with acid or degelatinised; powder and waste of these products.

EXPLANATORY NOTES

05.06 - Bones and horn-cores, unworked, defatted, simply prepared (but not cut to shape), treated with acid or degelatinised; powder and waste of these products.

0506.10 - Ossein and bones treated with acid

0506.90 - Other

The products of this heading are used mainly as carving materials, for the manufacture of glue and gelatin or as fertilisers.

The heading covers:

(1) **Bones and horn-cores** (inner bones of horns), unworked or defatted (bones from which the fat has been removed by various processes).

(2) **Bones, simply prepared (but not cut to shape)**, i.e., not having undergone processes extending beyond simple sawing for the removal of superfluous parts, cutting (crosswise or lengthwise), sometimes followed by rough planing or bleaching. The heading therefore **excludes** rectangular (including square) plates and sheets and other shapes, whether or not polished or otherwise worked, and products obtained by moulding powdered bone; all these goods fall in **heading 96.01** or in other more specific headings.

(3) **Bones treated with acid**, i.e., bones, the calcareous part of which has been dissolved by means of hydrochloric acid, and which, without having lost their original form, retain only their cellular tissue and cartilaginous parts (ossein) which can be easily transformed into gelatin.

(4) **Degelatinised bones** from which the gelatin has been removed by steaming and which are usually in the form of powder (steam bone flour).

(5) **Powder and waste of bones** (including crushed bones), e.g., that produced by working the bone.

0506.10

- Ossein and bones treated with acid

0506.90

- Other

Heading 0507

Ivory, tortoise-shell, whalebone and whalebone hair, horns, antlers, hooves, nails, claws and beaks, unworked or simply prepared but not cut to shape; powder and waste of these products.

EXPLANATORY NOTES

05.07 - Ivory, tortoise-shell, whalebone and whalebone hair, horns, antlers, hooves, nails, claws and beaks, unworked or simply prepared but not cut to shape; powder and waste of these products.

0507.10 - Ivory; ivory powder and waste

0507.90 - Other

This heading covers the products described below, unworked or simply prepared but not cut to shape, i.e., not having undergone processes extending beyond rasping, scraping, cleaning, removal of superfluous parts, trimming, splitting, cutting other than to shape, rough planing, straightening or flattening :

(A) **Ivory**.

Throughout the Nomenclature, the term “ivory” is regarded as covering the bony substance which constitutes:

(1) The tusks of the elephant, hippopotamus, walrus, narwhal or wild boar.

(2) The horns of the rhinoceros.

(3) The teeth of any land or marine animal.

(B) **Tortoise-shell.**

The tortoise-shell of commerce is normally turtle shell (generally obtained from the species known as Kemp’s Turtles, Loggerheads and Hawksbill Turtles), and references to tortoise-shell include turtle shell.

Tortoise-shell is a horny material in the form of plates (scales), of varying size and thickness, protecting the horny frame-work which encloses the body of the animal.

In this heading “tortoise-shell” means:

(1) **Shells**, whole or in part.

(2) **Scales** from these shells, almost always detached at the fishing ground, and consisting of plates of uneven thickness, with a curved surface. These scales are described as **dorsal** or **ventral** according to the part of the body from which they are obtained; the part which covers the stomach and breast is known as the **plastron**.

(C) **Whalebone and whalebone hair.**

In its natural state, **whalebone** (of whales or other marine mammals) takes the form of curved, horny blades with a greyish skin adhering to the surface and with a kind of fringe of the same material as the whalebone **(whalebone hair)** on the inner edge.

(D) **Horns, antlers, hooves, nails, claws and beaks.**

The **horns** of this group may be presented with or without their cores and their frontal bones. **Antlers** are branched horns of deer, elk, etc.

The heading also covers powder and waste (including parings) of these products.

The heading **excludes** products which have been cut to rectangular (including square) shapes or into rods, tubes or other semi-finished forms and products obtained by moulding (**heading 96.01** or other more specific headings).

0507.10

- Ivory; ivory powder and waste

0507.90

- Other

Heading 0508

Coral and similar materials, unworked or simply prepared but not otherwise worked; shells of molluscs, crustaceans or echinoderms and cuttle-bone, unworked or simply prepared but not cut to shape, powder and waste thereof.

EXPLANATORY NOTES

05.08 - Coral and similar materials, unworked or simply prepared but not otherwise worked; shells of molluscs, crustaceans or echinoderms and cuttle-bone, unworked or simply prepared but not cut to shape, powder and waste thereof.

Coral is the calcareous skeleton of a marine polyp and is generally used for articles of jewellery.

The most important shell for industrial purposes is that used as mother of pearl.

The heading covers:

(1) **Coral, unworked,** or from which only the outer crust has been removed.

(2) **Coral, simply prepared** but not otherwise worked, i.e., coral not having undergone processes extending beyond simple cutting.

(3) **Shells, unworked or simply prepared** but not cut to shape, i.e., shells not having undergone processes extending beyond cleaning or simple cutting.

The heading includes cuttle-fish bone, crushed or powdered shells used as animal foodstuffs, and waste of shells.

The heading **excludes** rods, rectangular (including square) plates and other shapes, whether or not polished or otherwise worked; these fall in **heading 96.01** or in other more specific headings.

0508.00

Coral and similar materials, unworked or simply prepared but not otherwise worked; shells of molluscs, crustaceans or echinoderms and cuttle-bone, unworked or simply prepared but not cut to shape, powder and waste thereof.

Heading 0510

Ambergris, castoreum, civet and musk; cantharides; bile, whether or not dried; glands and other animal products used in the preparation of pharmaceutical products, fresh, chilled, frozen or otherwise provisionally preserved.

EXPLANATORY NOTES

05.10 - Ambergris, castoreum, civet and musk; cantharides; bile, whether or not dried; glands and other animal products used in the preparation of pharmaceutical products, fresh, chilled, frozen or otherwise provisionally preserved.

Ambergris is a substance secreted by the sperm-whale and is found in the form of rounded masses made up of concentric layers and weighing up to a hundred kilograms. It has a waxy consistency and gives a sweet odour when rubbed. It varies from ash grey to black in colour and its density is less than that of water. Ambergris should not be confused with yellow amber (succinite) which is a mineral resin and falls in **heading 25.30**.

Castoreum is a resinous substance, brown, reddish or yellowish, with a bitter flavour and a pungent smell. It is secreted by beavers and is usually presented in the pouches (generally joined at their ends) in which it is formed. These pouches are often pleated and range in length from 5 to 10 cm.

Civet is produced by the civet cat and is a golden brown or brown resinous substance of pasty and oily consistency, with a very strong odour which closely resembles natural musk.

Musk, secreted by a kind of deer, is normally enclosed in pouches (flat and hairless on one side and convex and covered with whitish hair on the other) in which it is formed. The secretion is dark brown and has a strong smell. The musk in question should not be confused with artificial musk (musk xylene, musk ambrette, etc.) included in **Chapter 29**.

Cantharides are beetles used primarily for their vesicant or counter-irritant properties. They are usually presented in dried or powdered form.

The heading also includes:

(1) **Animal glands and other animal organs** used in the preparation of organo-therapeutic products and unfit, by reason of their nature or of the manner in which they are put up, for human consumption (pancreas, testes, ovaries, gall bags, thyroid glands, pituitary glands, etc.), fresh, chilled or frozen, or otherwise provisionally preserved for the purposes of transport or storage (e.g., in glycerol, acetone or alcohol). When dried or in the form of extract, these products are **excluded (heading 30.01)**. (See however Note 1 (a) to this Chapter as regards edible products.)

(2) **Bile**, whether or not dried. (Bile extract is **excluded** - **heading 30.01**).

The heading also **excludes** snake or bee venom put up in dried flakes in sealed ampoules (**heading 30.01**).

0510.00

Ambergris, castoreum, civet and musk; cantharides; bile, whether or not dried; glands and other animal products used in the preparation of pharmaceutical products, fresh, chilled, frozen or otherwise provisionally preserved.

Heading 0511

Animal products not elsewhere specified or included; dead animals of Chapter 1 or 3, unfit for human consumption.

EXPLANATORY NOTES

05.11 - Animal products not elsewhere specified or included; dead animals of Chapter 1 or 3, unfit for human consumption.

0511.10 - Bovine semen

- Other:

0511.91 - - Products of fish or crustaceans, molluscs or other aquatic invertebrates; dead animals of Chapter 3

0511.99 - - Other

This heading includes:

(1) **Animal semen.**

(2) **Animal embryos**, which are shipped frozen with the intended purpose of transplanting them into a recipient mother.

(3) **Animal blood**, liquid or dried, edible or not.

The heading **excludes** animal blood prepared for therapeutic, prophylactic or diagnostic uses (**heading 30.02**).

(4) **Cochineal and similar insects,** unfit for human consumption. The cochineal is an insect which lives on certain cactus plants. There are three kinds of cochineal on the market - black, grey or silver, and reddish. The cochineal furnishes a red dye (cochineal extract) (**heading 32.03**) which is used in the preparation of carmine lake (**heading 32.05**).

Amongst the insects similar to the cochineal the most important is the animal kermes, which lives on a variety of dwarf oak tree. Kermes is used for the preparation of vivid and lasting red dyes which are classified in **heading 32.03**.

Animal kermes should not be confused with “kermes mineral” (**heading 38.24**).

Cochineal and kermes are presented dried and may be whole or powdered.

(5) **Inedible fish eggs, roes and milt.**

These comprise:

(i) Fertile eggs for hatching, recognisable by the presence of black spots which are the embryonic eyes.

(ii) Salted roes (e.g., of cod or mackerel) used as fishing bait. These can be distinguished from caviar substitutes (**heading 16.04**) by their strong disagreeable odour and because they are usually packed in bulk.

The heading **excludes** edible roes and milt (**Chapter 3**).

(6) **Waste of fish or crustaceans, molluscs or other aquatic invertebrates.**

This category covers, *inter alia:*

(i) Scales of whitebait or of similar fish, fresh or preserved (but not in solution); these are used for the preparation of pearl essence for the coating of imitation pearls.

(ii) Maws (swim bladders), raw, dried or salted, used in the manufacture of isinglass and fish glues.

(iii) Fish guts and waste of skins used for glue manufacture, etc.

(iv) Fish waste.

The heading also **excludes**:

(a) Edible fish livers, fish fins, heads, tails, maws (swim bladders) and other edible fish offal (**Chapter 3**).

(b) Shells of molluscs, crustaceans or echinoderms of **heading 05.08**.

(c) Inedible fish livers used in the preparation of pharmaceutical products (**heading 05.10**).

(7) **Silkworm eggs**. These have the appearance of small seeds, pale yellow turning gradually to ash grey or earthy yellow. They are usually presented in boxes (or cellular combs) or in cloth sachets.

(8) **Ant eggs**.

(9) **Sinews and tendons** used, like the waste cited in Items (10) and (11) below, mainly as raw materials for the manufacture of glue.

(10) **Parings and similar waste, of raw hides or skins.**

(11) **Waste of raw furskins**, clearly not capable of use by furriers.

(12) **Dead animals** of Chapter 1 or 3 and their meat or meat offals unfit for human consumption **other than** products of **heading 02.09** or of one of the preceding headings of this Chapter.

(13) **Horsehair and horsehair waste**, whether or not put up as a layer with or without supporting material. This category covers hair of the manes or tails of equine or bovine animals. It includes not only unworked horsehair but also horsehair which has been washed, scoured, bleached, dyed, curled or otherwise prepared. The goods may be in bulk, in bunches or may be put up in skeins, etc.

This heading also covers a layer of horsehair on a support of textile fabric, paper, etc., or put up between sheets of textile fabric, paper, etc., by stapling or simple sewing.

The heading **excludes** horsehair which has undergone a spinning process and horsehair knotted end to end (**Chapter 51**).

(14) **Natural sponges of animal origin.** They comprise both raw sponges (including those merely washed) and sponges which have been prepared (e.g., by removal of calcareous matter or by bleaching). This category also covers waste sponge.

Loofah, also known as vegetable sponge, is classified in **heading 14.04**.

The heading further **excludes**:

(a) Shellac, seed lac, stick lac and other lacs (**heading 13.01**).

(b) Animal fats of **Chapter 15**.

(c) Collections and collectors' pieces of zoological interest, consisting of stuffed or otherwise preserved animals, butterflies and other insects, eggs, etc. (**heading 97.05**).

0511.10

- Bovine semen

0511.9

- Other:

0511.91

-- Products of fish or crustaceans, molluscs or other aquatic invertebrates; dead animals of Chapter 3

0511.99

-- Other

Section II

VEGETABLE PRODUCTS

LEGAL NOTES

Note.

1. - In this Section the term “pellets” means products which have been agglomerated either directly by compression or by the addition of a binder in a proportion not exceeding 3 % by weight.

EXPLANATORY NOTES

Section II

VEGETABLE PRODUCTS

Note.

1. - In this Section the term “pellets” means products which have been agglomerated either directly by compression or by the addition of a binder in a proportion not exceeding 3 % by weight.

Chapter 6

Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage

LEGAL NOTES

Notes.

1.- Subject to the second part of heading 06.01, this Chapter covers only live trees and goods (including seedling vegetables) of a kind commonly supplied by nursery gardeners or florists for planting or for ornamental use; nevertheless it does not include potatoes, onions, shallots, garlic or other products of Chapter 7.

2.- Any reference in heading 06.03 or 06.04 to goods of any kind shall be construed as including a reference to bouquets, floral baskets, wreaths and similar articles made wholly or partly of goods of that kind, account not being taken of accessories of other materials. However, these headings do not include collages or similar decorative plaques of heading 97.01.

EXPLANATORY NOTES

Chapter 6

Live trees and other plants; bulbs, roots and the like;

Cut flowers and ornamental foliage

Notes.

1.- Subject to the second part of heading 06.01, this Chapter covers only live trees and goods (including seedling vegetables) of a kind commonly supplied by nursery gardeners or florists for planting or for ornamental use; nevertheless it does not include potatoes, onions, shallots, garlic or other products of Chapter 7.

2.- Any reference in heading 06.03 or 06.04 to goods of any kind shall be construed as including a reference to bouquets, floral baskets, wreaths and similar articles made wholly or partly of goods of that kind, account not being taken of accessories of other materials. However, these headings do not include collages or similar decorative plaques of heading 97.01.

GENERAL

This Chapter covers all living plants, of a kind supplied by nursery gardeners (including horticulturists) or florists, which are in a condition suitable for planting or ornamental purposes and also chicory plants and roots, **other than** roots of **heading 12.12**, even if they are not commonly supplied by nursery gardeners or florists. These range from trees, shrubs and bushes to seedling vegetables including, *inter alia*, plants for medicinal purposes. The Chapter **does not include** seeds and fruit, or certain tubers and bulbs (potatoes, onions, shallots and garlic) for which it is not possible to make a distinction between the kinds used as food and those for planting.

The Chapter also covers:

(1) Cut flowers and flower buds, foliage, branches and other parts of plants, fresh, dried, dyed, bleached, impregnated or otherwise prepared for ornamental purposes.

(2) Bouquets, wreaths, floral baskets and similar florists' wares.

Heading 0601

Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant, in growth or in flower; chicory plants and roots other than roots of heading 12.12.

EXPLANATORY NOTES

06.01 - Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant, in growth or in flower; chicory plants and roots other than roots of heading 12.12.

0601.10 - Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant

0601.20 - Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, in growth or in flower; chicory plants and roots

This heading includes bulbs, etc., whether or not presented in pots, boxes, etc., of, *inter alia*, plants of the following kinds:

Amaryllis, anemone (bulbous species), begonia, canna, chionodoxa, convallaria (lily of the valley), crocus, cyclamen, dahlia, eremurus, freesia, fritillaria, galanthus (snow-drop), gladiolus, gloxinia, hyacinthus, iris, lilium, montbretia, narcissus, ornithogalum, oxalis, polianthes (tuberose), ranunculus, richardia, tigridia and tulipa.

The heading also includes bulbs, etc., of plants not used for ornamental purposes (e.g., rhubarb crowns) and asparagus crowns.

The heading **excludes**, however, certain bulbs, tubers, tuberous roots, corms, crowns and rhizomes (e.g., onions, shallots, garlic, potatoes, Jerusalem artichokes) of **Chapter 7**, and ginger rhizomes (**heading 09.10**).

Chicory plants and roots are also covered by this heading. However, unroasted chicory roots, of the variety *Cichorium intybus sativum*, are **excluded** (**heading 12.12**).

0601.10

- Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant

0601.20

- Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, in growth or in flower; chicory plants and roots

Heading 0602

Other live plants (including their roots), cuttings and slips; mushroom spawn.

EXPLANATORY NOTES

06.02 - other live plants (including their roots), cuttings and slips; mushroom spawn (+).

0602.10 - Unrooted cuttings and slips

0602.20 - Trees, shrubs and bushes, grafted or not, of kinds which bear edible fruit or nuts

0602.30 - Rhododendrons and azaleas, grafted or not

0602.40 - Roses, grafted or not

0602.90 - Other

This heading includes:

(1) Trees, shrubs and bushes of all kinds (forest, fruit, ornamental, etc.), including stocks for grafting.

(2) Plants and seedlings of all kinds for planting, **except** those of **heading 06.01**.

(3) Live roots of plants.

(4) Unrooted cuttings; slips (grafts or scions); runners and shoots.

(5) Mushroom spawn consisting of mushroom plant threads (mycelium) whether or not mixed with soil or vegetable matter.

The trees, shrubs, bushes and other plants covered by this heading may be presented with their roots bare or balled, or planted in pots, tubs, boxes or the like.

The heading **excludes** tuberous roots (e.g., dahlias, **heading 06.01**) and chicory roots of **heading 06.01** or **12.12**.

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Subheading Explanatory Notes.

Subheading 0602.20

For the purposes of subheading 0602.20, the term “trees, shrubs and bushes” includes canes and vines having woody stems (e.g., grape, boysenberry, dewberry, kiwifruit) and rooted cuttings thereof.

This subheading **does not cover** wild roses (**subheading 0602.40**).

Subheadings 0602.20, 0602.30, 0602.40 and 0602.90

Live roots are to be classified along with plants in their appropriate subheadings.

0602.10

- Unrooted cuttings and slips

0602.20

- Trees, shrubs and bushes, grafted or not, of kinds which bear edible fruit or nuts

0602.30

- Rhododendrons and azaleas, grafted or not

0602.40

- Roses, grafted or not

0602.90

- Other

Heading 0603

Cut flowers and flower buds of a kind suitable for bouquets or for ornamental purposes, fresh, dried, dyed, bleached, impregnated or otherwise prepared.

EXPLANATORY NOTES

06.03 - Cut flowers and flower buds of a kind suitable for bouquets or for ornamental purposes, fresh, dried, dyed, bleached, impregnated or otherwise prepared.

- Fresh

0603.11 - - Roses

0603.12 - - Carnations

0603.13 - - Orchids

0603.14 - - Chrysanthemums

0603.15 - - Lilies (*Lilium spp*.)

0603.19 - - Other

0603.90 - Other

The heading covers not only cut flowers and buds as such, but also bouquets, wreaths, floral baskets and similar articles (e.g., posies and buttonholes) incorporating flowers or flower buds. Provided that such bouquets, etc., have the essential character of florists' wares, they remain in the heading even if they contain accessories of other materials (ribbons, paper trimmings, etc.).

Cut branches of trees, shrubs or bushes, if bearing flowers or flower buds (e.g., magnolia and certain types of roses), are treated as cut flowers or flower buds of this heading.

The heading **excludes** flowers, petals and buds of a kind used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal or similar purposes, provided that, in the condition in which they are presented, they are not suitable for bouquets or for ornamental use (**heading 12.11**). The heading also **excludes** collages and similar decorative plaques of **heading 97.01**.

0603.1

- Fresh:

0603.11

-- Roses

0603.12

-- Carnations

0603.13

-- Orchids

0603.14

-- Chrysanthemums

0603.15

-- Lilies (Lilium spp.)

0603.19

-- Other

0603.90

- Other

Heading 0604

Foliage, branches and other parts of plants, without flowers or flower buds, and grasses, mosses and lichens, being goods of a kind suitable for bouquets or for ornamental purposes, fresh, dried, dyed, bleached, impregnated or otherwise prepared.

EXPLANATORY NOTES

06.04 - Foliage, branches and other parts of plants, without flowers or flower buds, and grasses, mosses and lichens, being goods of a kind suitable for bouquets or for ornamental purposes, fresh, dried, dyed, bleached, impregnated or otherwise prepared.

0604.20 - Fresh

0604.90 - Other

This heading covers not only foliage, branches, etc., as such, but also bouquets, wreaths, floral baskets and similar articles incorporating foliage or parts of trees, shrubs, bushes or other plants, or incorporating grasses, mosses or lichens. Provided that such bouquets, etc., have the essential character of florists' wares, they remain in the heading even if they contain accessories of other materials (ribbons, wire frames, etc.).

Goods of this heading may bear decorative fruits, but if they incorporate flowers or flower buds they are **excluded** (**heading 06.03**).

The heading covers natural Christmas trees, provided that they are clearly unfit for replanting (e.g., root sawn off, root killed by immersion in boiling water).

The heading also **excludes** plants and parts of plants (including grasses, mosses and lichens) of a kind used primarily in perfumery, in pharmacy or for insecticidal, fungicidal or similar purposes (**heading 12.11**) or for plaiting (**heading 14.01**), provided that, in the condition in which they are presented, they are not suitable for bouquets or for ornamental purposes. The heading also **excludes** collages and similar decorative plaques of **heading 97.01**.

0604.20

- Fresh

0604.90

- Other

CLASSIFICATIONS OPINIONS

1. Wreath, about 20 cm in diameter, consisting mainly of vegetable material (in particular, cloves, cinnamon, beech-nut, pine and larch cones, whether or not gilded, and dried leaves), arranged with minor artificial components (e.g., artificial flowers of textile material, imitation petals of wire); all these elements are held together by wire, the wire ends being stranded into a circular support.
See also Opinions 6702.90/1 and 6702.90/2.
Adoption: 1985

Chapter 7

Edible vegetables and certain roots and tubers

LEGAL NOTES

Notes.

1. - This Chapter does not cover forage products of heading 12.14.

2.- In headings 07.09, 07.10, 07.11 and 07.12 the word “vegetables” includes edible mushrooms, truffles, olives, capers, marrows, pumpkins, aubergines, sweet corn (*Zea mays var. saccharata*), fruits of the genus *Capsicum* or of the genus *Pimenta*, fennel, parsley, chervil, tarragon, cress and sweet marjoram (*Majorana hortensis* or*Origanum majorana*).

3.- Heading 07.12 covers all dried vegetables of the kinds falling in headings 07.01 to 07.11, other than:

(a) Dried leguminous vegetables, shelled (heading 07.13);

(b) Sweet corn in the forms specified in headings 11.02 to 11.04;

(c) Flour, meal, powder, flakes, granules and pellets of potatoes (heading 11.05);

(d) Flour, meal and powder of the dried leguminous vegetables of heading 07.13 (heading 11.06).

4.- However, dried or crushed or ground fruits of the genus *Capsicum* or of the genus *Pimenta* are excluded from this Chapter (heading 09.04).

5.- Heading 07.11 applies to vegetables which have been treated solely to ensure their provisional preservation during transport or storage prior to use (for example, by sulphur dioxide gas, in brine, in sulphur water or in other preservative solutions), provided they remain unsuitable for immediate consumption in that state.

EXPLANATORY NOTES

Chapter 7

Edible vegetables and certain roots and tubers

Notes.

1. - This Chapter does not cover forage products of heading 12.14.

2.- In headings 07.09, 07.10, 07.11 and 07.12 the word “vegetables” includes edible mushrooms, truffles, olives, capers, marrows, pumpkins, aubergines, sweet corn (*Zea mays var. saccharata*), fruits of the genus *Capsicum* or of the genus *Pimenta*, fennel, parsley, chervil, tarragon, cress and sweet marjoram (*Majorana hortensis* or*Origanum majorana*).

3.- Heading 07.12 covers all dried vegetables of the kinds falling in headings 07.01 to 07.11, other than:

(a) Dried leguminous vegetables, shelled (heading 07.13);

(b) Sweet corn in the forms specified in headings 11.02 to 11.04;

(c) Flour, meal, powder, flakes, granules and pellets of potatoes (heading 11.05);

(d) Flour, meal and powder of the dried leguminous vegetables of heading 07.13 (heading 11.06).

4.- However, dried or crushed or ground fruits of the genus *Capsicum* or of the genus *Pimenta* are excluded from this Chapter (heading 09.04).

5.- Heading 07.11 applies to vegetables which have been treated solely to ensure their provisional preservation during transport or storage prior to use (for example, by sulphur dioxide gas, in brine, in sulphur water or in other preservative solutions), provided they remain unsuitable for immediate consumption in that state.

GENERAL

This Chapter covers vegetables, including the products listed in Note 2 to the Chapter, whether fresh, chilled, frozen (uncooked or cooked by steaming or boiling in water), provisionally preserved or dried (including dehydrated, evaporated or freeze-dried). It should be noted that some of these products when dried and powdered are sometimes used as flavouring materials but nevertheless remain classified in heading 07.12.

The term “chilled” means that the temperature of a product has been reduced, generally to around 0 °C, without the product being frozen. However, some products, such as potatoes, may be considered to be chilled when their temperature has been reduced to and maintained at + 10 °C.

The expression “frozen” means that the product has been cooled to below the product’s freezing point until it is frozen throughout.

Unless the context otherwise requires, vegetables of this Chapter may be whole, sliced, chopped, shredded, pulped, grated, peeled or shelled.

The Chapter also includes certain tubers and roots with a high starch or inulin content, fresh, chilled, frozen or dried, whether or not sliced or in the form of pellets.

Vegetables not presented in a state covered by any heading of this Chapter are classified in **Chapter 11** or **Section IV**. For example, flour, meal and powder of dried leguminous vegetables and flour, meal, powder, flakes, granules and pellets of potatoes are classified in **Chapter 11**, and vegetables prepared or preserved by any process not provided for in this Chapter fall in **Chapter20**.

However, it should be noted that homogenisation, by itself, does not qualify a product of this Chapter for classification as a preparation of Chapter 20.

It should also be noted that vegetables of this Chapter remain classified here even if put up in airtight containers (e.g., onion flour in cans). In most cases, however, products put up in these packings have been prepared or preserved otherwise than as provided for in the headings of this Chapter, and are therefore **excluded** (**Chapter 20**).

Similarly, products of this Chapter remain classified here (e.g., fresh or chilled vegetables) when subjected to packaging by means of a Modified Atmospheric Packaging (MAP) process. In a MAP process the atmosphere surrounding the product is altered or controlled (e.g., by removing or reducing the oxygen content and replacing it with or increasing the nitrogen or carbon dioxide content).

Fresh or dried vegetables fall in this Chapter whether intended for use as food, for sowing or for planting (e.g., potatoes, onions, shallots, garlic, leguminous vegetables). However, the Chapter **does not cover** seedling vegetables in a condition for replanting (**heading 06.02**).

In addition to the exclusions mentioned above and in the Chapter Notes, this Chapter **does not include**:

(a) Chicory plants or chicory roots (**heading 06.01** or **12.12**).

(b) Certain vegetable products used as raw materials in the food industries e.g., cereals (**Chapter 10**) and sugar beet and sugar cane (**heading 12.12**).

(c) Flour, meal and powder of roots or tubers of heading 07.14 (**heading 11.06**).

(d) Certain plants and parts of plants, although sometimes used for culinary purposes, e.g., basil, borage, hyssop, all species of mint, rosemary, rue, sage and dried roots of burdock (*Arctium lappa*) (**heading 12.11**).

(e) Edible seaweeds and other algae (**heading 12.12**).

(f) Swedes, mangolds, fodder roots, hay, lucerne (alfalfa), clover, sainfoin, forage kale, lupines, vetches and similar forage products (**heading 12.14**).

(g) Beet or carrot tops (**heading 23.08**).

Heading 0701

Potatoes, fresh or chilled.

EXPLANATORY NOTES

07.01 - Potatoes, fresh or chilled (+).

0701.10 - Seed

0701.90 - Other

This heading covers fresh or chilled potatoes of all kinds (**other than** sweet potatoes of **heading 07.14**). The heading includes, *inter alia*, seed potatoes intended for sowing and new potatoes.

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° °

Subheading Explanatory Note.

Subheading 0701.10

For the purposes of subheading 0701.10, the expression “seed” covers only potatoes which are regarded by the competent national authorities as intended for sowing.

0701.10

- Seed

0701.90

- Other

Heading 0702

Tomatoes, fresh or chilled.

EXPLANATORY NOTES

07.02 - Tomatoes, fresh or chilled.

This heading covers fresh or chilled tomatoes of all kinds.

0702.00

Tomatoes, fresh or chilled.

Heading 0703

Onions, shallots, garlic, leeks and other alliaceous vegetables, fresh or chilled.

EXPLANATORY NOTES

07.03 - Onions, shallots, garlic, leeks and other alliaceous vegetables, fresh or chilled.

0703.10 - Onions and shallots

0703.20 - Garlic

0703.90 - Leeks and other alliaceous vegetables

This heading covers the following fresh or chilled alliaceous vegetables:

(1) Onions (including onion sets and Spring onions) and shallots.

(2) Garlic.

(3) Leeks, chives and other alliaceous vegetables.

0703.10

- Onions and shallots

0703.20

- Garlic

0703.90

- Leeks and other alliaceous vegetables

Heading 0704

Cabbages, cauliflowers, kohlrabi, kale and similar edible brassicas, fresh or chilled.

EXPLANATORY NOTES

07.04 - Cabbages, cauliflowers, kohlrabi, kale and similar edible brassicas, fresh or chilled.

0704.10 - Cauliflowers and broccoli

0704.20 - Brussels sprouts

0704.90 - Other

The fresh or chilled products of this heading include the following:

(1) Cauliflowers and broccoli (e.g., *Brassica oleracea var. botrytis* and *Brassica oleracea var. italica).*

(2) Brussels sprouts.

(3) Other headed brassicas, (e.g., white cabbage, Savoy cabbage, red cabbage, Chinese cabbage), collards, kale and other leafy brassicas, as well as sprouting brassicas, and kohlrabi.

Other brassicas in the form of roots are, however, **excluded** (e.g., turnips of **heading 07.06**, swedes (rutabagas) of **heading 12.14**).

0704.10

- Cauliflowers and broccoli

0704.20

- Brussels sprouts

0704.90

- Other

Heading 0705

Lettuce (Lactuca sativa) and chicory (Cichorium spp.), fresh or chilled.

EXPLANATORY NOTES

07.05 - Lettuce (*Lactuca sativa*) and chicory (*Cichorium spp.*), fresh or chilled.

- Lettuce:

0705.11 - - Cabbage lettuce (head lettuce)

0705.19 - - Other

- Chicory:

0705.21 - - Witloof chicory *(Cichorium intybus var. foliosum)*

0705.29 - - Other

This heading covers fresh or chilled lettuce (*Lactuca sativa*) of which the principal type is cabbage or head lettuce. In addition the heading covers fresh or chilled chicory (*Cichorium spp.*), including endive, which includes the following principal varieties:

(1) Witloof (blanched) chicory (*Cichorium intybus var. foliosum*).

(2) Escarole chicory (*Cichorium endivia var. latifolia*).

(3) Curly chicory also known as endive (*Cichorium endivia var. crispa*).

The heading **excludes** chicory plants and chicory roots (**heading 06.01** or **12.12**).

0705.1

- Lettuce:

0705.11

-- Cabbage lettuce (head lettuce)

0705.19

-- Other

0705.2

- Chicory:

0705.21

-- Witloof chicory (Cichorium intybus var. foliosum)

0705.29

-- Other

Heading 0706

Carrots, turnips, salad beetroot, salsify, celeriac, radishes and similar edible roots, fresh or chilled.

EXPLANATORY NOTES

07.06 - Carrots, turnips, salad beetroot, salsify, celeriac, radishes and similar edible roots, fresh or chilled.

0706.10 - Carrots and turnips

0706.90 - Other

The fresh or chilled roots of this heading include carrots, turnips, salad beetroot (salad beets), salsify, celeriac (turnip-rooted or German celery), radishes, scorzonera, horseradish, Chinese artichokes (*Stachys affinis*), burdock (*Arctium lappa*) and parsnips (*Pastinaca sativa*). These products remain in this heading whether or not their tops have been removed.

The heading **excludes**:

(a) Celery of **heading 07.09**.

(b) Provisionally preserved roots of burdock (**heading 07.11**).

(c) Forage products of **heading 12.14**

0706.10

- Carrots and turnips

0706.90

- Other

Heading 0707

Cucumbers and gherkins, fresh or chilled.

EXPLANATORY NOTES

07.07 - Cucumbers and gherkins, fresh or chilled.

This heading covers only fresh or chilled cucumbers and gherkins.

0707.00

Cucumbers and gherkins, fresh or chilled.

Heading 0708

Leguminous vegetables, shelled or unshelled, fresh or chilled.

EXPLANATORY NOTES

07.08 - Leguminous vegetables, shelled or unshelled, fresh or chilled.

0708.10 - Peas *(Pisum sativum)*

0708.20 - Beans *(Vigna spp., Phaseolus spp.)*

0708.90 - other leguminous vegetables

The leguminous vegetables of this heading include:

(1) Peas (*Pisum sativum*), including green peas and fodder peas.

(2) Beans (*Phaseolus spp., Vigna spp.*), which include Lima or butter beans, mung beans, beans in edible pods (variously known as kidney beans, French beans, runner beans, string beans, wax beans or snap beans) and cowpeas (including black eye).

(3) Broad beans (*Vicia faba var. major*), horse beans (*Vicia faba var. equina* or *var. minor*) and hyacinth beans (*Dolichos lablab L.*).

(4) Chickpeas (garbanzos).

(5) Lentils.

(6) Guar seeds.

The heading **excludes**:

(a) Soya beans (**heading 12.01**).

(b) Locust beans (**heading 12.12**).

0708.10

- Peas (Pisum sativum)

0708.20

- Beans (Vigna spp., Phaseolus spp.)

0708.90

- Other leguminous vegetables

Heading 0709

Other vegetables, fresh or chilled.

EXPLANATORY NOTES

07.09 - other vegetables, fresh or chilled.

0709.20 - Asparagus

0709.30 - Aubergines (egg-plants)

0709.40 - Celery other than celeriac

- Mushrooms and truffles:

0709.51 - - Mushrooms of the genus *Agaricus*

0709.52 - - Mushrooms of the genus *Boletus*

0709.53 - - Mushrooms of the genus *Cantharellus*

0709.54 - - Shiitake (*Lentinus edodes*)

0709.55 - - Matsutake (*Tricholoma matsutake, Tricholoma magnivelare, Tricholoma anatolicum, Tricholoma dulciolens, Tricholoma caligatum*)

0709.56 - - Truffles (*Tuber spp*.)

0709.59 - - Other

0709.60 - Fruits of the genus *Capsicum* or of the genus *Pimenta*

0709.70 - Spinach, New Zealand spinach and orache spinach (garden spinach)

- Other

0709.91 - - Globe artichokes

0709.92 - - Olives

0709.93 - - Pumpkins, squash and gourds (*Cucurbita spp.*)

0709.99 - - Other

The vegetables of this heading include:

(1) Asparagus.

(2) Aubergines (egg-plants).

(3) Celery (**other than** celeriac of **heading 07.06**).

(4) Mushrooms (including mushrooms of the genus *Agaricus* (such as the common white mushroom, *A. bisporus*), mushrooms of the genus *Boletus*, mushrooms of the genus *Cantharellus*, Shiitake (*Lentinus edodes*) and Matsutake (*Tricholoma matsutake, Tricholoma magnivelare, Tricholoma anatolicum, Tricholoma dulciolens, Tricholoma caligatum*)) and truffles (*Tuber spp*.).

(5) Fruits of the genus *Capsicum* or of the genus *Pimenta*, commonly referred to as "peppers". Fruits of the genus *Capsicum* range from the sweet or bell peppers (*Capsicum annuum var. annuum*), which are the mildest and largest of the genus *Capsicum* and which, either in their green or their ripened state, are most commonly eaten as a vegetable in salads, to the more pungent varieties of *Capsicum frutescens* and *Capsicum annuum*, which include chillies, Cayenne pepper, paprikas, etc., used most often to flavour foods. Fruits of the genus *Pimenta* include Jamaica pepper (also known as clove pepper, English pepper and allspice). The heading **does not cover** these products when dried, crushed or ground (**heading 09.04**).

(6) Spinach, including New Zealand and orache (garden) spinach.

(7) Globe artichokes.

(8) Sweet corn (*Zea mays var. saccharata*), whether or not on the cob.

(9) Pumpkins, marrows, squash and gourds (*Cucurbita spp.*).

(10) Olives.

(11) Rhubarb, edible cardoons, fennel, capers and sorrel.

(12) Chard (white beet) and okra (gumbo).

(13) Parsley, chervil, tarragon, cress (e.g., watercress), savory (*Satureia hortensis*), coriander, dill, sweet marjoram (*Majorana hortensis* or *Origanum majorana*). Wild marjoram (*Origanum vulgare*) is **excluded** (**heading 12.11**).

(14) Bamboo shoots and soya bean sprouts.

The heading also **excludes** the edible tuber of the species *Eleocharis dulcis* or *Eleocharis tuberosa*, commonly known as the Chinese water chestnut (**heading 07.14**).

0709.20

- Asparagus

0709.30

- Aubergines (egg-plants)

0709.40

- Celery other than celeriac

0709.5

- Mushrooms and truffles:

0709.51

-- Mushrooms of the genus Agaricus

0709.52

-- Mushrooms of the genus Boletus

0709.53

-- Mushrooms of the genus Cantharellus

0709.54

-- Shiitake (Lentinus edodes)

0709.55

-- Matsutake (Tricholoma matsutake, Tricholoma magnivelare, Tricholoma anatolicum, Tricholoma dulciolens, Tricholoma caligatum)

0709.56

-- Truffles (Tuber spp.)

0709.59

-- Other

0709.60

- Fruits of the genus Capsicum or of the genus Pimenta

0709.70

- Spinach, New Zealand spinach and orache spinach (garden spinach)

0709.9

- Other:

0709.91

-- Globe artichokes

0709.92

-- Olives

0709.93

-- Pumpkins, squash and gourds (Cucurbita spp.)

0709.99

-- Other

Heading 0710

Vegetables (uncooked or cooked by steaming or boiling in water), frozen.

EXPLANATORY NOTES

07.10 - Vegetables (uncooked or cooked by steaming or boiling in water), frozen.

0710.10 - Potatoes

- Leguminous vegetables, shelled or unshelled:

0710.21 - - Peas *(Pisum sativum)*

0710.22 - - Beans *(Vigna spp., Phaseolus spp.)*

0710.29 - - Other

0710.30 - Spinach, New Zealand spinach and orache spinach (garden spinach)

0710.40 - Sweet corn

0710.80 - other vegetables

0710.90 - Mixtures of vegetables

This heading covers frozen vegetables which, when fresh or chilled, are classified in headings 07.01 to 07.09.

The expression “frozen” is defined in the General Explanatory Note to this Chapter.

The frozen vegetables of this heading are generally obtained at the industrial level by quick-freezing processes. Such processes are used in order that the temperature range of maximum crystallisation is passed quickly. This avoids the rupture of the cellular structure and the vegetables therefore substantially retain their fresh appearance on thawing.

Vegetables to which salt or sugar has been added before freezing remain classified in this heading, as do vegetables which have been cooked by steaming or boiling in water before freezing. However, the heading **excludes** vegetables cooked by other processes (**Chapter 20**) or prepared with other ingredients, such as prepared meals (**Section IV**).

The principal kinds of vegetables preserved by freezing are potatoes, peas, beans, spinach, sweet corn, asparagus, carrots and beetroot.

This heading also includes mixtures of frozen vegetables.

0710.10

- Potatoes

0710.2

- Leguminous vegetables, shelled or unshelled:

0710.21

-- Peas (Pisum sativum)

0710.22

-- Beans (Vigna spp., Phaseolus spp.)

0710.29

-- Other

0710.30

- Spinach, New Zealand spinach and orache spinach (garden spinach)

0710.40

- Sweet corn

CLASSIFICATION OPINIONS

1. Frozen baby corn cobs originating from sweet corn (*Zea mays var*. *saccharata*) - with a length of 5 to 12 cm and a diameter of 10 mm or more, but not more than 20 mm. (according to the characteristics for baby corn indicated in the Codex Alimentarius Standard 188 -1993).

Baby corn cobs are harvested at an early stage as immature corn cobs (before fertilisation), containing only immature/undeveloped maize grain.

Application of GIRs 1 and 6.
See also opinions 0710.80/1, 2005.80/2 and 2005.99/2.
Adoption: 2021

0710.80

- Other vegetables

CLASSIFICATION OPINIONS

1. Frozen baby corn cobs originating from cereal maize (**other than sweet corn**) - with a length of 5 to 12cm and a diameter of 10 mm or more, but not more than 20 mm (according to the characteristics for baby corn indicated in the Codex Alimentarius Standard 188 -1993)

Baby corn cobs are harvested at an early stage as immature corn cobs (before fertilisation), containing only immature/undeveloped maize grain.

Application of GIRs 1 and 6.
See also opinions 0710.40/1, 2005.80/2 and 2005.99/2
Adoption: 2021

0710.90

- Mixtures of vegetables

Heading 0711

Vegetables provisionally preserved, but unsuitable in that state for immediate consumption.

EXPLANATORY NOTES

07.11 - Vegetables provisionally preserved, but unsuitable in that state for immediate consumption.

0711.20 - Olives

0711.40 - Cucumbers and gherkins

- Mushrooms and truffles:

0711.51 - - Mushrooms of the genus *Agaricus*

0711.59 - - Other

0711.90 - Other vegetables; mixtures of vegetables

This heading applies to vegetables which have been treated **solely** to ensure their provisional preservation during transport or storage prior to use (for example, by sulphur dioxide gas, in brine, in sulphur water or in other preservative solutions), **provided** they remain unsuitable for immediate consumption in that state.

Vegetables covered by this heading are generally packed in casks or barrels, and are mainly used as raw materials for manufacturing purposes; the principal varieties are onions, olives, capers, cucumbers, gherkins, mushrooms, truffles and tomatoes.

However the heading **excludes** goods which, in addition to having been provisionally preserved in brine, have also been specially treated (e.g., by soda solution, by lactic fermentation); these fall in **Chapter 20** (for example, olives, sauerkraut, gherkins and green beans).

0711.20

- Olives

0711.40

- Cucumbers and gherkins

0711.5

- Mushrooms and truffles:

0711.51

-- Mushrooms of the genus Agaricus

0711.59

-- Other

0711.90

- Other vegetables; mixtures of vegetables

Heading 0712

Dried vegetables, whole, cut, sliced, broken or in powder, but not further prepared.

EXPLANATORY NOTES

07.12 - Dried vegetables, whole, cut, sliced, broken or in powder, but not further prepared.

0712.20 - Onions

- Mushrooms, wood ears *(Auricularia spp.)*, jelly fungi *(Tremella spp.)* and truffles:

0712.31 - - Mushrooms of the genus *Agaricus*

0712.32 - - Wood ears *(Auricularia spp.)*

0712.33 - - Jelly fungi *(Tremella spp.)*

0712.34 - - Shiitake (*Lentinus edodes*)

0712.39 - - Other

0712.90 - Other vegetables; mixtures of vegetables

This heading covers vegetables of headings 07.01 to 07.11 which have been dried (including dehydrated, evaporated or freeze-dried) i.e., with their natural water content removed by various processes. The principal kinds of vegetables treated in this way are potatoes, onions, mushrooms, wood ears (*Auricularia spp*.), jelly fungi (*Tremella spp.*), truffles, carrots, cabbage and spinach. They are usually prepared in strips or slices, either of one variety or mixed (*julienne*).

The heading also covers dried vegetables, broken or powdered, such as asparagus, cauliflower, parsley, chervil, and onion, and garlic, celery, generally used either as flavouring materials or in the preparation of soups.

The heading **excludes**, *inter alia*:

(a) Dried leguminous vegetables, shelled (**heading 07.13**).

(b) Dried, crushed or ground fruits of the genus *Capsicum* or of the genus *Pimenta* (**heading 09.04**), potato flour, meal, powder, flakes, granules and pellets (**heading 11.05**), flour, meal and powder of the dried leguminous vegetables of heading 07.13 (**heading 11.06**).

(C) Mixed condiments and mixed seasonings (**heading 21.03**).

(d) Soup preparations based on dried vegetables (**heading 21.04**).

0712.20

- Onions

0712.3

- Mushrooms, wood ears (Auricularia spp.), jelly fungi (Tremella spp.) and truffles:

0712.31

-- Mushrooms of the genus Agaricus

0712.32

-- Wood ears (Auricularia spp.)

0712.33

-- Jelly fungi (Tremella spp.)

0712.34

-- Shiitake (Lentinus edodes)

0712.39

-- Other

0712.90

- Other vegetables; mixtures of vegetables

Heading 0713

Dried leguminous vegetables, shelled, whether or not skinned or split.

EXPLANATORY NOTES

07.13 - Dried leguminous vegetables, shelled, whether or not skinned or split (+).

0713.10 - Peas *(Pisum sativum)*

0713.20 - Chickpeas (garbanzos)

- Beans *(Vigna spp., Phaseolus spp.):*

0713.31 - - Beans of the species *Vigna mungo (L.) Hepper* or *Vigna radiata (L.) Wilczek*

0713.32 - - Small red (Adzuki) beans *(Phaseolus* or *Vigna angularis)*

0713.33 - - Kidney beans, including white pea beans *(Phaseolus vulgaris)*

0713.34 - - Bambara beans (*Vigna subterranea* or *Voandzeia subterranea*)

0713.35 - - Cow peas (*Vigna unguiculata*)

0713.39 - - Other

0713.40 - Lentils

0713.50 - Broad beans *(Vicia faba var. major)* and horse beans *(Vicia faba var. equina, Vicia faba var. minor)*

0713.60 - Pigeon peas (*Cajanus cajan*)

0713.90 - Other

This heading covers leguminous vegetables of heading 07.08 which have been dried and shelled, of a kind used for human or animal consumption (e.g., peas, chickpeas, Adzuki and other beans, lentils, broad beans, horse beans, guar seeds), even if intended for sowing (whether or not rendered inedible by chemical treatment) or for other purposes. They may have undergone moderate heat treatment designed mainly to ensure better preservation by inactivating the enzymes (the peroxidases in particular) and eliminating part of the moisture; however, such treatment should not affect the internal character of the cotyledon.

The dried leguminous vegetables of this heading may be skinned or split.

This heading **excludes**:

(a) Flour, meal and powder of dried shelled leguminous vegetables (**heading 11.06**).

(b) Soya beans (**heading 12.01**).

(c) Seeds of vetches (other than broad beans and horse beans), tares and lupines (**heading 12.09**).

(d) Locust beans (**heading 12.12**).

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Subheading Explanatory Note.

Subheading 0713.31

This subheading covers only beans of the species *Vigna mungo (L.) Hepper*, also known as urd or black gram, and beans of the species *Vigna radiata (L.) Wilczek*, also known as mung or green gram. Both species are widely used for bean sprout production.

0713.10

- Peas (Pisum sativum)

0713.20

- Chickpeas (garbanzos)

0713.3

- Beans (Vigna spp., Phaseolus spp.) :

0713.31

-- Beans of the species Vigna mungo (L.) Hepper or Vigna radiata (L.) Wilczek

0713.32

-- Small red (Adzuki) beans (Phaseolus or Vigna angularis)

0713.33

-- Kidney beans, including white pea beans (Phaseolus vulgaris)

0713.34

-- Bambara beans (Vigna subterranea or Voandzeia subterranea)

0713.35

-- Cow peas (Vigna unguiculata)

0713.39

-- Other

0713.40

- Lentils

0713.50

- Broad beans (Vicia faba var. major) and horse beans (Vicia faba var. equina, Vicia faba var. minor)

0713.60

- Pigeon peas (Cajanus cajan)

0713.90

- Other

Heading 0714

Manioc, arrowroot, salep, Jerusalem artichokes, sweet potatoes and similar roots and tubers with high starch or inulin content, fresh, chilled, frozen or dried, whether or not sliced or in the form of pellets; sago pith.

EXPLANATORY NOTES

07.14 - Manioc, arrowroot, salep, Jerusalem artichokes, sweet potatoes and similar roots and tubers with high starch or inulin content, fresh, chilled, frozen or dried, whether or not sliced or in the form of pellets; sago pith.

0714.10 - Manioc (cassava)

0714.20 - Sweet potatoes

0714.30 - Yams (*Dioscorea spp.*)

0714.40 - Taro (*Colocasia spp.*)

0714.50 - Yautia (*Xanthosoma spp.*)

0714.90 - Other

This heading covers tubers and roots with high starch or inulin content and which are therefore used for manufacturing food or industrial products; it also covers sago pith. In some cases, the tubers and roots are also used directly for human or animal consumption.

The heading covers these products, fresh, chilled, frozen or dried, whether or not sliced or in the form of pellets made either from pieces (e.g., chips) of the roots or tubers of this heading or from their flours, meals or powders of heading 11.06. The pellets are produced either directly by compression or by the addition of a binder (molasses, concentrated sulphite lyes, etc.); the proportion of added binder may not exceed 3 % by weight. Manioc pellets may be disintegrated, but remain classified here provided that they are identifiable as such. The disintegrated manioc pellets can be identified by observing their physical characteristics, e.g., non-homogeneous particles with broken pieces of manioc pellets, brownish colour with black spots, pieces of fibre visible to the naked eye and a small quantity of sand or silica left in.

In addition to the tubers and roots specifically mentioned in the heading text (manioc (*Manihot esculenta*), sweet potatoes (*Ipomoea batatas*), etc.), the heading includes the edible tuber of the species *Eleocharis dulcis* or *Eleocharis tuberosa*, commonly known as the Chinese water chestnut.

Products of this heading which are otherwise prepared fall in other Chapters, e.g., flour, meal and powder (**heading 11.06**), starches (**heading 11.08**) and tapioca (**heading 19.03**).

The heading also **excludes** live dahlia tubers (**heading 06.01**), and potatoes, fresh or dried (**heading 07.01** or **07.12**, respectively).

0714.10

- Manioc (cassava)

0714.20

- Sweet potatoes

0714.30

- Yams (Dioscorea spp.)

0714.40

- Taro (Colocasia spp.)

0714.50

- Yautia (Xanthosoma spp.)

0714.90

- Other

Chapter 8

Edible fruit and nuts; peel of citrus fruit or melons

LEGAL NOTES

Notes.

1. - This Chapter does not cover inedible nuts or fruits.

2. - Chilled fruits and nuts are to be classified in the same headings as the corresponding fresh fruits and nuts.

3. - Dried fruit or dried nuts of this Chapter may be partially rehydrated, or treated for the following purposes:

(a) For additional preservation or stabilisation (for example, by moderate heat treatment, sulphuring, the addition of sorbic acid or potassium sorbate),

(b) To improve or maintain their appearance (for example, by the addition of vegetable oil or small quantities of glucose syrup),

Provided that they retain the character of dried fruit or dried nuts.

4.- Heading 08.12 applies to fruit and nuts which have been treated solely to ensure their provisional preservation during transport or storage prior to use (for example, by sulphur dioxide gas, in brine, in sulphur water or in other preservative solutions), provided they remain unsuitable for immediate consumption in that state.

EXPLANATORY NOTES

Chapter 8

Edible fruit and nuts; peel of citrus fruit or melons

Notes.

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Provided that they retain the character of dried fruit or dried nuts.

4.- Heading 08.12 applies to fruit and nuts which have been treated solely to ensure their provisional preservation during transport or storage prior to use (for example, by sulphur dioxide gas, in brine, in sulphur water or in other preservative solutions), provided they remain unsuitable for immediate consumption in that state.

GENERAL

This Chapter covers fruit, nuts and peel of citrus fruit or melons (including watermelons), generally intended for human consumption (whether as presented or after processing). They may be fresh (including chilled), frozen (whether or not previously cooked by steaming or boiling in water or containing added sweetening matter) or dried (including dehydrated, evaporated or freeze-dried); **provided** they are unsuitable for immediate consumption in that state, they may be provisionally preserved (e.g., by sulphur dioxide gas, in brine, in sulphur water or in other preservative solutions).

The term “chilled” means that the temperature of a product has been reduced, generally to around 0 °C, without the product being frozen. However, some products, such as melons and certain citrus fruit, may be considered to be chilled when their temperature has been reduced to and maintained at + 10 °C. The expression “frozen” means that the product has been cooled to below the product’s freezing point until it is frozen throughout.

Fruit and nuts of this Chapter may be whole, sliced, chopped, shredded, stoned, pulped, grated, peeled or shelled.

It should be noted that homogenisation, by itself, does not qualify a product of this Chapter for classification as a preparation of Chapter 20.

The addition of small quantities of sugar does not affect the classification of fruit in this Chapter. The Chapter also includes dried fruit (e.g., dates and prunes), the exterior of which may be covered with a deposit of dried **natural** sugar thus giving the fruit an appearance somewhat similar to that of the crystallised fruit of heading 20.06.

However, this Chapter **does not cover** fruit preserved by osmotic dehydration. The expression “osmotic dehydration” refers to a process whereby pieces of fruit are subjected to prolonged soaking in a concentrated sugar syrup so that much of the water and the natural sugar of the fruit is replaced by sugar from the syrup. The fruit may subsequently be air-dried to further reduce the moisture content. Such fruit is classified in **Chapter 20 (heading 20.08)**.

This Chapter also **excludes** a number of vegetable products more specifically covered in other Chapters even though botanically some of them are fruits, e.g.:

(a) Olives, tomatoes, cucumbers, gherkins, marrows, pumpkins, aubergines (egg-plant), fruits of the genus *Capsicum* or of the genus *Pimenta* (**Chapter 7**).

(b) Coffee, vanilla, juniper berries and other products of **Chapter 9**.

(c) Ground-nuts and other oleaginous fruit, fruit used primarily in pharmacy or in perfumery, locust beans, kernels of apricots or of similar fruit (**Chapter 12**).

(d) Cocoa beans (**heading 18.01**).

The Chapter further **excludes:**

(i) Fruit flour, meal and powder (**heading 11.06**).

(ii) Edible fruit and nuts and peel of melons or citrus fruit, prepared or preserved otherwise than as described above (**Chapter 20**).

(iii) Roasted fruit and nuts (e.g., chestnuts, almonds and figs), whether or not ground, generally used as coffee substitutes (**heading 21.01**).

It should be noted that fruit and nuts of this Chapter remain classified here even if put up in airtight packings (e.g., dried prunes, dried nuts in cans). In most cases, however, products put up in these packings have been prepared or preserved otherwise than as provided for in the headings of this Chapter, and are therefore **excluded** (**Chapter 20**).

Products of this Chapter remain classified here (e.g., fresh strawberries) when subjected to packaging by means of a Modified Atmospheric Packaging (MAP) process. In a MAP process the atmosphere surrounding the product is altered or controlled (e.g., by removing or reducing the oxygen content and replacing it with or increasing the nitrogen or carbon dioxide content).

Heading 0801

Coconuts, Brazil nuts and cashew nuts, fresh or dried, whether or not shelled or peeled.

EXPLANATORY NOTES

08.01 - Coconuts, Brazil nuts and cashew nuts, fresh or dried, whether or not shelled or peeled (+).

- Coconuts:

0801.11 - - Desiccated

0801.12 - - In the inner shell (endocarp)

0801.19 - - Other

- Brazil nuts:

0801.21 - - In shell

0801.22 - - Shelled

- Cashew nuts:

0801.31 - - In shell

0801.32 - - Shelled

The heading includes desiccated coconut, that is dried and shredded flesh of coconut, but it **excludes** copra, the dried flesh of coconut used for the expression of coconut oil and unsuitable for human consumption (**heading 12.03**).

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Subheading Explanatory Note.

Subheading 0801.12

This subheading covers only coconuts whose outer fibrous husk (mesocarp) has been partially or completely removed.

0801.1

- Coconuts:

0801.11

-- Desiccated

0801.12

-- In the inner shell (endocarp)

0801.19

-- Other

0801.2

- Brazil nuts:

0801.21

-- In shell

0801.22

-- Shelled

0801.3

- Cashew nuts:

0801.31

-- In shell

0801.32

-- Shelled

Heading 0802

Other nuts, fresh or dried, whether or not shelled or peeled.

EXPLANATORY NOTES

08.02 - other nuts, fresh or dried, whether or not shelled or peeled.

- Almonds:

0802.11 - - in shell

0802.12 - - Shelled

- Hazelnuts or filberts *(Corylus spp.):*

0802.21 - - in shell

0802.22 - - Shelled

- Walnuts:

0802.31 - - in shell

0802.32 - - Shelled

- Chestnuts (*Castanea spp.*):

0802.41 - - in shell

0802.42 - - Shelled

- Pistachios:

0802.51 - - in shell

0802.52 - - Shelled

- Macadamia nuts:

0802.61 - - In shell

0802.62 - - Shelled

0802.70 - Kola nuts (*Cola spp*.)

0802.80 - Areca nuts

- Other:

0802.91 - - Pine nuts, in shell

0802.92 - - Pine nuts, shelled

0802.99 - - Other

The principal nuts of this heading are almonds (sweet or bitter), hazelnuts or filberts, walnuts, chestnuts (*Castanea spp.*), pistachios, macadamia nuts, pecans and pine nuts.

This heading also covers areca (betel) nuts used chiefly as a masticatory, cola (kola) nuts used both as a masticatory and as a base in the manufacture of beverages, and an edible, nutlike, spiny-angled fruit of the species *Trapa natans*, sometimes referred to as a water chestnut.

The heading **does not include**:

(a) The edible tuber of the species *Eleocharis dulcis* or *Eleocharis tuberosa*, commonly known as the Chinese water chestnut (**heading 07.14**).

(b) Empty walnut or almond hulls (**heading 14.04**).

(c) Ground-nuts (**heading 12.02**), roasted ground-nuts or peanut butter (**heading 20.08**).

(d) Horse chestnuts (*Aesculus hippocastanum*) (**heading 23.08**).

0802.1

- Almonds:

0802.11

-- In shell
0802.12

-- Shelled
0802.2

- Hazelnuts or filberts (Corylus spp.):
0802.21

-- In shell
0802.22

-- Shelled
0802.3

- Walnuts:
0802.31

-- In shell
0802.32

-- Shelled
0802.4

- Chestnuts (Castanea spp.):
0802.41

-- In shell
0802.42

-- Shelled
0802.5

- Pistachios:
0802.51

-- In shell
0802.52

-- Shelled
0802.6

- Macadamia nuts:
0802.61

-- In shell
0802.62

-- Shelled
0802.70

- Kola nuts (Cola spp.)
0802.80

- Areca nuts
0802.9

- Other:
0802.91

-- Pine nuts, in shell
0802.92

-- Pine nuts, shelled

0802.99

-- Other

Heading 0803

Bananas, including plantains, fresh or dried.

EXPLANATORY NOTES

08.03 - Bananas, including plantains, fresh or dried.

0803.10 - Plantains

0803.90 - Other

This heading covers all edible fruit of the species of the genus *Musa*.

Plantains are starchy bananas that are less sweet than other bananas. The starch contained in plantains differs from that contained in other bananas in that it does not become sweet during ripening. Plantains are primarily consumed after being fried, roasted, steamed, boiled or otherwise cooked.

0803.10

- Plantains

0803.90

- Other

Heading 0804

Dates, figs, pineapples, avocados, guavas, mangoes and mangosteens, fresh or dried.

EXPLANATORY NOTES

08.04 - Dates, figs, pineapples, avocados, guavas, mangoes and mangosteens, fresh or dried.

0804.10 - Dates

0804.20 - Figs

0804.30 - Pineapples

0804.40 - Avocados

0804.50 - Guavas, mangoes and mangosteens

For the purposes of this heading the term “figs” applies only to fruits of the species *Ficus carica*, whether or not to be used for distillation; the heading therefore **does not cover** cactus figs (prickly pears) which fall in **heading 08.10**.

0804.10

- Dates

0804.20

- Figs

0804.30

- Pineapples

0804.40

- Avocados

0804.50

- Guavas, mangoes and mangosteens

Heading 0805

Citrus fruit, fresh or dried.

EXPLANATORY NOTES

08.05 - Citrus fruit, fresh or dried (+).

0805.10 - Oranges

- Mandarins (including tangerines and satsumas); clementines, wilkings and similar citrus hybrids:

0805.21 - - Mandarins (including tangerines and satsumas)

0805.22 - - Clementines

0805.29 - - Other

0805.40 - Grapefruit and pomelos

0805.50 - Lemons (*Citrus limon, Citrus limonum*) and limes (*Citrus aurantifolia, Citrus latifolia*)

0805.90 - Other

The expression “citrus fruit” applies *inter alia* to:

(1) Oranges, sweet or bitter (Seville oranges).

(2) Mandarins (including tangerines and satsumas). Mandarins can be grouped in the following main classes or groups:

- Satsuma (*Citrus unshiu* Marcovitch), which consists of many varieties.
- King (*Citrus nobilis* Loureiro), which contains a few varieties.
- Mediterranean (*Citrus deliciosa* Tenore), also known as Willowleaf.
- Common (*Citrus reticulata* Blanco), which is represented by numerous varieties.
- Small-fruited mandarins, which consist of many species.

(3) Clementines, wilkings and similar citrus hybrids.

(4) Grapefruit and pomelos.

(5) Lemons (*Citrus limon, Citrus limonum*) and limes (*Citrus aurantifolia, Citrus latifolia*).

(6) Citrons, kumquats and bergamots, etc.

The heading also includes small green oranges and small green lemons of a kind used for preserving.

The heading **excludes**:

(a) Citrus fruit peel (**heading 08.14**).

(b) "Orange peas" or "orangettes" which are immature inedible oranges having fallen soon after the tree has blossomed, gathered dry with a view, in particular, to extraction of their essential oil (petit-grain) (**heading 12.11**).

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Subheading Explanatory Notes.

Subheading 0805.21

This subheading covers mandarins (including tangerines and satsumas).

Mandarins (*Citrus reticulata* Blanco) under the "Common" group may be distinguished from ordinary oranges by their smaller, flattened shape, by easier peeling, by a more distinct division of their segments and by their sweeter and more perfumed taste. Mandarins have an open core (much more so than any of the oranges) and seeds with greenish cotyledons (minor exceptions).

Tangerines are round in shape and slightly smaller than an orange. Their peel is bright orange or red in colour. Tangerines peel easily, and their taste is less acid than that of other citrus fruit.

Satsumas (*Citrus unshiu* Marcovitch) are an early variety of mandarin. The fruit is large, yellow-orange in colour, juicy, non-acid and without pips.

Mandarin hybrids (including tangerine and satsuma hybrids) are classified in subheading 0805.29.

Subheading 0805.22

This subheading covers clementines.

Clementines (*Citrus reticulate* 'Clementina') may be distinguished from mandarins by the colour of their peel, which is orange to reddish-orange. The peel is smooth and glossy, but slightly pebbled. Furthermore, they are never flattened in shape as are mandarins, but are well rounded and smaller in size. Like mandarins, clementines can be peeled and divided into sections with ease. The taste is sweet, sub acid and aromatic, and is rather more orange-like.

Subheading 0805.29

This subheading covers Wilkings and similar citrus hybrids.

Wilkings are hybrids with parents belonging to two different mandarin groups (Willowleaf and King). They are small to medium-sized and slightly flattened in shape. Their peel is orange in colour at maturity, and is glossy and slightly pebbled. It is medium-thin, somewhat brittle, somewhat adherent but readily peelable. Their flesh is deep orange in colour, and they have more pips. Wilkings are very juicy and have a rich, aromatic and distinctive flavour.

The other main hybrids are tangelos (hybrid of the mandarin with the grapefruit or the pomelo), tangors (hybrid of the tangerine with the sweet orange), calamondins, lyos and rangpurs.

0805.10

- Oranges

0805.2

- Mandarins (including tangerines and satsumas); clementines, wilkings and similar citrus hybrids:

0805.21

-- Mandarins (including tangerines and satsumas)

0805.22

-- Clementines

0805.29

-- Other

0805.40

- Grapefruit and pomelos

0805.50

- Lemons (Citrus limon, Citrus limonum) and limes (Citrus aurantifolia, Citrus latifolia)

0805.90

- Other

Heading 0806

Grapes, fresh or dried.

EXPLANATORY NOTES

08.06 - Grapes, fresh or dried.

0806.10 - Fresh

0806.20 - Dried

The heading covers fresh grapes whether for dessert purposes or for wine-production (including those rough-packed in barrels), and whether grown outdoors or under glass (hot-house).

The heading also covers dried grapes, the principal kinds being those known as “currants”, “sultanas”, “Izmir”, “Thompson” or the so-called “seedless” raisins (all of which are substantially without pips) and the large raisins with seeds, such as “Muscatel”, “Malaga”, “Denia”, “Damascus”, “Lexir” or “Gordo” raisins.

0806.10

- Fresh

0806.20

- Dried

Heading 0807

Melons (including watermelons) and papaws (papayas), fresh.

EXPLANATORY NOTES

08.07 - Melons (including watermelons) and papaws (papayas), fresh.

- Melons (including watermelons):

0807.11 - - Watermelons

0807.19 - - Other

0807.20 - Papaws (papayas)

This heading covers fresh melons of the species *Citrullus vulgaris* or *Cucumis melo,* including, *inter alia*, watermelons, citron (preserving) melons, muskmelons, cantaloupes, casaba and honeydew melons. The heading also covers the melon-like fruit of the species *Carica papaya*, known as papaws or papaya. However, the heading **excludes** fruit of the species *Asimina triloba* known in English as pawpaws (**heading 08.10**).

0807.1

- Melons (including watermelons):

0807.11

-- Watermelons

0807.19

-- Other

0807.20

- Papaws (papayas)

Heading 0808

Apples, pears and quinces, fresh.

EXPLANATORY NOTES

08.08 - Apples, pears and quinces, fresh.

0808.10 - Apples

0808.30 - Pears

0808.40 - Quinces

Apples and pears are classified in this heading whether they are suitable for dessert, for making beverages (e.g., cider or perry) or for industrial purposes (e.g., preparation of apple paste, jam or jelly, extraction of pectin).

Quinces are mainly used for making jam or jelly.

0808.10

- Apples

0808.30

- Pears

0808.40

- Quinces

Heading 0809

Apricots, cherries, peaches (including nectarines), plums and slows, fresh.

EXPLANATORY NOTES

08.09 - Apricots, cherries, peaches (including nectarines), plums and sloes, fresh.

0809.10 - Apricots

- Cherries:

0809.21 - - Sour cherries (*Prunus cerasus*)

0809.29 - - Other

0809.30 - Peaches, including nectarines

0809.40 - Plums and sloes

This heading covers apricots, all varieties of cherries (whiteheart cherries, morello cherries, etc.), peaches (including nectarines), plums of all kinds (greengages, mirabelles, damsons, etc.), and sloes.

0809.10

- Apricots

0809.2

- Cherries:

0809.21

-- Sour cherries (Prunus cerasus)

0809.29

-- Other

0809.30

- Peaches, including nectarines

0809.40

- Plums and sloes

Heading 0810

Other fruit, fresh.

EXPLANATORY NOTES

08.10 - other fruit, fresh.

0810.10 - Strawberries

0810.20 - Raspberries, blackberries, mulberries and loganberries

0810.30 - Black, white or red currants and gooseberries

0810.40 - Cranberries, bilberries and other fruits of the genus *Vaccinium*

0810.50 - Kiwifruit

0810.60 - Durians

0810.70 - Persimmons

0810.90 - Other

This heading covers all edible fruits not falling in any preceding heading of this Chapter nor included in other Chapters of the Nomenclature (see the exclusions in the General Explanatory Note to this Chapter).

It therefore includes:

(1) Strawberries.

(2) Raspberries, blackberries, mulberries and loganberries.

(3) Black, white or red currants and gooseberries.

(4) Cranberries, bilberries, blueberries, myrtle berries and other fruits of the genus *Vaccinium*.

(5) Kiwifruit (*Actinidia chinensis Planch*. or *Actinidia deliciosa*).

(6) Durians (*Durio zibethinus*).

(7) Persimmons (kakis).

(8) Boysenberries, rowan berries, elderberries, sapodilla (naseberries), pomegranates, cactus figs (prickly pears), rose hips, jujubes, medlars, longans, litchi, soursops, sweetsops and fruit of the species *Asimina triloba* also known as pawpaws.

The heading **excludes** juniper berries (**heading 09.09**).

0810.10

- Strawberries

0810.20

- Raspberries, blackberries, mulberries and loganberries

0810.30

- Black, white or red currants and gooseberries

0810.40

- Cranberries, bilberries and other fruits of the genus Vaccinium

0810.50

- Kiwifruit

0810.60

- Durians

0810.70

- Persimmons

0810.90

- Other

Heading 0811

Fruit and nuts, uncooked or cooked by steaming or boiling in water, frozen, whether or not containing added sugar or other sweetening matter.

EXPLANATORY NOTES

08.11 - Fruit and nuts, uncooked or cooked by steaming or boiling in water, frozen, whether or not containing added sugar or other sweetening matter.

0811.10 - Strawberries

0811.20 - Raspberries, blackberries, mulberries, loganberries, black, white or red currants and gooseberries

0811.90 - Other

This heading applies to frozen fruit and nuts which, when fresh or chilled, are classified in the preceding headings of this Chapter. (As regards the meanings of the expressions “chilled” and “frozen”, see the General Explanatory Note to this Chapter.)

Fruit and nuts which have been cooked by steaming or boiling in water before freezing remain classified in this heading. Frozen fruit and nuts cooked by other methods before freezing are **excluded** (**Chapter 20**).

Frozen fruit and nuts to which sugar or other sweetening matter has been added are also covered by this heading, the sugar having the effect of inhibiting oxidation and thus preventing the change of colour which would otherwise occur, generally on thawing out. The products of this heading may also contain added salt.

0811.10

- Strawberries

0811.20

- Raspberries, blackberries, mulberries, loganberries, black, white or red currants and gooseberries

0811.90

- Other

Heading 0812

Fruit and nuts, provisionally preserved, but unsuitable in that state for immediate consumption.

EXPLANATORY NOTES

08.12 - Fruit and nuts provisionally preserved, but unsuitable in that state for immediate consumption.

0812.10 - Cherries

0812.90 - Other

This heading applies to fruit and nuts (whether or not blanched or scalded) which have been treated **solely** to ensure their provisional preservation during transport or storage prior to use (for example, by sulphur dioxide gas, in brine, in sulphur water or in other preservative solutions), **provided** they remain unsuitable for immediate consumption in that state.

Such products are used mainly in the food industry (manufacture of jam, preparation of candied fruits, etc.). The products most commonly presented in this state are cherries, strawberries, oranges, citrons, apricots and greengages. They are usually packed in casks, trays or open-lath type containers.

0812.10

- Cherries

0812.90

- Other

Heading 0813

Fruit, dried, other than that of headings 08.01 to 08.06; mixtures of nuts or dried fruits of this Chapter.

EXPLANATORY NOTES

08.13 - Fruit, dried, other than that of headings 08.01 to 08.06; mixtures of nuts or dried fruits of this Chapter.

0813.10 - Apricots

0813.20 - Prunes

0813.30 - Apples

0813.40 - other fruit

0813.50 - Mixtures of nuts or dried fruits of this Chapter

(A) **Dried fruit.**

This heading includes dried fruits which when fresh are classified in headings 08.07 to 08.10. They are prepared either by direct drying in the sun or by industrial processes (e.g., tunnel-drying).

The fruits most commonly processed in this way are apricots, prunes, apples, peaches and pears. Dried apples and pears are used for the manufacture of cider or perry as well as for culinary purposes. With the exception of prunes, the fruits are usually halved or sliced, and stoned, cored or seeded. They may also be presented (particularly in the case of apricots and prunes) in the form of slices or blocks of pulp, dried or evaporated.

The heading covers tamarind pods. It also includes tamarind pulp, without sugar or other substances added and not otherwise processed, with or without seeds, strings or pieces of the endocarp.

(B) **Mixtures of nuts or dried fruits.**

The heading also covers all mixtures of nuts or dried fruits of this Chapter (including mixtures of nuts or dried fruits falling in the same heading). It therefore includes mixtures of fresh or dried nuts, mixtures of dried fruits (excluding nuts) and mixtures of fresh or dried nuts and dried fruits. These mixtures are often presented in boxes, cellulose packets, etc.

Certain dried fruits or mixtures of dried fruits of this heading may be put up (e.g., in sachets) for making herbal infusions or herbal “teas”. These products remain classified here.

However, the heading **excludes** such products consisting of a mixture of one or more of the dried fruits of this heading with plants or parts of plants of other Chapters or with other substances such as one or more plant extracts (generally **heading 21.06**).

0813.10

- Apricots

0813.20

- Prunes

CLASSIFICATION OPINIONS

1. Prunes partially rehydrated to a moisture content not exceeding 35 % by weight, to which sorbic acid has been added for stabilisation; the prunes are pitted, put up in airtight packings and ready for immediate consumption.
Adoption: 1989

0813.30

- Apples

0813.40

- Other fruit

0813.50

- Mixtures of nuts or dried fruits of this Chapter

Heading 0814

Peel of citrus fruit or melons (including watermelons), fresh, frozen, dried or provisionally preserved in brine, in sulphur water or in other preservative solutions.

EXPLANATORY NOTES

08.14 - Peel of citrus fruit or melons (including watermelons), fresh, frozen, dried or provisionally preserved in brine, in sulphur water or in other preservative solutions.

The citrus fruit peels most commonly used for edible purposes are orange (including bitter or Seville orange), lemon and citron. These peels are mainly used for making candied peel or for extracting the essential oils.

The heading **excludes** powdered peel (**heading 11.06**) and candied fruit peel (**heading 20.06**).

0814.00

Peel of citrus fruit or melons (including watermelons), fresh, frozen, dried or provisionally preserved in brine, in sulphur water or in other preservative solutions.

Chapter 9

Coffee, tea, maté and spices

LEGAL NOTES

Notes.

1. - Mixtures of the products of headings 09.04 to 09.10 are to be classified as follows:

(a) Mixtures of two or more of the products of the same heading are to be classified in that heading;

(b) Mixtures of two or more of the products of different headings are to be classified in heading 09.10.

The addition of other substances to the products of headings 09.04 to 09.10 (or to the mixtures referred to in paragraph (a) or (b) above) shall not affect their classification provided the resulting mixtures retain the essential character of the goods of those headings. Otherwise such mixtures are not classified in this Chapter; those constituting mixed condiments or mixed seasonings are classified in heading 21.03.

2. - This Chapter does not cover Cubeb pepper *(Piper cubeba)* or other products of heading 12.11.

EXPLANATORY NOTES

Chapter 9

Coffee, tea, maté and spices

Notes.

1. - Mixtures of the products of headings 09.04 to 09.10 are to be classified as follows:

(a) Mixtures of two or more of the products of the same heading are to be classified in that heading;

(b) Mixtures of two or more of the products of different headings are to be classified in heading 09.10.

The addition of other substances to the products of headings 09.04 to 09.10 (or to the mixtures referred to in paragraph (a) or (b) above) shall not affect their classification provided the resulting mixtures retain the essential character of the goods of those headings. Otherwise such mixtures are not classified in this Chapter; those constituting mixed condiments or mixed seasonings are classified in heading 21.03.

2. - This Chapter does not cover Cubeb pepper *(Piper cubeba)* or other products of heading 12.11.

GENERAL

This Chapter covers:

(1) Coffee, tea and maté.

(2) Spices, i.e., a group of vegetable products (including seeds, etc.), rich in essential oils and aromatic principles, and which, because of their characteristic taste, are mainly used as condiments.

These products may be whole or in crushed or powdered form.

As regards the classification of mixtures of products of headings 09.04 to 09.10, see Note 1 to this Chapter. Under the provisions of this Note, the addition of other substances to the products of headings 09.04 to 09.10 (or to the mixtures referred to in paragraph (a) or (b) of the Note) shall not affect their classification **provided** the resulting mixtures retain the essential character of the goods falling in those headings.

This applies, in particular, to spices and mixed spices containing added:

(a) **Diluents** ("spreader" bases) added to facilitate measuring out of the spices and their distribution in the food preparation (cereal flour, ground rusk, dextrose, etc.).

(b) Food **colourings** (e.g., xanthophyll).

(c) Products added to intensify or enhance the flavour of the spices (**synergetics**), such as sodium glutamate.

(d) Substances such as **salt** or **chemical antioxidants** added, usually in small quantity, to preserve the products and prolong their flavouring powers.

Spices (including mixed spices) containing added substances of other Chapters, but themselves having flavouring or seasoning properties, remain in this Chapter **provided** the added quantity does not affect the essential character of the mixture as a spice.

This Chapter also includes mixtures consisting of plants, parts of plants, seeds or fruit (whole, cut, crushed, ground or powdered) of species falling in different Chapters (e.g., Chapters 7, 9, 11, 12), of a kind used either directly for flavouring beverages or for preparing extracts for the manufacture of beverages,

(i) If the essential character is given by one or more species of any single one of the headings 09.04 to 09.10 (headings 09.04 to 09.10 as the case may be);

(ii) If the essential character is given by a mixture of species of two or more of the headings 09.04 to 09.10 (heading 09.10).

This Chapter however **excludes** such mixtures if the essential character is not given by the species mentioned in (i) or by the mixtures referred to in (ii) above (**heading 21.06**).

This Chapter further **excludes**:

(a) Vegetables (e.g., parsley, chervil, tarragon, cress, sweet marjoram, coriander and dill) of **Chapter 7**.

(b) Mustard seed (**heading 12.07**); mustard flour, whether unprepared or prepared (**heading 21.03**).

(c) Hop cones (**heading 12.10**).

(d) Certain fruits, seeds and parts of plants which, although they can be used as spices, are more often employed in perfumery or in medicine (**heading 12.11**) (e.g., cassia pods, rosemary, wild marjoram, basil, borage, hyssop, all species of mint, rue and sage).

(e) Mixed condiments and mixed seasonings (**heading 21.03**).

Heading 0901

Coffee, whether or not roasted or decaffeinated; coffee husks and skins; coffee substitutes containing coffee in any proportion.

EXPLANATORY NOTES

09.01 - Coffee, whether or not roasted or decaffeinated; coffee husks and skins; coffee substitutes containing coffee in any proportion.

- Coffee, not roasted:

0901.11 - - Not decaffeinated

0901.12 - - Decaffeinated

- Coffee, roasted:

0901.21 - - Not decaffeinated

0901.22 - - Decaffeinated

0901.90 - Other

This heading includes:

(1) Raw coffee in all forms, i.e.: in berries, as gathered from the shrub; in beans or seeds complete with their yellowish skins; in beans or seeds stripped of their skins.

(2) Coffee from which the caffeine has been extracted by soaking the raw beans in various solvents.

(3) Roasted coffee (with or without caffeine content) whether or not ground.

(4) Husks and skins of coffee.

(5) Coffee substitutes containing coffee in any proportion.

The heading **excludes**:

(a) Coffee wax (**heading 15.21**).

(b) Extracts, essences and concentrates of coffee (sometimes known as instant coffee) and preparations with a basis of those extracts, essences or concentrates; roasted coffee substitutes not containing coffee (**heading 21.01**).

(c) Caffeine, the alkaloid in coffee (**heading 29.39**).

0901.1

- Coffee, not roasted:

0901.11

-- Not decaffeinated

0901.12

-- Decaffeinated

0901.2

- Coffee roasted:

0901.21

-- Not decaffeinated

0901.22

-- Decaffeinated

0901.90

- Other

Heading 0902

Tea, whether or not flavoured.

EXPLANATORY NOTES

09.02 - Tea, whether or not flavoured.

0902.10 - Green tea (not fermented) in immediate packings of a content not exceeding 3 kg

0902.20 - other green tea (not fermented)

0902.30 - Black tea (fermented) and partly fermented tea, in immediate packings of a content not exceeding 3 kg

0902.40 - other black tea (fermented) and other partly fermented tea

The heading covers the different varieties of tea derived from the plants of the botanical genus *Thea (Camellia)*.

The preparation of green tea consists essentially of heating the fresh leaves, rolling them and drying them. In the case of black tea, the leaves are rolled and fermented before being fired or dried.

The heading also includes partly fermented tea (e.g., Oolong tea).

The heading includes tea flowers, buds and residues, as well as powdered tea (leaves, flowers or buds) agglomerated in balls or tablets, as well as tea presented compressed into various shapes and sizes.

Tea which has been flavoured by a steaming process (during fermentation, for example) or by the addition of essential oils (e.g., lemon or bergamot oil), artificial flavourings (which may be in crystalline or powder form) or parts of various other aromatic plants or fruits (such as jasmine flowers, dried orange peel or cloves) is also classified in this heading.

The heading also includes decaffeinated tea, but it **excludes** caffeine as such (**heading 29.39**).

The heading further **excludes** products **not** derived from the plants of the botanical genus *Thea* but sometimes called “teas”, e.g.:

(a) Maté (Paraguay tea) (**heading 09.03**).

(b) Products for making herbal infusions or herbal “teas”. These are classified, for example, in **heading 08.13**, **09.09**, **12.11** or **21.06**.

(c) Ginseng “tea” (a mixture of ginseng extract with lactose or glucose) (**heading 21.06**).

0902.10

- Green tea (not fermented) in immediate packings of a content not exceeding 3 kg

0902.20

- Other green tea (not fermented)

CLASSIFICATION OPINIONS

1. Dried tea flowers derived from the shrubs of the botanical genus Thea, whether or not intended to be used in pharmacy.
Application of GIRs 1 and 6.
Adoption: 2008

0902.30

- Black tea (fermented) and partly fermented tea, in immediate packings of a content not exceeding 3 kg

CLASSIFICATION OPNIONS

1. Black tea put up in a transparent plastic bag (100 g) and packed in a ceramic container in the form of a brown coloured samovar (approximately 19 cm high) decorated with painted flowers and equipped with a removable lid. The samovar, which has no utility value and is wholly ornamental in nature, is classified separately in subheading 6913.90.
Application of GIRs 1 and 6.
See also Opinion 6913.90/1.
Adoption: 2007



0902.40

- Other black tea (fermented) and other partly fermented tea

Heading 0903

Maté.

EXPLANATORY NOTES

09.03 - Maté.

Maté consists of the dried leaves of certain shrubs of the holly family which grow in South America. It is sometimes known as “Paraguay tea” or “Jesuits’ tea”. Maté is used for the preparation by infusion of a drink containing only a little caffeine.

0903.00

Maté.

Heading 0904

Pepper of the genus Piper; dried or crushed or ground fruits of the genus Capsicum or of the genus Pimenta.

EXPLANATORY NOTES

09.04 - Pepper of the genus *Piper*; dried or crushed or ground fruits of the genus *Capsicum* or of the genus *Pimenta*.

- Pepper:

0904.11 - - neither crushed nor ground

0904.12 - - Crushed or ground

- Fruits of the genus *Capsicum* or of the genus *Pimenta* :

0904.21 - - Dried, neither crushed nor ground

0904.22 - - Crushed or ground

(1) **Pepper of the genus** *Piper*.

This term includes the seeds or fruits of all pepper plants of the genus *Piper*, **except** Cubeb pepper (*Piper cubeba*) (**heading 12.11**). The main commercial variety is pepper of the species *Piper nigrum*, which takes the form of black or white pepper. Black pepper-corns are obtained from the unripe fruits by sun-drying or smoking, sometimes after treatment with boiling water. White pepper is prepared from the nearly ripe fruit from which the pulp and outer coating of the seed have been removed by soaking or slight fermentation. White pepper is also often prepared from black pepper-corns by grinding off the outer parts. White pepper, which is in fact yellowish grey, is not so pungent as black.

Long pepper (*Piper longum*) is another variety of pepper.

The heading also covers pepper dust and sweepings.

Certain products incorrectly known as peppers are in fact pimentos, e.g., Indian, Turkish, Spanish, Cayenne and Jamaica peppers.

(2) **Dried or crushed or ground fruits of the genus** *Capsicum* **or of the genus** *Pimenta*.

Fruits of the genus *Capsicum* generally belong to the species *Capsicum frutescens* or *Capsicum annuum* and include two main groups, the chillies and the paprikas. There are many varieties (Cayenne pepper, Sierra Leone and Zanzibar pepper, Spanish and Hungarian paprika, etc.).

Fruits of the genus *Pimenta* include Jamaica pepper (also known as clove pepper, English pepper and allspice).

These fruits share the common characteristic of a bitter, strong, burning and long-lasting flavour; however there are other varieties of the genus *Capsicum* which do not have a pungent odour (e.g., *Capsicum annuum var. grossum*).

The heading **does not include** uncrushed or unground fresh fruits of the genus *Capsicum* or of the genus *Pimenta* (**heading 07.09**).

0904.1

- Pepper:

0904.11

-- Neither crushed nor ground

0904.12

-- Crushed or ground

0904.2

- Fruits of the genus Capsicum or of the genus Pimenta:

0904.21

-- Dried, neither crushed nor ground

0904.22

-- Crushed or ground

Heading 0905

Vanilla.

EXPLANATORY NOTES

09.05 - Vanilla.

0905.10 - Neither crushed nor ground

0905.20 - Crushed or ground

This is the fruit (or bean) of a climbing plant of the orchid family. It is blackish in colour and very aromatic. There are two kinds of vanilla, long and short, as well as a very low-grade variety known as vanillon (obtained from the species *Vanilla pompona*), soft, almost viscous and always open.

The heading **does not include:**

(a) Vanilla oleoresin (sometimes erroneously known as “vanilla resinoid” or “vanilla extract”) (**heading 13.02**).

(b) Vanilla sugar (**heading 17.01** or **17.02**).

(c) Vanillin (the odoriferous principle of vanilla) (**heading 29.12**).

0905.10

- Neither crushed nor ground

0905.20

- Crushed or ground

Heading 0906

Cinnamon and cinnamon-tree flowers.

EXPLANATORY NOTES

09.06 - Cinnamon and cinnamon-tree flowers (+).

- Neither crushed nor ground:

0906.11 - - Cinnamon (*Cinnamomum zeylanicum Blume*)

0906.19 - - Other

0906.20 - Crushed or ground

Cinnamon is the inner bark of young branches of certain trees of the *Laurus* family. Sri Lankan (Ceylon) type, Seychelles type and Madagascan type cinnamon (*Cinnamomum zeylanicum Blume*), also called fine cinnamon, is generally presented in bundles of pale-coloured strips of bark rolled together. Chinese type (*Cinnamomum cassia (Nees) ex Blume*), Indonesian type (*Cinnamomum burmanii (C.G.Nees)*) and Vietnamese type (*Cinnamomum loureirii Nees*) cinnamon, also known as cassia or common cinnamon, is formed of thicker layers of bark, streaked with brown; it is generally presented in rolls of a single layer. Other varieties of cinnamon include *Cinnamomum obtusifolium*, *Cinnamomum tamala* and *Cinnamomum sintek*.

This heading also covers cinnamon waste, known as “chips”, used chiefly for the preparation of cinnamon essence.

Cinnamon-tree flowers are the dried and sieved flowers of the cinnamon tree. They are club-shaped and of a length not normally exceeding 1 cm. After grinding, they are mixed with cinnamon.

The heading also includes cinnamon fruit.

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Subheading Explanatory Note.

Subheading 0906.11

The scope of this subheading is limited to cinnamon which is the inner bark of young branches of the tree or shrub *Cinnamomum zeylanicum Blume*, commonly known as Sri Lankan (Ceylon) type, Seychelles type and Madagascan type cinnamon.

General commercial grades are quills, quillings, featherings and chips.

0906.1

- Neither crushed nor ground:

0906.11

-- Cinnamon (Cinnamomum zeylanicum Blume)

0906.19

-- Other

0906.20

- Crushed or ground

Heading 0907

Cloves (whole fruit, cloves and stems).

EXPLANATORY NOTES

09.07 - Cloves (whole fruit, cloves and stems).

0907.10 - Neither crushed nor ground

0907.20 - Crushed or ground

This heading includes:

(1) Whole fruit of the clove tree (these have the characteristic taste and smell of cloves although less pronounced).

(2) Cloves (the flowers of the clove tree picked before maturity and dried in the sun).

(3) The fine, greyish, strongly scented stems of the clove flowers.

The heading **excludes** clove bark and leaves (**heading 12.11**).

0907.10

- Neither crushed nor ground

0907.20

- Crushed or ground

Heading 0908

Nutmeg, mace and cardamoms.

EXPLANATORY NOTES

09.08 - Nutmeg, mace and cardamoms.

- Nutmeg:

0908.11 - - Neither crushed nor ground

0908.12 - - Crushed or ground

- Mace:

0908.21 - - Neither crushed nor ground

0908.22 - - Crushed or ground

- Cardamoms:

0908.31 - - Neither crushed nor ground

0908.32 - - Crushed or ground

This heading covers:

(a) **Nutmegs**, round or long, whether or not shelled.

(b) **Mace**, which is the membraneous envelope of the nutmeg, between the outer shell and the kernel. This substance, which is cut into strips, has the same properties as nutmeg, but even more marked. It is bright red when fresh, but turns yellow with age, and becomes brittle and translucent like horn. Some mace is flaxen-coloured or even white.

(c) **Cardamoms:**

(1) **Grape cardamoms**, so-called because this variety grows in the form of closely packed clusters which are sometimes presented whole, but are more usually presented as single nuts about the size of a grape-pip. The nuts are whitish, rounded with three projecting sides, light and membraneous; they are divided internally into three sections containing many very aromatic seeds with a bitter, pungent flavour.

(2) **Small or medium cardamoms**, similar to grape cardamoms in structure and properties, but more triangular and elongated.

(3) **Large cardamoms**, which are triangular, from 27 to 40 mm long, and have a brownish shell.

(4) **Malaguetta pepper** or "**grains of paradise**" (*Aframomum melegueta*) are almost invariably presented shelled, in small, elongated, angular seeds which, though rough surfaced, gleam as if they had been varnished. They are odourless but have a bitter, burning flavour similar to that of pepper.

0908.1

- Nutmeg:

0908.11

-- Neither crushed nor ground

0908.12

-- Crushed or ground

0908.2

- Mace:

0908.21

-- Neither crushed nor ground

0908.22

-- Crushed or ground

0908.3

- Cardamoms:

0908.31

-- Neither crushed nor ground

0908.32

-- Crushed or ground

Heading 0909

Seeds of anise, badian, fennel, coriander, cumin or caraway; juniper berries.

EXPLANATORY NOTES

09.09 - Seeds of anise, badian, fennel, coriander, cumin or caraway; juniper berries.

- Seeds of coriander:

0909.21 - - Neither crushed nor ground

0909.22 - - Crushed or ground

- Seeds of cumin:

0909.31 - - Neither crushed nor ground

0909.32 - - Crushed or ground

- Seeds of anise, badian, caraway or fennel; juniper berries:

0909.61 - - Neither crushed nor ground

0909.62 - - Crushed or ground

These fruits or seeds are used for consumption as spices, for industrial purposes (e.g., in distilleries) and for medicinal purposes. They remain in this heading even when, in the case of anise seeds in particular, they are put up (e.g., in sachets) for making herbal infusions or herbal “teas”.

The **seeds of anise** referred to here are the green anise, an egg-shaped seed, striped lengthwise, greyish-green, with a very characteristic odour and aromatic flavour. **Badian** is star anise.

Coriander, cumin and caraway seeds are the aromatic seeds of certain plants of the umbelliferous family, used chiefly in the preparation of liqueurs.

Fennel seeds, obtained from the culinary herb, may be dark grey giving off a strong and agreeable odour, or pale green with a very individual sweet scent.

Juniper berries are a very dark brown faintly tinted with purplish-blue, and are covered with a resinous dust. They contain a reddish aromatic pulp, with a bitter and slightly sweetened taste, enclosing three small and very hard pips. These berries are used to flavour various alcoholic beverages (e.g., gin), sauerkraut and sundry food preparations, and for the extraction of the essential oil.

0909.2

- Seeds of coriander:

0909.21

-- Neither crushed nor ground

0909.22

-- Crushed or ground

0909.3

- Seeds of cumin:

0909.31

-- Neither crushed nor ground

0909.32

-- Crushed or ground

0909.6

- Seeds of anise, badian, caraway or fennel; juniper berries:

0909.61

-- Neither crushed nor ground

0909.62

-- Crushed or ground

Heading 0910

Ginger, saffron, turmeric (curcuma), thyme, bay leaves, curry and other spices.

EXPLANATORY NOTES

09.10 - Ginger, saffron, turmeric (curcuma), thyme, bay leaves, curry and other spices.

- Ginger:

0910.11 - - neither crushed nor ground

0910.12 - - Crushed or ground

0910.20 - Saffron

0910.30 - Turmeric (curcuma)

- Other spices:

0910.91 - - Mixtures referred to in Note 1 (b) to this Chapter

0910.99 - - Other

The heading includes:

(a) **Ginger** (including fresh ginger, provisionally preserved in brine, unsuitable in that state for immediate consumption); ginger preserved in syrup is **excluded** (**heading 20.08**).

(b) **Saffron**, which consists of the dried stigmas and styles of the flowers of the saffron crocus (*Crocus sativus*). It may also be presented as an orange-red powder with a strong, penetrating and agreeable odour. It contains a colouring element of little stability. It is used as a seasoning and also in confectionery and medicine.

(c) **Turmeric** or **curcuma** (*Curcuma longa*), sometimes incorrectly called “Indian saffron” because of its vivid yellow colour; the curcuma rhizome is marketed either whole or, more often, in powder form.

(d) **Thyme** (including wild thyme) and **bay leaves**, whether or not dried.

(e) **Curry powder**, consisting of a mixture in variable proportions of turmeric (curcuma), of various other spices (e.g., coriander, black pepper, cumin, ginger, cloves) and of other flavouring substances (e.g., garlic powder) which, although not falling in this Chapter, are often used as spices.

(f) **Dill seed** (*Anethum graveolens*), and **fenugreek seed** (*Trigonella foenum graecum*).

(g) **Mixtures** of the products of headings 09.04 to 09.10 when the separate ingredients of the mixture fall in different headings, e.g., mixtures of pepper (heading 09.04) with products of heading 09.08.

0910.1

- Ginger:

0910.11

-- Neither crushed nor ground

0910.12

-- Crushed or ground

0910.20

- Saffron

0910.30

- Turmeric (curcuma)

0910.9

- Other spices:

0910.91

-- Mixtures referred to in Note 1 (b) to this Chapter

0910.99

-- Other

Chapter 10

Cereals

LEGAL NOTES

Notes.

1. - (A) the products specified in the headings of this Chapter are to be classified in those headings only if grains are present, whether or not in the ear or on the stalk.

(B) The Chapter does not cover grains which have been hulled or otherwise worked. However, rice, husked, milled, polished, glazed, parboiled or broken remains classified in heading 10.06. Similarly, quinoa from which the pericarp has been wholly or partly removed in order to separate the saponin, but which has not undergone any other processes, remains classified in heading 10.08.

2. - Heading 10.05 does not cover sweet corn (Chapter 7).

Subheading Note.

1. - The term “durum wheat” means wheat of the *Triticum durum* species and the hybrids derived from the inter-specific crossing of *Triticum durum* which have the same number (28) of chromosomes as that species.

EXPLANATORY NOTES

Chapter 10

Cereals

Notes.

1. - (A) the products specified in the headings of this Chapter are to be classified in those headings only if grains are present, whether or not in the ear or on the stalk.

(B) The Chapter does not cover grains which have been hulled or otherwise worked. However, rice, husked, milled, polished, glazed, parboiled or broken remains classified in heading 10.06. Similarly, quinoa from which the pericarp has been wholly or partly removed in order to separate the saponin, but which has not undergone any other processes, remains classified in heading 10.08.

2. - Heading 10.05 does not cover sweet corn (Chapter 7).

Subheading Note.

1. - The term “durum wheat” means wheat of the *Triticum durum* species and the hybrids derived from the inter-specific crossing of *Triticum durum* which have the same number (28) of chromosomes as that species.

GENERAL

This Chapter covers cereal grains only, whether or not presented in sheaves or in the ear. Grain obtained from cereals cut before maturity and still complete with husks is classified with ordinary grain. Fresh cereals (**other than** sweet corn of **Chapter 7**), whether or not suitable for use as vegetables, remain classified in this Chapter.

Rice remains classified in heading 10.06 even if it has been husked, milled, glazed, polished, parboiled, or broken, provided it has not been otherwise worked. Similarly, quinoa from which the pericarp has been wholly or partly removed in order to separate the saponin, but which has not undergone any other processes, remains classified in heading 10.08. Other grains are, however, **excluded** from the Chapter if they have been hulled or otherwise worked, for example, as described in heading 11.04 (see the corresponding Explanatory Note).

Heading 1001

Wheat and meslin.

EXPLANATORY NOTES

10.01 - Wheat and meslin (+).

- Durum wheat:

1001.11 - - Seed

1001.19 - - Other

- Other:

1001.91 - - Seed

1001.99 - - Other

Wheat can be divided into two main classes:

(1) **Common wheat**, soft, semi-hard or hard, usually having a floury fracture;

(2) **Durum wheat** (see Subheading Note 1 to this Chapter). Durum wheat is generally of a colour ranging from amber yellow to brown; it usually shows a translucent, hornlike, vitreous fracture.

Spelt, a type of wheat with a small brown grain which retains its husk even after threshing, is also classified in this heading.

Meslin is a mixture of wheat and rye, generally in proportions of two to one.

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Subheading Explanatory Note.

Subheadings 1001.11 and 1001.91

For the purposes of subheadings 1001.11 and 1001.91, the term “seed” covers only wheat or meslin regarded by the competent national authorities as being for sowing.

1001.1	
- Durum wheat:	
1001.11	
-- Seed	
1001.19	
-- Other	
1001.9	
- Other:	
1001.91	
-- Seed	
1001.99	
-- Other	

Heading 1002

Rye.

EXPLANATORY NOTES

10.02 - Rye (+).

1002.10 - Seed

1002.90 - Other

Rye has a rather elongated grain, greenish-grey or light grey in colour. Its flour is grey.

Rye bearing the fungoid growth known as ergot is **excluded** (**heading 12.11**).

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Subheading Explanatory Note.

Subheading 1002.10

For the purposes of subheading 1002.10, the term “seed” covers only rye regarded by the competent national authorities as being for sowing.

1002.10

- Seed

1002.90

- Other

Heading 1003

Barley.

EXPLANATORY NOTES

10.03 - Barley (+).

1003.10 - Seed

1003.90 - Other

Barley has a fleshier grain than that of wheat. It is mainly used as livestock feed, for the manufacture of malt and, when polished or pearled, for the preparation of soups or cooked foods.

Bracteiferous varieties of barley differ from most other cereals in that their husks (or hulls) become fused to the grain kernel in the course of growth and therefore cannot be separated by simple threshing or winnowing. Barley grain of this kind, which is straw-yellow in colour and pointed at the ends, falls in the heading only if presented complete with husk (or hull). When this husk or hull has been removed bracteiferous barley grains are **excluded** (**heading 11.04**); this removal requires a milling process which sometimes also removes part of the pericarp.

The variety of barley which in its natural state has no husk or hull, remains in this heading provided it has not undergone any process other than threshing or winnowing.

The heading **does not include:**

(a) Sprouted barley (malt), nor roasted malt (see Explanatory Note to **heading 11.07**).

(b) Roasted barley (coffee substitutes) (**heading 21.01**).

(c) Malt sprouts separated from the malted grain during the kilning process and other brewing wastes (dregs of cereals, hops, etc.) (**Heading 23.03**).

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Subheading Explanatory Note.

Subheading 1003.10

For the purposes of subheading 1003.10, the term “seed” covers only barley regarded by the competent national authorities as being for sowing.

1003.10

- Seed

1003.90

- Other

Heading 1004

Oats.

EXPLANATORY NOTES

10.04 - Oats (+).

1004.10 - Seed

1004.90 - Other

There are two main kinds of oats: grey (or black) oats and white (or yellow) oats.

This heading covers grains with their husks as well as those which in their natural state have no husk or hull, provided they have not undergone any process other than threshing or winnowing.

The heading also covers oats from which the glume tips may have been removed during normal processing or handling (threshing, transportation, reloading, etc.).

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Subheading Explanatory Note.

Subheading 1004.10

For the purposes of subheading 1004.10, the term “seed” covers only oats regarded by the competent national authorities as being for sowing.

1004.10

- Seed

1004.90

- Other

Heading 1005

Maize (corn).

EXPLANATORY NOTES

10.05 - Maize (corn) (+).

1005.10 - Seed

1005.90 - Other

There are several kinds of maize (corn), with grains of different colours (golden yellow, white, sometimes reddish-brown or mottled), and of different shapes (round, dog-tooth shaped, flattened, etc.).

The heading **does not include** sweet corn (**Chapter 7**).

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Subheading Explanatory Note.

Subheading 1005.10

For the purposes of subheading 1005.10, the term “seed” covers only maize (corn) regarded by the competent national authorities as being for sowing.

1005.10

- Seed

1005.90

- Other

Heading 1006

Rice.

EXPLANATORY NOTES

10.06 - Rice.

1006.10 - Rice in the husk (paddy or rough)

1006.20 - Husked (brown) rice

1006.30 - Semi-milled or wholly milled rice, whether or not polished or glazed

1006.40 - Broken rice

This heading covers:

(1) **Rice in the husk** (**paddy** or **rough rice**), that is to say, rice grain still tightly enveloped by the husk.

(2) **Husked** (**brown**) **rice** (**cargo rice**) which, although the husk has been removed by mechanical hullers, is still enclosed in the pericarp. Husked rice almost always still contains a small quantity of paddy.

(3) **Semi-milled rice**, that is to say, whole rice grains from which the pericarp has been partly removed.

(4) **Wholly milled rice** (**bleached rice**), whole rice grains from which the pericarp has been removed by passage through special tapering cylinders.

Wholly milled rice may be polished and subsequently glazed to improve its appearance. The polishing process (which is designed to embellish the mat surface of the plain milled rice) is carried out in brush machines or “polishing cones”. “Glazing” consists of coating the grains with a mixture of glucose and talcum in special glazing drums.

The heading also includes “Camolino” rice, which consists of milled rice coated with a thin film of oil.

(5) **Broken rice**, i.e., rice broken during processing.

The heading also includes the following:

(a) **Enriched rice**, consisting of a mixture of ordinary milled rice grains and a very small proportion (in the order of 1 %) of rice grains coated or impregnated with vitamin substances.

(b) **Parboiled rice**, which, while still in the husk and before being subjected to other processes (e.g., husking, milling, polishing), has been soaked in hot water or steamed and then dried. At certain stages of the parboiling process, the rice may have been treated under pressure or exposed to a complete or partial vacuum.

The grain structure of parboiled rice is only modified to a minor extent by the process it has undergone. Such rice, after milling, polishing, etc., takes from 20 to 35 minutes to cook fully.

The varieties of rice which have been submitted to treatments considerably modifying the grain structure are **excluded** from this heading. Pre-cooked rice consisting of worked rice grains cooked either fully or partially and then dehydrated falls in **heading 19.04**. Partially pre-cooked rice takes 5 to 12 minutes to prepare for consumption, whereas fully pre-cooked rice needs only to be soaked in water and brought to the boil before consumption. “Puffed” rice obtained by a swelling process and ready for consumption is also classified in **heading 19.04**.

1006.10

- Rice in the husk (paddy or rough)

1006.20

- Husked (brown) rice

1006.30

- Semi-milled or wholly milled rice, whether or not polished or glazed

1006.40

- Broken rice

Heading 1007

Grain sorghum.

EXPLANATORY NOTES

10.07 - Grain sorghum (+).

1007.10 - Seed

1007.90 - Other

This heading covers only those varieties of sorghum which are known as grain sorghums and whose grains may be used as cereals for human consumption. The heading includes sorghums such as *caffrorum* (kafir), *cernuum* (white durra), *durra* (brown durra) and *nervosum* (kaoliang).

The heading **does not include** forage sorghums (which are used for making hay or silage) such as *halepensis* (halepense), grass sorghums (which are used for grazing) such as *sudanensis* (sudanense) or sweet sorghums (which are used primarily for the manufacture of syrup or molasses) such as *saccharatum*. When presented as seeds for sowing, these products are classified in **heading 12.09**. Otherwise, forage sorghums and grass sorghums fall to be classified in **heading 12.14** and sweet sorghums in **heading 12.12**. The heading also **excludes** broomcorn (*Sorghum vulgare var. technicum*), which is classified in **heading 14.04**.

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Subheading Explanatory Note.

Subheading 1007.10

For the purposes of subheading 1007.10, the term “seed” covers only grain sorghum regarded by the competent national authorities as being for sowing.

1007.10

- Seed

1007.90

- Other

Heading 1008

Buckwheat, millet and canary seeds; other cereals.

EXPLANATORY NOTES

10.08 - Buckwheat, millet and canary seeds; other cereals (+).

1008.10 - Buckwheat

- Millet:

1008.21 - - Seed

1008.29 - - Other

1008.30 - Canary seeds

1008.40 - Fonio (*Digitaria spp.*)

1008.50 - Quinoa (*Chenopodium quinoa*)

1008.60 - Triticale

1008.90 - other cereals

(A) BUCKWHEAT, MILLET AND CANARY SEED

This group covers:

(1) **Buckwheat**. This cereal, also known as black wheat, belongs to the *Polygonaceae* family, quite different from the *Gramineae* family which includes most other cereals.

(2) **Millet**, a round grain, pale-yellow in colour. It includes the following species: *Setaria spp.*,*Pennisetum spp.*, *Echinochloa spp.*, *Eleusine spp.* (including *Eleusine coracana* (Coracan)), *Panicum spp.*, *Digitaria sanguinalis* and *Eragrostis tef*.

(3) **Canary seed**, a shining straw coloured seed, elongated and pointed at both ends.

(B) OTHER CEREALS

This group includes certain hybrid grains, e.g., triticale, a cross between wheat and rye.

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Subheading Explanatory Note.

Subheading 1008.21

For the purposes of subheading 1008.21, the term “seed” covers only millet regarded by the competent national authorities as being for sowing.

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1008.10

- Buckwheat

1008.2

- Millet:

1008.21

-- Seed

1008.29

-- Other

1008.30

- Canary seeds

1008.40

- Fonio (Digitaria spp.)

1008.50

- Quinoa (Chenopodium quinoa)

CLASSIFIFCATION OPINIONS

1. Quinoa, normally used for human consumption, which has undergone the removal of the saponin layer after harvest. The saponin layer, which cannot be seen by the naked eye, is removed by washing, by mechanical processing or by a combination of both.

Application of GIRs 1 and 6.

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1008.60

- Triticale

1008.90

- Other cereals

Chapter 11

Products of the milling industry; malt; starches; inulin; wheat gluten

LEGAL NOTES

Notes.

1. - This Chapter does not cover:

(a) Roasted malt put up as coffee substitutes (heading 09.01 or 21.01);

(b) Prepared flours, groats, meals or starches of heading 19.01;

(c) Corn flakes or other products of heading 19.04;

(d) Vegetables, prepared or preserved, of heading 20.01, 20.04 or 20.05;

(e) Pharmaceutical products (Chapter 30); or

(f) Starches having the character of perfumery, cosmetic or toilet preparations (Chapter 33).

2. - (A) Products from the milling of the cereals listed in the table below fall in this Chapter if they have, by weight on the dry product:

(a) A starch content (determined by the modified Ewers polarimetric method) exceeding that indicated in Column (2); and

(b) An ash content (after deduction of any added minerals) not exceeding that indicated in Column (3).

Otherwise, they fall in heading 23.02. However, germ of cereals, whole, rolled, flaked or ground is always classified in heading 11.04.

(B) Products falling in this Chapter under the above provisions shall be classified in heading 11.01 or 11.02 if the percentage passing through a woven metal wire cloth sieve with the aperture indicated in Column (4) or (5) is not less, by weight, than that shown against the cereal concerned.

Otherwise, they fall in heading 11.03 or 11.04.

	Rate of passage through a sieve with an aperture of

Cereal (1)	Startch Content (2)	Ash content (3)	315 micrometres (microns) (4)	500 micrometres (microns) (5)
Wheat and rye	45 %	2,5 %	80 %	-
Barley	45 %	3 %	80 %	-
Oats	45 %	5 %	80 %	-
Maize (corn) and grain sorghum	45 %	2 %	-	90 %
Rice	45 %	1,6 %	80 %	-
Buckwheat	45 %	4 %	80 %	-

3. - For the purposes of heading 11.03, the terms “groats” and “meal” mean products obtained by the fragmentation of cereal grains, of which :

(a) In the case of maize (corn) products, at least 95 % by weight passes through a woven metal wire cloth sieve with an aperture of 2 mm;

(b) In the case of other cereal products, at least 95 % by weight passes through a woven metal wire cloth sieve with an aperture of 1.25 mm.

EXPLANATORY NOTES

Chapter 11

Products of the milling industry; malt; starches; inulin; wheat gluten

Notes.

1. - This Chapter does not cover:

(a) Roasted malt put up as coffee substitutes (heading 09.01 or 21.01);

(b) Prepared flours, groats, meals or starches of heading 19.01;

(c) Corn flakes or other products of heading 19.04;

(d) Vegetables, prepared or preserved, of heading 20.01, 20.04 or 20.05;

(e) Pharmaceutical products (Chapter 30); or

(f) Starches having the character of perfumery, cosmetic or toilet preparations (Chapter 33).

2. - (A) Products from the milling of the cereals listed in the table below fall in this Chapter if they have, by weight on the dry product:

(a) A starch content (determined by the modified Ewers polarimetric method) exceeding that indicated in Column (2); and

(b) An ash content (after deduction of any added minerals) not exceeding that indicated in Column (3).

Otherwise, they fall in heading 23.02. However, germ of cereals, whole, rolled, flaked or ground is always classified in heading 11.04.

(B) Products falling in this Chapter under the above provisions shall be classified in heading 11.01 or 11.02 if the percentage passing through a woven metal wire cloth sieve with the aperture indicated in Column (4) or (5) is not less, by weight, than that shown against the cereal concerned.

Otherwise, they fall in heading 11.03 or 11.04.

			Rate of passage through a sieve with an aperture of	
Cereal (1)	Startch Content (2)	Ash content (3)	315 micrometres (microns) (4)	500 micrometres (microns) (5)
Wheat and rye	45 %	2,5 %	80 %	-
Barley	45 %	3 %	80 %	-
Oats	45 %	5 %	80 %	-
Maize (corn) and grain sorghum	45 %	2 %	-	90 %
Rice	45 %	1,6 %	80 %	-

Buckwheat	45 %	4 %	80 %	-

3. - For the purposes of heading 11.03, the terms “groats” and “meal” mean products obtained by the fragmentation of cereal grains, of which :

(a) In the case of maize (corn) products, at least 95 % by weight passes through a woven metal wire cloth sieve with an aperture of 2 mm;

(b) In the case of other cereal products, at least 95 % by weight passes through a woven metal wire cloth sieve with an aperture of 1.25 mm.

GENERAL

This Chapter includes:

(1) Products from the milling of the cereals of Chapter 10 and of sweet corn of Chapter 7, **other than** milling residues of **heading 23.02**. In this context, the products from the milling of wheat, rye, barley, oats, maize (corn) (including whole cobs ground with or without their husks), grain sorghum, rice and buckwheat falling in this Chapter are to be distinguished from the residues of heading 23.02 in accordance with the criteria as to starch and ash content laid down in Chapter Note 2 (A).

Within the Chapter, as regards the cereals mentioned by name above, the flours of heading 11.01 or 11.02 are to be distinguished from the products of heading 11.03 or 11.04 in accordance with the criterion as to passage through a sieve laid down in Chapter Note 2 (B). At the same time, all cereal groats and meal of heading 11.03 must fulfil the relevant criterion as to passage through a sieve laid down in Chapter Note 3.

(2) Products also obtained from the cereals of Chapter 10 by submitting them to the processes provided for in the various headings of the Chapter, such as malting or the extraction of starch or wheat gluten.

(3) Products obtained by submitting raw materials of other Chapters (dried leguminous vegetables, potatoes, fruit, etc.) to processes similar to those indicated in paragraph (1) or (2) above.

This Chapter **excludes**, *inter alia*:

(a) Roasted malt put up as coffee substitutes (**heading 09.01** or **21.01**).

(b) Cereal husks (**heading 12.13**).

(c) Prepared flours, groats, meals or starches of **heading 19.01**.

(d) Tapioca (**heading 19.03**).

(e) Puffed rice, corn flakes and the like, obtained by swelling or roasting, and bulgur wheat in the form of worked grains (**heading 19.04**).

(f) Vegetables, prepared or preserved, of **headings 20.01**, **20.04** and **20.05**.

(g) Residues derived from the sifting, milling or other working of cereals or of leguminous plants (**heading 23.02**).

(h) Pharmaceutical products (**Chapter 30**).

(ij) Products of **Chapter 33** (see Notes 3 and 4 to Chapter 33).

Heading 1101

Wheat or meslin flour.

EXPLANATORY NOTES

11.01 - Wheat or meslin flour.

This heading covers wheat or meslin flour (i.e., the pulverised products obtained by milling the cereals of heading 10.01) which fulfil the requirements as to starch content and ash content set out in paragraph (A) of Chapter Note 2 (see General Explanatory Note) and comply with the criterion of passage through a standard sieve as required by paragraph (B) of that Note.

Flours of this heading may be improved by the addition of very small quantities of mineral phosphates, anti-oxidants, emulsifiers, vitamins or prepared baking powders (self-raising flour). Wheat flour may be further enriched by an addition of gluten, generally not exceeding 10 %.

The heading also covers “swelling” (pregelatinised) flours which have been heat treated to pregelatinise the starch. They are used for making preparations of heading 19.01, bakery improvers or animal feeds or in certain industries such as the textile or paper industries or in metallurgy (for the preparation of foundry core binders).

Flours which have been further processed or had other substances added with a view to their use as food preparations are **excluded** (generally **heading 19.01**).

The heading also **excludes** flours mixed with cocoa (**heading 18.06** if they contain 40 % or more by weight of cocoa calculated on a totally defatted basis, or **heading 19.01** if less).

1101.00

Wheat or meslin flour.

Heading 1102

Cereal flours other than of wheat or meslin.

EXPLANATORY NOTES

11.02 - Cereal flours other than of wheat or meslin.

1102.20 - Maize (corn) flour

1102.90 - Other

This heading covers flours (i.e., the pulverised products obtained by milling the cereals of Chapter 10) **other than** flours of wheat or meslin.

Products of the milling of rye, barley, oats, maize (corn) (including whole cobs ground with or without their husks) grain sorghum, rice or buckwheat are classified in this heading as flours if they fulfil the requirements as to starch content and ash content set out in paragraph (A) of Chapter Note 2 (see General Explanatory Note) and comply with the criterion of passage through a standard sieve as required by paragraph (B) of that Note.

Flours of this heading may be improved by the addition of very small quantities of mineral phosphates, anti-oxidants, emulsifiers, vitamins or prepared baking powders (self-raising flour).

The heading also covers “swelling” (pregelatinised) flours which have been heat treated to pregelatinise the starch. They are used for making preparations of heading 19.01, bakery improvers or animal feeds or in certain industries such as the textile or paper industries or in metallurgy (for the preparation of foundry core binders).

Flours which have been further processed or had other substances added with a view to their use as food preparations are **excluded** (generally **heading 19.01**).

The heading also **excludes** flours mixed with cocoa (**heading 18.06** if they contain 40 % or more by weight of cocoa calculated on a totally defatted basis, or **heading 19.01** if less).

1102.20

- Maize (corn) flour

1102.90

- Other

Heading 1103

Cereal groats, meal and pellets.

EXPLANATORY NOTES

11.03 - Cereal groats, meal and pellets.

- Groats and meal:

1103.11 - - of wheat

1103.13 - - of maize (corn)

1103.19 - - of other cereals

1103.20 - Pellets

The cereal groats and meal of this heading are products, obtained by the fragmentation of cereal grains (including whole maize (corn) cobs ground with or without their husks), which, where appropriate, fulfil the requirements as to starch and ash content laid down in Chapter Note 2 (A) and which in all cases comply with the relevant criterion as to passage through a sieve laid down in Chapter Note 3.

As regards the distinction to be made between the flours of heading 11.01 or 11.02, the groats and meal of this heading and the products of heading 11.04, see the General Explanatory Note to the Chapter (Item (1), second paragraph).

Cereal groats are small fragments or floury kernels obtained by the rough grinding of grains.

Meal is a more granular product than flour and is obtained either from the first sifting after the initial milling operation, or by re-grinding and re-sifting the groats resulting from that initial milling.

Durum wheat meal, or semolina, is the principal raw material in the manufacture of macaroni, spaghetti or the like. Semolina is also used directly as a foodstuff (e.g., in making semolina puddings).

This heading also includes meal (e.g., of maize (corn)) pregelatinised by heat treatment, used, for instance, as an additive in brewing.

Pellets are products from the milling of cereals of this Chapter which have been agglomerated either directly by compression or by the addition of a binder in a proportion not exceeding 3 % by weight (see Note 1 to Section II). The heading **does not cover** pelletised residues derived from the milling of cereals (**Chapter 23**).

1103.1

- Groats and meal:

1103.11

-- Of wheat

1103.13

-- Of maize (corn)

1103.19

-- Of other cereals

1103.20

- Pellets

Heading 1104

Cereal grains otherwise worked (for example, hulled, rolled, flaked, pearled, sliced or kibbled), except rice of heading 10.06; germ of cereals, whole, rolled, flaked or ground.

EXPLANATORY NOTES

1.04 - Cereal grains otherwise worked (for example, hulled, rolled, flaked, pearled, sliced or kibbled), except rice of heading 10.06; germ of cereals, whole, rolled, flaked or ground.

- Rolled or flaked grains:

1104.12 - - of oats

1104.19 - - of other cereals

- Other worked grains (for example, hulled, pearled, sliced or kibbled):

1104.22 - - of oats

1104.23 - - of maize (corn)

1104.29 - - of other cereals

1104.30 - Germ of cereals, whole, rolled, flaked or ground

This heading covers all unprepared milling products of cereals, **except** flours (**headings 11.01** and **11.02**), groats, meal and pellets (**heading 11.03**), and residues (**heading 23.02**). As regards the distinction to be made between the products of this heading and the **exceptions** referred to, see Item (1) of the General Explanatory Note to the Chapter.

This heading covers:

(1) **Rolled or flaked grain** (e.g., barley or oats), obtained by crushing or rolling the whole grain (whether or not dehulled) or kibbled grain or the products described in Items (2) and (3) below and in Items (2) to (5) of the Explanatory Note to heading 10.06. In this process, the grain is usually steam-heated or rolled between heated rollers. Breakfast foods of the “corn flakes” type are cooked preparations ready for consumption and therefore fall, like similar cooked cereals, in **heading 19.04**.

(2) **Oats, buckwheat and millet** from which the husk but not the pericarp has been removed.

However, the heading **does not cover** oats which in their natural state have no husk or hull, provided they have not undergone any process other than threshing or winnowing (**heading 10.04**).

(3) **Grain which has been hulled or otherwise worked** to remove wholly or partly the pericarp (the skin beneath the husk). The floury kernel may then be visible. Grains of the bracteiferous varieties of barley are also classified in this heading if their husks (or hulls) have been removed. (The husks

can be removed only by grinding since they adhere too firmly to the grain kernel to be separated by mere threshing or winnowing - see the Explanatory Note to heading 10.03).

(4) **Pearled grains** (principally barley), i.e., grain from which practically the whole pericarp has been removed; these are more rounded at the ends.

(5) **Kibbled grain**, i.e., grain (whether or not dehulled) cut or broken into fragments and differing from groats in that the fragments are coarser and more irregular.

(6) **Germ of cereals**, separated from the grain in the first stage of milling, which leaves the germ whole or slightly flattened (rolled). In order to improve its keeping qualities, the germ may be partly defatted or heat treated. Depending on the use to which it is to be put, the germ is flaked or ground (coarsely or as flour) and vitamins may be added, e.g., to compensate for losses during the treatment.

Whole or rolled germ is generally used for the extraction of oil. Flaked or ground germ is used for foodstuffs (biscuits or other bakers' wares, dietetic preparations), animal feeds (manufacture of feed supplements) or in the manufacture of pharmaceutical preparations.

The residues resulting from the extraction of oil from cereal germ are to be classified in **heading 23.06**.

The heading also **excludes**:

(a) Husked, semi-milled or wholly milled rice, whether or not polished, glazed, or parboiled, and broken rice (**heading 10.06**).

(b) Quinoa from which the pericarp has been wholly or partly removed in order to separate the saponin, but which has not undergone any other processes (**heading 10.08**)

(c) Bulgur wheat in the form of worked grains (**heading 19.04**).

1104.1

- Rolled or flaked grains:

1104.12

-- Of oats

1104.19

-- Of other cereals

1104.2

- Other worked grains (for example, hulled, pearled, sliced or kibbled):

1104.22

-- Of oats

1104.23

-- Of maize (corn)

1104.29

-- Of other cereals

1104.30

- Germ of cereals, whole, rolled, flaked or ground

Heading 1105

Flour, meal, powder, flakes, granules and pellets of potatoes.

EXPLANATORY NOTES

11.05 - Flour, meal, powder, flakes, granules and pellets of potatoes.

1105.10 - Flour, meal and powder

1105.20 - Flakes, granules and pellets

This heading applies to dried potatoes presented as flour, meal, powder, flakes, granules or pellets. The flour, powder, flakes and granules of the heading may be obtained by steam-cooking and mashing fresh potatoes and subsequent drying of the resulting mash either to a flour, powder or granules or to thin sheets which are cut into small flakes. The pellets of the heading are usually obtained by agglomeration of flour, meal, powder or pieces of potato.

Products of this heading may be improved by the addition of very small amounts of anti-- oxidants, emulsifiers or vitamins.

However, the heading **excludes** products to which other substances have been added so that they take on the characteristics of potato preparations.

The heading also **excludes**:

(a) Potatoes which have been simply dried, dehydrated or evaporated, without further processing (**heading 07.12**).

(b) Potato starch (**heading 11.08**).

(c) Tapioca substitutes prepared from potato starch (**heading 19.03**).

1105.10

- Flour, meal and powder

1105.20

- Flakes, granules and pellets

Heading 1106

Flour, meal and powder of the dried leguminous vegetables of heading 07.13, of sago or of roots or tubers of heading 07.14 or of the products of Chapter 8.

EXPLANATORY NOTES

11.06 - Flour, meal and powder of the dried leguminous vegetables of heading 07.13, of sago or of roots or tubers of heading 07.14 or of the products of Chapter 8.

1106.10 - Of the dried leguminous vegetables of heading 07.13

1106.20 - Of sago or of roots or tubers of heading 07.14

1106.30 - Of the products of Chapter 8

(A) **Flour, meal and powder of the dried leguminous vegetables of heading 07.13.**

This heading includes the flour, meal and powder made from peas, beans or lentils; they are mainly used for prepared soups or purées.

The heading **does not cover**:

(a) Non-defatted soya flour (**heading 12.08**).

(b) Locust bean flour (**heading 12.12**).

(c) Soups and broths (whether in liquid, solid or powder form), with a basis of vegetable flours or meals (**heading 21.04**).

(B) **Flour, meal and powder of sago or of roots or tubers of heading 07.14.**

These products are obtained by the simple grinding or grating of the pith of the sago palm or of the dried roots of the manioc, etc. Some of these products are often subjected to heat treatment in the course of manufacture to eliminate toxic substances; this treatment may entail pregelatinisation of the starch.

The heading **does not cover** starches obtained from these sources (it should be noted that the starch obtained from sago is sometimes called “sago flour”). These starches fall in **heading 11.08** and can be distinguished from the flours of this heading, because flours, unlike starches, do not crackle when rubbed between the fingers. Pelletised flour, meal and powder of sago or of roots or tubers of heading 07.14 are also **excluded** (**heading 07.14**).

(C) **Flour, meal and powder of the products of Chapter 8.**

The principal fruits or nuts of Chapter 8 which are made into flours, meals or powders are chestnuts, almonds, dates, bananas, coconuts and tamarinds.

The heading also includes flour, meal and powder of peel of fruits.

However, the heading **does not cover** tamarind powder in packings for retail sale for prophylactic or therapeutic purposes (**heading 30.04**).

Products of this heading may be improved by the addition of very small amounts of anti-oxidants or emulsifiers.

The heading also **excludes**:

(a) Sago pith (**heading 07.14**).

(b) Prepared foodstuffs known as tapioca (**heading 19.03**).

1106.10

- Of the dried leguminous vegetables of heading 07.13

1106.20

- Of sago or of roots or tubers of heading 07.14

1106.30

- Of the products of Chapter 8

Heading 1107

Malt, whether or not roasted.

EXPLANATORY NOTES

11.07 - Malt, whether or not roasted.

1107.10 - Not roasted

1107.20 - Roasted

Malt is germinated grain (most frequently barley), which is usually subsequently dried in hot-air kilns (malt-kilns).

It has faint wrinkles running from end to end and is brownish-yellow outside and white inside. It leaves tracing marks like chalk and, unlike non-malted grain, it usually floats on water and is also friable. Malt has a characteristic odour of cooked grain and a faintly sweetened flavour.

This heading covers whole malt, ground malt and malt flour. It also covers roasted malt (e.g., for colouring beers), but it **excludes** products which have undergone further processing, such as malt extract and food preparations of malt extract of **heading 19.01** and roasted malt put up as coffee substitutes (**heading 21.01**).

1107.10

- Not roasted

1107.20

- Roasted

Heading 1108

Starches; inulin.

EXPLANATORY NOTES

11.08 - Starches; inulin.

- Starches:

1108.11 - - Wheat starch

1108.12 - - Maize (corn) starch

1108.13 - - Potato starch

1108.14 - - Manioc (cassava) starch

1108.19 - - other starches

1108.20 - Inulin

Starches, which chemically are carbohydrates, are contained in the cells of many vegetable products. The most important sources of starch are the cereal grains (e.g., maize (corn), wheat and rice), certain lichens, certain tubers and roots (potato, manioc, arrowroot, etc.) and the pith of the sago palm.

Starches are white odourless powders composed of fine grains which crackle when rubbed between the fingers. They generally give an intense dark blue colour with iodine (**except** amylopectin starches, where the colour is reddish brown). Viewed under the microscope in polarised light the grains display characteristic dark polarisation crosses. They are insoluble in cold water, but, if heated in water to above their gelatinisation temperature (about 60 °C for most starches), the grains break up and a starch paste is formed. Starches are commercially processed to give a wide range of products classified under other headings, e.g., modified starch, roasted soluble starch, dextrin, malto-dextrin, dextrose, glucose. They are also used as such in a wide variety of industries, especially the food, paper, paper converting and textile industries.

The heading also includes **inulin**; this is chemically similar to starch but gives a light yellowish-brown coloration with iodine instead of blue. It is extracted from Jerusalem artichokes, dahlia roots and chicory roots. When hydrolised by long boiling in water it forms fructose (laevulose).

This heading **excludes**, *inter alia*:

(a) Starch preparations of **heading 19.01**.

(b) Tapioca and substitutes therefore prepared from starches (see the Explanatory Note to **heading 19.03**).

(c) Starches put up as perfumery or toilet preparations (**Chapter 33**).

(d) Dextrins and other modified starches of **heading 35.05**.

(e) Glues based on starch (**heading 35.05** or **35.06**).

(f) Prepared glazings or dressings made from starch (**heading 38.09**).

(g) Isolated amylopectin and isolated amylose obtained by the fractionation of starch (**heading 39.13**).

1108.1

- Starches:

1108.11

-- Wheat starch

1108.12

-- Maize (corn) starch

1108.13

-- Potato starch

1108.14

-- Manioc (cassava) starch

1108.19

-- Other starches

1108.20

- Inulin

Heading 1109

Wheat gluten, whether or not dried.

EXPLANATORY NOTES

11.09 - Wheat gluten, whether or not dried.

Gluten is extracted from wheat flour by simple aqueous separation from the other constituents (starch, etc.). It comes in the form of a whitish viscous liquid or paste ("moist" gluten) or a cream-coloured powder (dry gluten).

It consists essentially of a mixture of various proteins, the main ones being **gliadin** and **glutenin** (which account for 85 to 95 % of the total). The presence of these two proteins is characteristic of wheat gluten, which owes to them its elasticity and plasticity when mixed with water in suitable proportions.

Gluten is used mainly to enrich in proteins flours used in making certain types of bread or biscuits, of macaroni or similar products or of dietetic preparations. It is also used as a binder in certain meat preparations, for the manufacture of certain glues or of products such as gluten sulphate or gluten phosphate, hydrolysed vegetable proteins or sodium glutamate.

The heading **excludes**, *inter alia*:

(a) Wheat flour enriched by the addition of gluten (**heading 11.01**).

(b) Proteins extracted from wheat gluten (generally **heading 35.04**).

(c) Wheat gluten prepared for use as a glue or as a glazing or dressing for the textile industry (**heading 35.06** or **38.09**).

1109.00

Wheat gluten, whether or not dried.

Chapter 12

Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder

LEGAL NOTES

Notes.

1.- Heading 12.07 applies, *inter alia*, to palm nuts and kernels, cotton seeds, castor oil seeds, sesamum seeds, mustard seeds, safflower seeds, poppy seeds and shea nuts (karite nuts). It does not apply to products of heading 08.01 or 08.02 or to olives (Chapter 7 or Chapter 20).

2. - Heading 12.08 applies not only to non-defatted flours and meals but also to flours and meals which have been partially defatted or defatted and wholly or partially refatted with their original oils. It does not, however, apply to residues of headings 23.04 to 23.06.

3.- For the purposes of heading 12.09, beet seeds, grass and other herbage seeds, seeds of ornamental flowers, vegetable seeds, seeds of forest trees, seeds of fruit trees, seeds of vetches (other than those of the species *Vicia faba*) or of lupines are to be regarded as “seeds of a kind used for sowing”.

Heading 12.09 does not, however, apply to the following even if for sowing:

(a) Leguminous vegetables or sweet corn (Chapter 7);

(b) Spices or other products of Chapter 9;

(c) Cereals (Chapter 10); or

(d) Products of headings 12.01 to 12.07 or 12.11.

4. - Heading 12.11 applies, *inter alia*, to the following plants or parts thereof: basil, borage, ginseng, hyssop, liquorice, all species of mint, rosemary, rue, sage and wormwood.

Heading 12.11 does not, however, apply to:

(a) Medicaments of Chapter 30;

(b) Perfumery, cosmetic or toilet preparations of Chapter 33; or

(c) Insecticides, fungicides, herbicides, disinfectants or similar products of heading 38.08.

5. - For the purposes of heading 12.12, the term “seaweeds and other algae” does not include:

(a) Dead single-cell micro-organisms of heading 21.02;

(b) Cultures of micro-organisms of heading 30.02; or

(c) Fertilisers of heading 31.01 or 31.05.

Subheading Note.

1.- For the purposes of subheading 1205.10, the expression “low erucic acid rape or colza seeds” means rape or colza seeds yielding a fixed oil which has an erucic acid content of less than 2 % by weight and yielding a solid component which contains less than 30 micromoles of glucosinolates per gram.

EXPLANATORY NOTES

Chapter 12

Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder

Notes.

1.- Heading 12.07 applies, *inter alia*, to palm nuts and kernels, cotton seeds, castor oil seeds, sesamum seeds, mustard seeds, safflower seeds, poppy seeds and shea nuts (karite nuts). It does not apply to products of heading 08.01 or 08.02 or to olives (Chapter 7 or Chapter 20).

2. - Heading 12.08 applies not only to non-defatted flours and meals but also to flours and meals which have been partially defatted or defatted and wholly or partially refatted with their original oils. It does not, however, apply to residues of headings 23.04 to 23.06.

3.- For the purposes of heading 12.09, beet seeds, grass and other herbage seeds, seeds of ornamental flowers, vegetable seeds, seeds of forest trees, seeds of fruit trees, seeds of vetches (other than those of the species *Vicia faba*) or of lupines are to be regarded as “seeds of a kind used for sowing”.

Heading 12.09 does not, however, apply to the following even if for sowing:

(a) Leguminous vegetables or sweet corn (Chapter 7);

(b) Spices or other products of Chapter 9;

(c) Cereals (Chapter 10); or

(d) Products of headings 12.01 to 12.07 or 12.11.

4. - Heading 12.11 applies, *inter alia*, to the following plants or parts thereof: basil, borage, ginseng, hyssop, liquorice, all species of mint, rosemary, rue, sage and wormwood.

Heading 12.11 does not, however, apply to:

(a) Medicaments of Chapter 30;

(b) Perfumery, cosmetic or toilet preparations of Chapter 33; or

(c) Insecticides, fungicides, herbicides, disinfectants or similar products of heading 38.08.

5. - For the purposes of heading 12.12, the term “seaweeds and other algae” does not include:

(a) Dead single-cell micro-organisms of heading 21.02;

(b) Cultures of micro-organisms of heading 30.02; or

(c) Fertilisers of heading 31.01 or 31.05.

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Subheading Note.

1.- For the purposes of subheading 1205.10, the expression “low erucic acid rape or colza seeds” means rape or colza seeds yielding a fixed oil which has an erucic acid content of less than 2 % by weight and yielding a solid component which contains less than 30 micromoles of glucosinolates per gram.

GENERAL

Headings 12.01 to 12.07 cover seeds and fruits of a kind used for the extraction (by pressure or by solvents) of edible or industrial oils and fats, whether they are presented for that purpose, for sowing or for other purposes. These headings **do not**, however, **include** products of **heading 08.01** or **08.02**, olives (**Chapter 7** or **20**) or certain seeds and fruits from which oil may be extracted but which are primarily used for other purposes, e.g., apricot, peach or plum kernels (**heading 12.12**) and cocoa beans (**heading 18.01**).

The seeds and fruits covered by the heading may be whole, broken, crushed, husked or shelled. They may also have undergone heat treatment designed mainly to ensure better preservation (e.g., by inactivating the lipolytic enzymes and eliminating part of the moisture), for the purpose of de-bittering, for inactivating antinutritional factors or to facilitate their use. However, such treatment is permitted **only if** it does not alter the character of the seeds and fruits as natural products and does not make them suitable for a specific use rather than for general use.

The headings **exclude** solid residues resulting from the extraction of vegetable oil from oil seeds or oleaginous fruits (including defatted flours and meals) (**heading 23.04**, **23.05** or **23.06**).

Heading 1201

Soya beans, whether or not broken.

EXPLANATORY NOTES

12.01 - Soya beans, whether or not broken (+).

1201.10 - Seed

1201.90 - Other

Soya beans are very important source of vegetable oil. The soya beans of this heading may be heat-treated for the purpose of de-bittering (see General Explanatory Note).

However, the heading **excludes** roasted soya beans used as a coffee substitute (**heading 21.01**).

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Subheading Explanatory Note.

Subheading 1201.10

For the purposes of subheading 1201.10, the term “seed” covers only soya beans regarded by the competent national authorities as being for sowing.

1201.10

- Seed

1201.90

- Other

Heading 1202

Ground-nuts, not roasted or otherwise cooked, whether or not shelled or broken.

EXPLANATORY NOTES

12.02 - Ground-nuts, not roasted or otherwise cooked, whether or not shelled or broken (+).

1202.30 - Seed

- Other:

1202.41 - - in shell

1202.42 - - Shelled, whether or not broken

This heading covers ground-nuts (also known as peanuts), whether or not shelled or broken, which are **not** roasted or otherwise cooked. The ground-nuts of this heading may be heat-treated to ensure better preservation (see the General Explanatory Note). Roasted or otherwise cooked ground-nuts fall in **Chapter 20**.

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Subheading Explanatory Note.

Subheading 1202.30

For the purposes of subheading 1202.30, the term “seed” covers only ground-nuts regarded by the competent national authorities as being for sowing.

1202.30

- Seed

1202.4

- Other:

1202.41

-- In shell

1202.42

-- Shelled, whether or not broken

CLASSIFICATION OPINIONS

1. Dry-blanched ground-nuts - shelled ground-nuts, heattreated to crack and loosen the skins. After cooling, the seeds are passed through brushes or ribbed rubber belting to rub off the skins. The ground-nuts have a moisture content not less than 4 % by weight and are positive for catalase and peroxidase enzymatic activity.

Application of GIRs 1 and 6.

Adoption: 2019

Heading 1203

Copra.

EXPLANATORY NOTES

12.03 - Copra.

Copra is the dried flesh of coconut used for the expression of coconut oil and unsuitable for human consumption.

This heading **does not include** desiccated coconut, i.e., the dried and shredded flesh of coconut suitable for human consumption (**heading 08.01**).

1203.00

Copra.

Heading 1204

Linseed, whether or not broken.

EXPLANATORY NOTES

12.04 - Linseed, whether or not broken.

Linseed, i.e., the seed of the flax plant, is the source of one of the most important of the drying oils.

1204.00

Linseed, whether or not broken.

Heading 1205

Rape or colza seeds, whether or not broken.

EXPLANATORY NOTES

12.05 - Rape or colza seeds, whether or not broken.

1205.10 - Low erucic acid rape or colza seeds

1205.90 - Other

This heading includes rape or colza seeds (the seeds of several species of *Brassica*, particularly *B. napus* and *B. rapa* (or *B. campestris*)). The heading covers both the traditional rape or colza seeds and the low erucic acid rape or colza seeds. Low erucic acid rape or colza seeds, e.g., canola seeds or the European rape or colza seeds “double zero”, yield a fixed oil which has a total erucic acid content of less than 2 % by weight and yield a solid component which contains less than 30 micromoles of glucosinolates per gram.

1205.10

- Low erucic acid rape or colza seeds

1205.90

- Other

Heading 1206

Sunflower seeds, whether or not broken.

EXPLANATORY NOTES

12.06 - Sunflower seeds, whether or not broken.

This heading covers the seeds of the common sunflower (*Helianthus annuus*).

1206.00

Sunflower seeds, whether or not broken.

Heading 1207

Other oil seeds and oleaginous fruits, whether or not broken.

EXPLANATORY NOTES

12.07 - other oil seeds and oleaginous fruits, whether or not broken (+).

1207.10 - Palm nuts and kernels

- Cotton seeds:

1207.21 - - Seed

1207.29 - - Other

1207.30 - Castor oil seeds

1207.40 - Sesamum seeds

1207.50 - Mustard seeds

1207.60 - Safflower (*Carthamus tinctorius*) seeds

1207.70 - Melon seeds

- Other:

1207.91 - - Poppy seeds

1207.99 - - Other

This heading covers seeds and fruits of a kind used for the extraction of edible or industrial oils and fats, **other than** those specified in **headings 12.01 to 12.06** (see also General Explanatory Note).

The heading covers, *inter alia*:

Babassu kernels	Mowra seeds
Beech nuts	Mustard seeds
Candlenuts	Niger seeds
Carapa nuts (e.g., touloucouna nuts)	Oiticica seeds
Castor oil seeds	Palm nuts and kernels
Chaulmoogra seeds	Perilla seeds
Cotton seeds	Physic (pulza) nuts
Croton seeds	Poppy seeds
Evening primrose seeds of the species *Oenothera biennis* and *Oenothera lamarckiana*	Safflower seeds
Grape pips	Sesamum seeds
Hemp seeds	Shea nuts (Karite nuts)
Illipe seeds	Stillingia seeds
Kapok seeds	Tea seeds
	Tung nuts (or oleococca seeds)

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Subheading Explanatory Note.

Subheading 1207.21

For the purposes of subheading 1207.21, the term “seed” covers only cotton seeds regarded by the competent national authorities as being for sowing.

1207.10

- Palm nuts and kernels

1207.2

- Cotton seeds:

1207.21

-- Seed

1207.29

-- Other

1207.30

- Castor oil seeds

1207.40

- Sesamum seeds

1207.50

- Mustard seeds

1207.60

- Safflower (Carthamus tinctorius) seeds

1207.70

- Melon seeds

1207.9

- Other:

1207.91

-- Poppy seeds

1207.99

-- Other

Heading 1208

Flours and meals of oil seeds or oleaginous fruits, other than those of mustard.

EXPLANATORY NOTES

12.08 - Flours and meals of oil seeds or oleaginous fruits, other than those of mustard.

1208.10 - of soya beans

1208.90 - Other

This heading covers non-defatted or partially defatted flours or meals obtained by grinding the oil seeds or oleaginous fruits covered by headings 12.01 to 12.07. It also includes flours and meals defatted and wholly or partially refatted with their original oils (see Note 2 to this Chapter).

The heading **excludes**:

(a) Peanut butter (**heading 20.08**).

(b) Mustard flour and meal, whether or not defatted, prepared or not (**heading 21.03**).

(c) Defatted flours and meals (other than those of mustard) (**headings 23.04 to 23.06**).

1208.10

- Of soya beans

1208.90

- Other

Heading 1209

Seeds, fruit and spores, of a kind used for sowing.

EXPLANATORY NOTES

12.09 - Seeds, fruit and spores, of a kind used for sowing.

1209.10 - Sugar beet seeds

- Seeds of forage plants:

1209.21 - - Lucerne (alfalfa) seeds

1209.22 - - Clover *(Trifolium spp.)* seeds

1209.23 - - Fescue seeds

1209.24 - - Kentucky blue grass *(Poa pratensis L.)* seeds

1209.25 - - Rye grass *(Lolium multiflorum Lam., Lolium perenne L.)* seeds

1209.29 - - Other

1209.30 - Seeds of herbaceous plants cultivated principally for their flowers

- Other:

1209.91 - - Vegetable seeds

1209.99 - - Other

This heading covers all seeds, fruit and spores of a kind used for sowing. It includes such products even if they are no longer capable of germination. However, it **does not include** products such as those mentioned at the end of this Explanatory Note, which, although intended for sowing, are classified elsewhere in the Nomenclature because they are normally used other than for sowing.

The heading includes beet seeds, grass or other herbage seeds (lucerne, sainfoin, clover, fescue, rye grass, Kentucky blue grass, timothy grass, etc.), seeds of ornamental flowers, vegetable seeds, seeds of forest trees (including pine cones bearing seeds), seeds of fruit trees, seeds of vetches (**other than** those of the species *Vicia faba*, i.e., broad beans and horse beans), seeds of lupines, tamarind seeds, tobacco seeds, and seeds (**not themselves** used primarily in perfumery, in pharmacy or for insecticidal, fungicidal or similar purposes) of plants yielding the products of heading 12.11.

Products of this heading (especially grass seeds) may be dispersed with fine fertiliser particles on a paper backing and covered with a fine layer of wadding held in place by a reinforcing mesh of plastics.

The heading **excludes**:

(a) Mushroom spawn (**heading 06.02**).

(b) Leguminous vegetables and sweet corn (**Chapter 7**).

(c) Fruit of **Chapter 8**.

(d) Spices and other products of **Chapter 9**.

(e) Cereal grains (**Chapter 10**).

(f) Oil seeds and oleaginous fruits of **headings 12.01 to 12.07**.

(g) Seeds and fruit which **are themselves** of a kind used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal or similar purposes (**heading 12.11**).

(h) Locust beans (**heading 12.12**).

1209.10

- Sugar beet seeds

1209.2

- Seeds of forage plants:

1209.21

-- Lucerne (alfalfa) seeds

1209.22

-- Clover (Trifolium spp.) seeds

1209.23

-- Fescue seeds

1209.24

-- Kentucky blue grass (Poa pratensis L.) seeds

1209.25

-- Rye grass (Lolium multiflorum Lam., Lolium perenne L.) seeds

1209.29

-- Other

1209.30

- Seeds of herbaceous plants cultivated principally for their flowers

1209.9

- Other :

1209.91

-- Vegetable seeds

CLASSIFICATION OPINIONS

1. Seeds for sowing, separated from fruit of the genus *Capsicum*, cleaned and treated with the fungicide Thiram.

Application of GIRs 1 and 6.

Adoption: 2017

1209.99

-- Other

Heading 1210

Hop cones, fresh or dried, whether or not ground, powdered or in the form of pellets; lupulin.

EXPLANATORY NOTES

12.10 - Hop cones, fresh or dried, whether or not ground, powdered or in the form of pellets; lupulin.

1210.10 - Hop cones, neither ground nor powdered nor in the form of pellets

1210.20 - Hop cones, ground, powdered or in the form of pellets; lupulin

Hop conesare the scaly cone-like catkins or flowers of the hop plant (*Humulus lupulus*). They are used mainly in the brewing industry to give flavour to the beer, but they are also used for medicinal purposes. The cones fall in this heading whether fresh or dried and whether or not ground or powdered or in the form of pellets (i.e., agglomerated either directly by compression or by the addition of a binder in a proportion not exceeding 3 % by weight).

Lupulin is a yellow resinous powder which covers the hop cones and contains the bitter, aromatic principle which gives hops their characteristic properties. It is used in brewing as a partial substitute for hops and in medicine. It may be separated from the hops mechanically after drying.

The heading **excludes**:

(a) Extract of hops (**heading 13.02**).

(b) Spent hops (**heading 23.03**).

(c) The essential oil of hops (**heading 33.01**).

1210.10

- Hop cones, neither ground nor powdered nor in the form of pellets

1210.20

- Hop cones, ground, powdered or in the form of pellets; lupulin

Heading 1211

Plants and parts of plants (including seeds and fruits), of a kind used primarily in perfumery, in pharmacy or for insecticidal, fungicidal or similar purposes, fresh, chilled, frozen or dried, whether or not cut, crushed or powdered.

EXPLANATORY NOTES

12.11 - Plants and parts of plants (including seeds and fruits), of a kind used primarily in perfumery, in pharmacy or for insecticidal, fungicidal or similar purposes, fresh, chilled, frozen or dried, whether or not cut, crushed or powdered.

1211.20 - Ginseng roots

1211.30 - Coca leaf

1211.40 - Poppy straw

1211.50 - Ephedra

1211.60 - Bark of African cherry (*Prunus africana*)

1211.90 - Other

This heading covers vegetable products of a kind used primarily in perfumery, in pharmacy or medicine, or for insecticidal, fungicidal, parasiticidal or similar purposes. They may be in the form of whole plants, mosses or lichens, or of parts (such as wood, bark, roots, stems, leaves, flowers, petals, fruits and seeds (**other than** oleaginous fruits and oil seeds classified in **headings 12.01 to 12.07**)), or in the form of waste resulting, in the main, from mechanical treatment. They remain in the heading whether fresh, chilled, frozen or dried, whole, cut, crushed, ground or powdered or (where appropriate) grated or hulled. Products of this heading impregnated with alcohol remain classified here.

Plants and parts (including seeds and fruits) of trees, bushes, shrubs or other plants are classified here if of a kind used directly for the purposes specified above or if used for the production of extracts, alkaloids or essential oils suitable for those purposes. On the other hand, the heading **excludes** seeds and fruits of a kind used for the extraction of fixed oils; these fall in **headings 12.01 to 12.07** even if the oils are to be used for the purposes mentioned in this heading.

It should also be noted that vegetable products more specifically described in other headings of the Nomenclature are **excluded** from this heading, even if they are suitable for use in perfumery, pharmacy, etc., e.g.: citrus fruit peel (**heading 08.14**); vanilla, cloves, aniseed, badian and other products of **Chapter 9**; hop cones (**heading 12.10**); chicory roots of **heading 12.12**; natural gums, resins, gum-resins and oleoresins (**heading 13.01**).

Live chicory plants and roots and other live seedling plants, bulbs, rhizomes, etc., clearly intended for planting, and flowers, foliage, etc., for ornamental purposes, fall in **Chapter 6**.

It should be noted that woods of a kind used primarily in perfumery, in pharmacy or for insecticidal, fungicidal or similar purposes are classified in this heading only if in chips, in shavings or in crushed, ground or powdered form. In other forms, such wood is **excluded** (**Chapter 44**).

Certain plants or parts of plants (including seeds or fruits) of this heading may be put up (e.g., in sachets) for making herbal infusions or herbal "teas". Such products consisting of plants or parts of plants (including seeds or fruits) of a single species (e.g., peppermint "tea") remain classified in this heading.

However, the heading **excludes** such products consisting of plants or parts of plants (including seeds or fruits) of different species (whether or not incorporating plants or plant parts of other headings) or consisting of plants or parts of plants of a single or of different species mixed with other substances, such as one or more plant extracts (**heading 21.06**).

It should also be noted that the following products fall in **headings 30.03**, **30.04**, **33.03 to 33.07** or **38.08**, as the case may be:

(a) Products of this heading, unmixed, but put up in measured doses or in forms or packings for retail sale, whether for therapeutic or prophylactic purposes, or put up for retail sale as perfumery products or as insecticidal, fungicidal or similar products.

(b) Products which have been mixed for use for the purposes described in (a) above.

However, the classification of vegetable products in this heading, by virtue of their being used primarily in pharmacy, **does not necessarily imply** that they may be regarded as medicaments of heading 30.03 or 30.04 when they are mixed, or unmixed but put up in measured doses or in forms or packings for retail sale. While the term "medicaments" within the meaning of heading 30.03 or 30.04 refers only to products which have therapeutic or prophylactic uses, the broader term "pharmacy" has reference both to medicaments and to products having no therapeutic or prophylactic uses (e.g., tonic beverages, fortified foods, blood-grouping reagents).

This heading also **excludes**:

(a) Mixtures consisting of different species of plants or parts of plants of this heading of a kind used for seasoning sauces (**heading 21.03**);

(b) The following products of a kind used either directly for flavouring beverages or for preparing extracts for the manufacture of beverages.

(i) Mixtures consisting of different species of plants or parts of plants of this heading (**heading 21.06**); and

(ii) Mixtures of plants or parts of plants of this heading with vegetable products falling in other Chapters (e.g., Chapters 7, 9, 11) (**Chapter 9** or **heading 21.06**).

The following products are included in the heading:

Aconite (*Aconitum napellus*): roots and leaves.

Ambrette (**musk**) (*Hibiscus abelmoschus*): seeds.

Angelica (*Archangelica officinalis*): roots and seeds.

Angostura (*Galipea officinalis*): bark.

Araroba (*Andira araroba*) : powder.

Arnica (*Arnica montana*) : roots, stems, leaves and flowers.

Basil (*Ocimum basilicum*) : flowers and leaves.

Bearberry (*Uva ursi*) : leaves.

Belladonna (*Atropa belladonna*) : herbs, roots, berries, leaves and flowers.

Boldo (*Peumus boldus*) : leaves.

Borage (*Borago officinalis*) : stems and flowers.

Bryony (*Bryonia dioica*) : roots.

Buchu (*Barosma betulina, Barosma serratifolia* and *Barosma crenulata*) : leaves.

Buckbean (*Menyanthes trifoliata*) : leaves.

Burdock (*Arctium lappa*) : Seeds and dried roots.

Calabar (*Physostigma venenosum*) : beans.

Calamus (*Acorus calamus*) : roots.

Calumba (*Jateorhiza palmata*) : roots.

Cannabis (*Cannabis sativa*) : herbs.

Cascara sagrada (*Rhamnus purshiana*) : bark.

Cascarilla (*Croton eluteria*) : bark.

Cassia (*Cassia fistula*) : pods and unpurified pulp. (Purified cassia pulp (aqueous extract) is classified in **heading 13.02**.)

Centauria (*Erythraea centaurium*) : herbs.

Cevadilla (**Sabadilla**) (*Schoenocaulon officinale*) : seeds.

Chamomile (*Matricaria chamomilla, Anthemis nobilis*) : flowers.

Chenopodium : seeds.

Cherry: stalks.

Cherry laurel (*Prunus laurocerasus*) : berries.

Cinchona: bark.

Clove (*Caryophyllus aromaticus*) : bark and leaves.

Coca (*Erythroxylon coca* and *Erythroxylon truxillense*) : leaves.

Cocculus indicus (**Indian berry**) (*Anamirta paniculata*) : fruit.

Cocillana (*Guarea rusbyi*) : bark.

Colchicum (*Colchicum autumnale*) : corms and seeds.

Colocynth (*Citrullus colocynthis*) : fruit.

Comfrey (*Symphytum officinale*) : roots.

Condurango (*Marsdenia condurango*) : bark.

Couchgrass (**Triticum**) (*Agropyrum repens*) : roots.

Cubé (**barbasco** or **timbo**) (*Lonchocarpus nicou*) : bark and roots.

Cubeb (*Cubeba officinalis Miquel* or *Piper cubeba*) : powder.

Damiana (*Turnera diffusa*) : leaves.

Dandelion (*Taraxacum officinale*) : roots.

Datura metel : leaves and seeds.

Derris (or **tuba**) (*Derris elliptica* and *Derris trifoliata*) : roots.

Digitalis (*Digitalis purpurea*) : leaves and seeds.

Elder (*Sambucus nigra*) : flowers and bark.

Ephedra (**Mahuang**) : stems and branches.

Ergot of rye.

Eucalyptus (*Eucalyptus globulus*) : leaves.

Frangula : bark.

Fumitory (*Fumaria officinalis*) : leaves and flowers.

Galangal (*Alpinia officinarum*) : rhizomes.

Gentian (*Gentiana lutea*) : roots.

Ginseng (*Panax quinquefolium* and *Panax ginseng*) : roots.

Golden seal (**Hydrastis**) (*Hydrastis canadensis*) : roots.

Guaiacum (*Guaiacum officinale* and *Guaiacum sanctum*) : wood.

Hamamelis (**witch hazel**) (*Hamamelis virginiana*) : bark and leaves.

Hellebore (*Veratrum album* and *Veratrum viride*) : roots.

Henbane (**Hyoscyamus**) (*Hyoscyamus niger*) : roots, seeds and leaves.

Horehound (*Marrubium vulgare*) : herbs and stems.

Hyssop (*Hyssopus officinalis*) : flowers and leaves.

Ipecacuanha (*Cephaelis ipecacuanha*) : roots.

Ipomoea (*Ipomoea orizabensis*) : roots.

Jaborandi (*Pilocarpus jaborandi* and *Pilocarpus microphyllus*) : leaves.

Jalap (*Ipomoea purga*) : roots.

Lavender (*Lavandula vera*) : flowers and herbs.

Leptandra (*Veronica virginica*) : roots.

Linaloe (*Bursera delpechiana*) : wood.

Linden (*Tilia europaea*) : flowers and leaves.

Liquorice (*Glycyrrhiza glabra*) : roots.

Lobelia (*Lobelia inflata*) : herbs and flowers.

Long pepper (*Piper longum*): roots and underground stems.

Male fern (*Dryopteris filix-mas*): root.

Mallow (*Malva silvestris* and *Malva rotundifolia*): leaves and flowers.

Mandrake: roots or rhizomes.

Marjoram (see “Wild marjoram” below).

Marshmallow (*Althaea officinalis*): flowers, leaves and roots.

Melissa (*Melissa officinalis*): leaves, flowers and tops.

Mint (all species).

Mousse de chêne (**oak moss**) (*Evernia furfuracea*) (a lichen).

Mugwort (*Artemisia vulgaris*): roots.

Nux vomica (*Strychnos nux-vomica*): seeds.

Orange tree (*Citrus aurantium*): leaves and flowers.

Orris (*Iris germanica, Iris pallida* and *Iris florentina*): roots.

Pansy: flowers.

Patchouli (*Pogostemon patchouli*): leaves.

Peppermint (see mint).

Pine: buds.

Plantago psyllium: herbs and seeds.

Podophyllum (*Podophyllum peltatum*): roots or rhizomes.

Poppy (*Papaver somniferum*): heads (unripe, dried).

Pulsatilla (*Anemone pulsatilla*): herbs.

Pyrethrum (*Chrysanthemum cinerariaefolium*): leaves, stems and flowers.

Pyrethrum (*Anacyclus pyrethrum*): roots.

Quassia (*Quassia amara* and*Picraena excelsa*): wood and bark.

Quince: seeds.

Rhatany (*Krameria triandra*): roots.

Rhubarb (*Rheum officinale*): roots.

Rose: flowers.

Rosemary (*Rosmarinus officinalis*): herbs, flowers and leaves.

Rue (*Ruta graveolens*): leaves.

Sage (*Salvia officinalis*): leaves and flowers.

St. Ignatius beans (*Strychnos ignatii*).

Sandalwood: chips (white and yellow).

Sarsaparilla (*Smilax*): roots.

Sassafras (*Sassafras officinalis*): bark, roots and wood.

Scammony (*Convolvulus scammonia*): roots.

Senega (*Polygala senega*): roots.

Senna (*Cassia acutifolia* and *Cassia angustifolia*): pods and leaves.

Slippery elm (*Ulmus fulva*): bark.

Solanum nigrum.

Squill (*Urginea maritima, Urginea scilla*): bulbs.

Stramonium (*Datura stramonium*): leaves and tops.

Strophanthus (*Strophanthus kombe*): seeds.

Tansy (*Tanacetum vulgare*): roots, leaves and seeds.

Tonka (**tonquin**) (*Dipterix odorata*): beans.

Valerian (*Valeriana officinalis*): roots.

Verbascum (**mullein**) (*Verbascum thapsus* and *Verbascum phlomoides*): leaves and flowers.

Verbena: leaves and tops.

Veronica (*Veronica officinalis*): leaves.

Viburnum (*Viburnum prunifolium*): root bark.

Violets (*Viola odorata*): roots and dried flowers.

Walnut: leaves.

Wild marjoram (*Origanum vulgare*); sweet marjoram (*Majorana hortensis* or *Origanum majorana*) is **excluded** (**Chapter 7**).

Woodruff (*Asperula odorata*): herbs.

Wormseed (*Artemisia cina*): flowers.

Wormwood (*Artemisia absinthium*): leaves and flowers.

Yohimba (*Corynanthe johimbe*): bark.

The botanical names in the list above (which is **not exhaustive**) are given to assist in the identification of the plants. Mention of the botanical name of a particular species does not necessarily indicate that other species of the same plant family are not classified in the heading.

Certain products of this heading, which are regarded as narcotic drugs under international instruments, are indicated in the list which appears at the end of Chapter 29.

1211.20

- Ginseng roots

CLASSIFICATION OPINIONS

1. Ginseng roots, frozen, intended to be used as an ingredient in the manufacture of food preparations, e.g., chicken soup.
Application of GIRs 1 and 6.
Adoption: 2014

1211.30

- Coca leaf

1211.40

- Poppy straw

1211.50

- Ephedra

1211.60

- Bark of African cherry (Prunus africana)

1211.90

- Other

Heading 1212

Locust beans, seaweeds and other algae, sugar beet and sugar cane, fresh, chilled, frozen or dried, whether or not ground; fruit stones and kernels and other vegetable products (including unroasted chicory roots of the variety Cichorium intybus sativum) of a kind used primarily for human consumption, not elsewhere specified or included.

EXPLANATORY NOTES

12.12 - Locust beans, seaweeds and other algae, sugar beet and sugar cane, fresh, chilled, frozen or dried, whether or not ground; fruit stones and kernels and other vegetable products (including unroasted chicory roots of the variety *Cichorium intybus sativum*) of a kind used primarily for human consumption, not elsewhere specified or included.

- Seaweeds and other algae:

1212.21 - - Fit for human consumption

1212.29 - - Other

- Other:

1212.91 - - Sugar beet

1212.92 - - Locust beans (carob)

1212.93 - - Sugar cane

1212.94 - - Chicory roots

1212.99 - - Other

(A) **Seaweeds and other algae.**

This heading covers all seaweeds and other algae, whether or not edible. They may be fresh, chilled, frozen, dried or ground. Seaweeds and other algae are used for various purposes (e.g., pharmaceutical products, cosmetics, human consumption, animal feeding, fertilisers).

The heading also covers seaweed meal and meal of other algae, whether or not consisting of a mixture of many different varieties of seaweeds and other algae.

The heading **excludes**:

(a) Agar-agar and carrageenan (**heading 13.02**).

(b) Dead single-cell algae (**heading 21.02**).

(c) Cultures of micro-organisms of **heading 30.02**.

(d) Fertilisers of **heading 31.01** or **31.05**.

(B) **Sugar beet and sugar cane.**

This heading also covers sugar beet and sugar cane, in the forms specified in the heading. The heading **excludes** bagasse, the fibrous portion of the sugar cane remaining after the juice has been extracted (**heading 23.03**).

(C) **Locust beans.**

Locust (or carob) beans are the fruit of a small evergreen tree (*Ceratonia siliqua*) indigenous to the Mediterranean region. They consist of a brown pod which contains a large number of seeds and are used mainly as a material for distilling or as animal feeding stuff.

Locust beans contain a high proportion of sugar and are sometimes eaten as a sweetmeat.

This heading covers the endosperm, the germs, the whole seeds, and also powdered germs, whether or not mixed with powdered tegument.

The heading **excludes** locust bean endosperm flour which is classified in **heading 13.02** as a mucilage or thickener.

(D) **Fruit stones and kernels and other vegetable products (including unroasted chicory roots of the variety** *Cichorium intybus sativum***) of a kind used primarily for human consumption, not elsewhere specified or included.**

This group includes fruit stones and kernels and other vegetable products of a kind mainly used, directly or indirectly, for human consumption, but not elsewhere specified or included in the Nomenclature.

It therefore includes kernels of peaches (including nectarines), apricots and plums (used mainly as substitutes for almonds). These products remain in the heading even though they may also be used for the extraction of oil.

The heading also includes unroasted chicory roots of the variety *Cichorium intybus sativum*, whether fresh or dried, whole or chopped. The roasted chicory root of this variety, which is used as a coffee substitute, is **excluded** (**heading 21.01**). Other unroasted chicory roots are classified in **heading 06.01**.

Angelica stems, used mainly to prepare candied angelica or angelica preserved by sugar, also fall in this heading. They are generally provisionally preserved in brine.

The heading also covers sweet sorghums, such as *saccharatum*, which are used primarily for the manufacture of syrup or molasses.

The heading **excludes** fruit stones and pips of a kind used for carving (e.g., date stones) (**heading 14.04**) and roasted fruit kernels (generally classified as coffee substitutes - **heading 21.01**).

1212.2

- Seaweeds and other algae:

1212.21

-- Fit for human consumption

1212.29

-- Other

1212.9

- Other:

1212.91

-- Sugar beet

1212.92

-- Locust beans (carob)

1212.93

-- Sugar cane

1212.94

-- Chicory roots

1212.99

-- Other

CLASSIFICATION OPINIONS

1. **Pumpkin seeds (Cucurbita pepo L.)**, in the husk, unroasted, unsalted, not capable of germination, fit for human consumption. **Application of GIRs 1 and 6.** *Adoption: 2008*

2. **Konjac tuber** *(Amorphophallus konjac)* in the form of a powder consisting mainly of glucomannan (87.5 %). The remainder (12.5 %) of the product includes moisture and ash. It is obtained by a separation process using water or low alcohol solution for removing some impurities. **Application of GIRs 1 and 6.** *Adoption: 2018*

Heading 1213

Cereal straw and husks, unprepared, whether or not chopped, ground, pressed or in the form of pellets.

EXPLANATORY NOTES

12.13 - Cereal straw and husks, unprepared, whether or not chopped, ground, pressed or in the form of pellets.

This heading is restricted to cereal straw and husks in an unprepared state as obtained from the threshing of cereals, or chopped, ground or pressed, or put up in the form of pellets (i.e. agglomerated either directly by compression or by the addition of a binder in a proportion not exceeding 3 % by weight), but not further prepared. It **excludes** cleaned, bleached or dyed straw (**heading 14.01**).

1213.00

Cereal straw and husks, unprepared, whether or not chopped, ground, pressed or in the form of pellets.

Heading 1214

Swedes, mangolds, fodder roots, hay, lucerne (alfalfa), clover, sainfoin, forage kale, lupines, vetches and similar forage products, whether or not in the form of pellets.

EXPLANATORY NOTES

12.14 - Swedes, mangolds, fodder roots, hay, lucerne (alfalfa), clover, sainfoin, forage kale, lupines, vetches and similar forage products, whether or not in the form of pellets.

1214.10 - Lucerne (alfalfa) meal and pellets

1214.90 - Other

This heading covers:

(1) Swedes (rutabagas) (*Brassica napobrassica*), mangolds, forage turnips, forage carrots (white or pale yellow in colour) and other forage roots. These roots remain classified in this heading even though some of them may be suitable for human consumption.

(2) Hay, lucerne (alfalfa), clover, sainfoin, forage kale, lupines, vetches and similar forage products, fresh or dried, whole, cut, chopped or pressed. These products remain in the heading whether or not they have been salted or otherwise treated in a silo to prevent fermentation or deterioration.

The expression “similar forage products” refers only to plants specially grown for animal food. It **does not include** vegetable waste which may be used for the same purpose (**heading 23.08**).

The forage products of this heading may also be in the form of pellets, i.e. agglomerated either directly by compression or by the addition of a binder in a proportion not exceeding 3 % by weight.

The heading also **excludes**:

(a) Carrots (reddish-yellow in colour) of **heading 07.06**.

(b) Cereal straw and husks (**heading 12.13**).

(c) Vegetable products which, though used for animal food, are not specially grown for that purpose, e.g., beet or carrot tops and maize (corn) leaves (**heading 23.08**).

(d) Preparations of a kind used in animal feeding (e.g., sweetened forage) (**heading 23.09**).

1214.10

- Lucerne (alfalfa) meal and pellets

1214.90

- Other

Chapter 13

Lac; gums, resins and other vegetable saps and extracts

LEGAL NOTES

Note.

1. - Heading 13.02 applies, *inter alia*, to liquorice extract and extract of pyrethrum, extract of hops, extract of aloes and opium.

The heading does not apply to:

(a) Liquorice extract containing more than 10 % by weight of sucrose or put up as confectionery (heading 17.04);

(b) Malt extract (heading 19.01);

(c) Extracts of coffee, tea or maté (heading 21.01);

(d) Vegetable saps or extracts constituting alcoholic beverages (Chapter 22);

(e) Camphor, glycyrrhizin or other products of heading 29.14 or 29.38;

(f) Concentrates of poppy straw containing not less than 50 % by weight of alkaloids (heading 29.39);

(g) Medicaments of heading 30.03 or 30.04 or blood-grouping reagents (heading 38.22);

(h) Tanning or dyeing extracts (heading 32.01 or 32.03);

(ij) Essential oils, concretes, absolutes, resinoids, extracted oleoresins, aqueous distillates or aqueous solutions of essential oils or preparations based on odoriferous substances of a kind used for the manufacture of beverages (Chapter 33); or

(k) Natural rubber, balata, gutta-percha, guayule, chicle or similar natural gums (heading 40.01).

EXPLANATORY NOTES

Chapter 13

Lac; gums, resins and other vegetable saps and extracts

Note.

1. - Heading 13.02 applies, *inter alia*, to liquorice extract and extract of pyrethrum, extract of hops, extract of aloes and opium.

The heading does not apply to:

(a) Liquorice extract containing more than 10 % by weight of sucrose or put up as confectionery (heading 17.04);

(b) Malt extract (heading 19.01);

(c) Extracts of coffee, tea or maté (heading 21.01);

(d) Vegetable saps or extracts constituting alcoholic beverages (Chapter 22);

(e) Camphor, glycyrrhizin or other products of heading 29.14 or 29.38;

(f) Concentrates of poppy straw containing not less than 50 % by weight of alkaloids (heading 29.39);

(g) Medicaments of heading 30.03 or 30.04 or blood-grouping reagents (heading 38.22);

(h) Tanning or dyeing extracts (heading 32.01 or 32.03);

(ij) Essential oils, concretes, absolutes, resinoids, extracted oleoresins, aqueous distillates or aqueous solutions of essential oils or preparations based on odoriferous substances of a kind used for the manufacture of beverages (Chapter 33); or

(k) Natural rubber, balata, gutta-percha, guayule, chicle or similar natural gums (heading 40.01).

Heading 1301

Lac; natural gums, resins, gum-resins and oleoresins (for example, balsams).

EXPLANATORY NOTES

13.01 - Lac; natural gums, resins, gum-resins and oleoresins (for example, balsams).

1301.20 - Gum Arabic

1301.90 - Other

(I) **Lac**.

Lac is a resinous substance produced on several kinds of tropical trees by an insect belonging to the same family as the cochineal and the kermes.

The most important commercial varieties are the following:

(A) **Stick lac**, usually consisting of twigs on which the lac has been deposited in a more or less thick layer; it is dark red and the most highly coloured variety of lac.

(B) **Seed lac**, the crushed lac detached from the branches, usually by washing which removes part of its colouring matter.

(C) **Shellac**, also known as sheet, plate, or slab-lac, obtained by fusion and filtering which purifies the gum. It takes the form of thin, vitreous flakes, amber-coloured or reddish. A similar product in the shape of discs is known as “button lac”.

Shellac is used largely in the preparation of varnishes, in the electrical industry and for the production of sealing wax.

(D) **Refuse lac** (or garnet lac) obtained from the residues left from the preparation of shellac.

Lac may also be decolourised or bleached and is then sometimes put up in the form of twisted hanks.

The sap of certain oriental trees which hardens, forming a resistant film when exposed to air (known as “Japan lacquer”, “Chinese lacquer”, etc.), is **excluded** (**heading 13.02**).

(II) **Natural gums, resins, gum-resins and oleoresins.**

Natural gums, resins, gum-resins and oleoresins are vegetable secretions, which may solidify on contact with air. These terms are often used indiscriminately. These products have the following distinguishing features:

(A) True **gums** are odourless, tasteless and more or less soluble in water, forming sticky substances. They burn without melting and without odour.

(B) **Resins** are insoluble in water, have a slight odour, are poor conductors of electricity and acquire a negative electric charge. They soften and melt more or less completely on the application of heat, and when ignited burn with a smoky flame and characteristic odour.

(C) **Gum-resins**, as the name implies, consist of natural mixtures of gums and resins in variable proportions, and are therefore partly soluble in water; they generally have a penetrating and characteristic odour and taste.

(D) **Oleoresins** are exudates consisting mainly of volatile and resinous constituents. **Balsams** are oleoresins characterized by a high content of benzoic or cinnamic compounds.

The principal products are:

(1) Gum Arabic (from various acacias) (sometimes also called Nile gum, Aden gum, Senegal gum); gum tragacanth (obtained from certain varieties of *Astragalus*); Basra gum; Anacardium (gum of the cashew nut tree); Indian gum; certain so-called “indigenous” gums from various species of *Rosaceae*, such as cherry, plum, apricot, peach or almond trees.

(2) Fresh oleoresins (liquids) of the pine (including turpentine), fir or other conifers (crude or refined), as well as conifer resins (galipot, etc.) which are dried on the incision on the tree and which contain vegetable waste.

(3) Copal (India, Brazil, Congo, etc.), including fossil copal; kauri gum; damar; mastic; elemi; sandarac; dragon’s blood.

(4) Gamboge; gum ammoniac; asafoetida; scammony; euphorbia; galbanum; opoponax; olibanum or incense; myrrh; acaroid; guaiacum.

(5) Gum benzoin; styrax or storax (solid or liquid); tolu balsam; Peruvian balsam; Canada balsam; copaiba balsam; Mecca balsam; thapsia.

(6) Cannabis resin (crude or purified) obtained from the Cannabis plant. (Cannabis resin is a narcotic drug see the list at the end of Chapter 29.)

The natural gums, resins, gum-resins and oleoresins covered by this heading may be crude, washed, purified, bleached, crushed or powdered. They are, however, **excluded** from this heading when they have been subjected to processes such as treatment with water under pressure, treatment with mineral acids or heat-treatment; for example : gums and gum-resins rendered water-soluble by treatment with water under pressure (**heading 13.02**), gums rendered soluble by treatment with sulphuric acid (**heading 35.06**), and resins which have been heat-treated to make them soluble in drying oils (**heading 38.06**).

The heading also **excludes**:

(a) Amber (**heading 25.30**).

(b) Medicaments containing natural balsams and prepared medicaments of various kinds known as balsams (**heading 30.03** or **30.04**).

(c) Lac-dye, the colouring matter extracted from lac (**heading 32.03**).

(d) Resinoids (extracted from the substances of this heading) and extracted oleoresins (**heading 33.01**).

(e) Tall oil (sometimes known as “liquid rosin”) (**heading 38.03**).

(f) Spirits of turpentine (**heading 38.05**).

(g) Rosin, resin acids, rosin spirit and rosin oils, resinates, rosin pitch, brewers’ pitch and similar preparations based on rosin (**Chapter 38**).

1301.20

- Gum Arabic

1301.90

- Other

Heading 1302

Vegetable saps and extracts; pectic substances, pectinates and pectates; agar-agar and other mucilages and thickeners, whether or not modified, derived from vegetable products.

EXPLANATORY NOTES

13.02 - Vegetable saps and extracts; pectic substances, pectinates and pectates; agar-agar and other mucilages and thickeners, whether or not modified, derived from vegetable products.

- Vegetable saps and extracts:

1302.11 - - Opium

1302.12 - - of liquorice

1302.13 - - of hops

1302.14 - - of ephedra

1302.19 - - Other

1302.20 - Pectic substances, pectinates and pectates

- Mucilages and thickeners, whether or not modified, derived from vegetable products:

1302.31 - - Agar-agar

1302.32 - - Mucilages and thickeners, whether or not modified, derived from locust beans, locust bean seeds or guar seeds

1302.39 - - Other

(A) **Vegetable saps and extracts.**

The heading covers vegetable saps (vegetable products usually obtained by natural exudation or incision) and extracts (vegetable products extracted from the original vegetable material by solvents), provided that they are not specified or included in more specific headings of the Nomenclature (see list of exclusions at the end of Part (A) of this Explanatory Note).

These saps and extracts differ from the essential oils, resinoids and extracted oleoresins of heading 33.01, in that, apart from volatile odoriferous constituents, they contain a far higher proportion

of other plant substances (e.g., chlorophyll, tannins, bitter principles, carbohydrates and other extractive matter).

The saps and extracts classified here include:

(1) **Opium**, the dried sap of the unripe capsules of the poppy (*Papaver somniferum*) obtained by incision of, or by extraction from, the stems or seed pods. It is generally in the form of balls or cakes of varying size and shape. However, concentrates of poppy straw containing not less than 50 % by weight of alkaloids are **excluded** from this heading (see Note 1 (f) to this Chapter).

(2) **Liquorice** extracted from the dried roots of a plant of the *Leguminosae* family (*Glycyrrhiza glabra*) by hot water under pressure and then concentrated. It may be in liquid form or in blocks, cakes, sticks, slices or powder. (Liquorice containing more than 10 % by weight of sucrose, or put up (i.e., prepared) as confectionery whatever the sugar content, is **excluded**, see **heading 17.04**.)

(3) **Extract of hops.**

(4) **Pyrethrum extract**, obtained mainly from the flowers of various pyrethrum varieties (e.g., *Chrysanthemum cinerariaefolium*) by extraction with an organic solvent such as normal hexane or "petroleum ether".

(5) **Extracts of the roots of plants containing rotenone** (derris, cubé, timbo, barbasco, etc.).

(6) **Extracts and tinctures of any plant of the genus Cannabis.**

Cannabis resin, whether crude or purified, is **excluded** (**heading 13.01**).

(7) **Ginseng extract**, obtained by water or alcohol extraction, whether or not put up for retail sale.

Mixtures of ginseng extract with other ingredients (e.g., lactose or glucose) used for the preparation of ginseng "tea" or beverage are **excluded** (**heading 21.06**).

(8) **Aloes**, a thickened sap with a very bitter taste, obtained from several varieties of the plant with the same name (*Liliaceae* family).

(9) **Podophyllum**, a resinous substance extracted by alcohol from the dried rhizomes of *Podophyllum peltatum*.

(10) **Curare**, an aqueous extract from the leaves and bark of various plants of the *Strychnos* family.

(11) **Quassia amara** extract, obtained from the wood of the shrub of the same name (*Simaroubaceae* family), which grows in South America.

Quassin, the principal bitter extract of the wood of the *Quassia amara*, is a heterocyclic compound of **heading 29.32**.

(12) **Other medicinal extracts**, e.g., belladonna, black alder (alder buckthorn), cascara sagrada, garlic, gentian, jalap, cinchona, rhubarb, sarsaparilla, tamarind, valerian, pine buds, coca, colocynth, male fern, witch hazel, henbane, ergot of rye.

(13) **Manna**, a solid, sweet sap obtained by incision from certain varieties of ash tree.

(14) **Bird lime**, the viscous and stringy glue, greenish in colour, extracted from mistletoe berries or holly.

(15) **Aqueous extract** obtained from cassia pulp. Cassia pods and cassia pulp are, however, **excluded** (**heading 12.11**).

(16) **Gum kino**, a thickened sap of certain tropical trees used in tanning and medicine.

(17) **Japan (or Chinese) lacquer** (natural lacquer), a sap obtained by incision from certain species of shrubs known as rhus (urushi) growing in the Far East (e.g., *Rhus vernicifera*). It is used for coating or decorating various articles (trays, chests, etc.).

(18) **Papaw juice**, whether or not dried, but not purified as papain enzyme. (The agglomerated latex globules can still be observed on microscopic examination.) Papain is **excluded** (**heading 35.07**).

(19) **Cola (kola) extract**, obtained from cola nuts (seeds of various *Cola* species, e.g., *Cola nitida*) and used mainly in the manufacture of certain beverages.

(20) **Cashew nutshell extract**. The polymers of cashew nutshell liquid extract are, however, **excluded** (generally **heading 39.11**).

(21) **Vanilla oleoresin** (sometimes erroneously known as “vanilla resinoid” or “vanilla extract”).

Saps are usually thickened or solidified. **Extracts** may be in liquid, paste or solid form. “**Tinctures**” are extracts still dissolved in the alcohol by means of which they are extracted; the so-called “**fluid extracts**” are solutions of extracts in, for example, alcohol, glycerol or mineral oil. Tinctures and fluid extracts are generally standardised (for instance, pyrethrum extract may be standardised by adding mineral oil to produce commercial grades with a standard pyrethrins content of, e.g., 2 %, 20 % or 25 %). **Solid extracts** are obtained by evaporating the solvent. Inert substances are sometimes added to certain extracts so that they can be more easily reduced to powder (e.g., belladonna extract, to which powdered gum Arabic is added), or to obtain a standard strength (for instance, certain quantities of starch are added to opium in order to obtain a product containing a known portion of morphine). The addition of such substances does not affect the classification of these solid extracts. However, extracts may not be subjected to additional extraction cycles or to purification processes, such as chromatographic purification, that increase or decrease certain compounds or compound classes to a degree that cannot be achieved solely by means of initial solvent extraction.

Extracts may be simple or compound. Simple extracts are obtained by the treatment of only one variety of plant. Compound extracts are obtained either by mixing simple extracts or by treating mixtures of different varieties of plants. Compound extracts (whether in the form of alcoholic tinctures or in any other forms) therefore contain the constituents of several kinds of plant; they include compound jalap extract, compound extract of aloes, compound extract of cinchona, etc.

The vegetable saps and extracts of this heading are generally raw materials for various manufactured products. They are **excluded** from the heading when, because of the addition of other substances, they have the character of food preparations, medicaments, etc. They are also excluded from the heading when they are highly refined or purified, e.g., by means of chromatographic purification, ultrafiltration, or additional extraction cycles (e.g. liquid-liquid extraction) following initial extraction.

Certain products of this heading, which are regarded as narcotic drugs under international instruments, are indicated in the list appearing at the end of Chapter 29.

Examples of **excluded** preparations are:

(i) **Flavoured syrups** containing vegetable extracts (**heading 21.06**).

(ii) **Preparations used for making beverages**. These preparations are obtained by compounding vegetable extracts of this heading with lactic acid, tartaric acid, citric acid, phosphoric acid, preserving agents, foaming agents, fruit juices, etc., and sometimes with essential oils. The preparations thus obtained are generally classified in **heading 21.06** or **33.02**.

(iii) **Medicinal preparations** (some of which are also known as "tinctures") consisting of mixtures of vegetable extracts with other products (e.g., preparations which consist of a mixture of extract of capsicum, spirits of turpentine, camphor and methyl salicylate, or of a mixture of tincture of opium, anise oil, camphor and benzoic acid) (**heading 30.03** or **30.04**).

(iv) **Intermediate products for the manufacture of insecticides**, consisting of pyrethrum extracts diluted by addition of mineral oil in such quantities that the pyrethrins content is less than 2 %, or with other substances such as synergists (e.g., piperonyl butoxide) added (**heading 38.08**).

The heading also **excludes** vegetable extracts which have been mixed or compounded (without the addition of other substances) for therapeutic or prophylactic purposes. Such mixtures, and similar medicinal compound extracts made by treating a mixture of plants, are classified in **heading 30.03** or **30.04**. That latter heading also covers simple vegetable extracts (whether or not standardised or dissolved in any solvent) when put up in measured doses for therapeutic or prophylactic purposes or in forms or packings for retail sale for such purposes.

The heading **excludes** essential oils, resinoids and extracted oleoresins (**heading 33.01**). **Essential oils** (which may also be obtained by solvent extraction) differ from the extracts classified under this heading in that they are essentially composed of volatile odoriferous substances. **Resinoids** differ from the extracts of this heading in that they are obtained by the organic solvent or super-critical fluid (e.g., carbon dioxide gas under pressure) extraction of dried natural non-cellular vegetable or animal resinous materials. **Extracted oleoresins** differ from the extracts provided for in this heading in that they (1) are obtained from natural cellular raw plant materials (almost always spices or aromatic plants), either by organic solvent extraction or by super-critical fluid extraction, and (2) contain volatile odoriferous principles together with non-volatile flavouring principles, which define the characteristic odour or flavour of the spice or aromatic plant.

The heading further **excludes** the following vegetable products, classified under more specific headings of the Nomenclature:

(a) Natural gums, resins, gum-resins and oleoresins (**heading 13.01**).

(b) Malt extract (**heading 19.01**).

(c) Extracts of coffee, tea or maté (**heading 21.01**).

(d) Vegetable saps and extracts constituting alcoholic beverages (**Chapter 22**).

(e) Tobacco extracts (**heading 24.03**).

(f) Camphor (**heading 29.14**) and glycyrrhizin and glycyrrhizates (**heading 29.38**).

(g) Extracts used as blood-grouping reagents (**heading 38.22**).

(h) Tanning extracts (**heading 32.01**).

(ij) Dyeing extracts (**heading 32.03**).

(k) Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums (**heading 40.01**).

(B) **Pectic substances, pectinates and pectates.**

Pectic substances (generally known in commerce as "pectins") are polysaccharides, the basic structure of which consists of polygalacturonic acids. They occur in the cells of plants, particularly fruit and vegetables, and are commercially extracted from the residues of apples, pears, quinces, citrus fruit, sugar beet, etc. Pectins are mainly used as "setting" agents in the preparation of jam and other preserves. They may be liquids or powders, and are classified in this heading whether or not standardised by the addition of sugars (glucose, sucrose, etc.) or other products (in order to ensure a constant activity in use). They sometimes contain sodium citrate or other buffer salts.

Pectinatesare salts of pectinic acids (partially methoxylated polygalacturonic acids) and **pectates** are salts of pectic acids (demethoxylated pectinic acids). They have much the same properties and uses as pectins.

(C) **Agar-agar and other mucilages and thickeners, whether or not modified, derived from vegetable products.**

Mucilages and thickeners, derived from vegetable products, swell in cold water and dissolve in hot, forming a homogeneous, gelatinous and generally tasteless mass on cooling. They are chiefly used as alternatives to gelatin in the preparation of food, in the manufacture of textile or paper dressings, to clarify certain liquids, for bacterial culture, in pharmacy and in the manufacture of cosmetics. They may be modified by chemical treatment (for example, esterified, etherified, treated with borax, acids or alkalis).

These products remain classified in this heading whether or not standardized by the addition of sugars (glucose, sucrose, etc.) or other products (in order to ensure a constant activity in use).

The most important are:

(1) **Agar-agar (or agar)** obtained by extraction from certain marine algae found mainly in the Indian and Pacific Oceans, and usually presented in the form of dried fibres, flakes, powder or in a gelatinous form obtained by treatment with acids. It is commercially known as "gelose" and also as Japanese vegetable gelatin (or moss) or *Alga spinosa*.

(2) **Endosperm flour of locust beans** (*Ceratonia siliqua*) or guar seeds (*Cyamopsis psoralioides* or *Cyamopsis tetragonoloba*). These flours are included in this heading, whether or not modified by chemical treatment in order to improve or stabilise their mucilaginous properties (viscosity, solubility, etc.).

(3) **Carrageenan** extracted from carrageen (known also as Irish moss or pearl moss) and usually in the form of fibrous threads, flakes or powder. The heading also includes mucilaginous substances obtained from carrageenan by chemical transformation (e.g., “sodium carrageenate”).

(4) **Thickeners** obtained from gums or gum-resins rendered water-soluble by treatment with water under pressure or by any other process.

(5) **Cotyledon flour of tamarind seeds** (*Tamarindus indica*). These flours are included in this heading even if modified by heat or chemical treatment.

The heading **excludes**:

(a) Raw or dried seaweed and other algae (generally **heading 12.12**).

(b) Alginic acid and alginates (**heading 39.13**).

1302.1

- Vegetable saps and extracts:

1302.11

-- Opium

1302.12

-- Of liquorice

1302.13

-- Of hops

1302.14

-- Of ephedra

1302.19

-- Other

1302.20

- Pectic substances, pectinates and pectates

1302.3

- Mucilages and thickeners, whether or not modified, derived from vegetable products:

1302.31

-- Agar-agar

1302.32

-- Mucilages and thickeners, whether or not modified, derived from locust beans, locust bean seeds or guar seeds

1302.39

-- Other

Chapter 14

Vegetable plaiting materials; vegetable products not elsewhere specified or included

LEGAL NOTES

Notes.

1.- This Chapter does not cover the following products which are to be classified in Section XI : vegetable materials or fibres of vegetable materials of a kind used primarily in the manufacture of textiles, however prepared, or other vegetable materials which have undergone treatment so as to render them suitable for use only as textile materials.

2.- Heading 14.01 applies, *inter alia*, to bamboos (whether or not split, sawn lengthwise, cut to length, rounded at the ends, bleached, rendered non-inflammable, polished or dyed), split osier, reeds and the like, to rattan cores and to draw or split rattans. The heading does not apply to chipwood (heading 44.04).

3. - Heading 14.04 does not apply to wood wool (heading 44.05) and prepared knots or tufts for broom or brush making (heading 96.03).

EXPLANATORY NOTES

Chapter 14

Vegetable plaiting materials; vegetable products

Not elsewhere specified or included

Notes.

1.- This Chapter does not cover the following products which are to be classified in Section XI : vegetable materials or fibres of vegetable materials of a kind used primarily in the manufacture of textiles, however prepared, or other vegetable materials which have undergone treatment so as to render them suitable for use only as textile materials.

2.- Heading 14.01 applies, *inter alia*, to bamboos (whether or not split, sawn lengthwise, cut to length, rounded at the ends, bleached, rendered non-inflammable, polished or dyed), split osier, reeds and the like, to rattan cores and to draw or split rattans. The heading does not apply to chipwood (heading 44.04).

3. - Heading 14.04 does not apply to wood wool (heading 44.05) and prepared knots or tufts for broom or brush making (heading 96.03).

GENERAL

This Chapter covers:

(1) Vegetable materials, raw or simply worked, of a kind used primarily for plaiting, broom or brush making, or as stuffing or padding.

(2) Seeds, pips, hulls and nuts of a kind used for carving, for the manufacture of buttons and other small fancy-goods.

(3) Other vegetable products not elsewhere specified.

The Chapter **excludes** vegetable materials of a kind used primarily in the manufacture of textiles, however prepared, and other vegetable materials processed for use as textile materials (**Section XI**).

Heading 1401

Vegetable materials of a kind used primarily for plaiting (for example, bamboos, rattans, reeds, rushes, osier, raffia, cleaned, bleached or dyed cereal straw, and lime bark).

EXPLANATORY NOTES

14.01 - Vegetable materials of a kind used primarily for plaiting (for example, bamboos, rattans, reeds, rushes, osier, raffia, cleaned, bleached or dyed cereal straw, and lime bark).

1401.10 - Bamboos

1401.20 - Rattans

1401.90 - Other

This heading covers raw vegetable materials of a kind used primarily for the manufacture, by joining or plaiting, of articles such as mats and matting, trays, basket-ware of all kinds (including baskets for packing fruit, vegetables, oysters, etc.), hampers, valises, furniture (e.g., chairs and tables), hats, etc. These raw materials may also be used for the manufacture of brushes, umbrella handles, walking sticks, fishing rods, pipe stems, coarse ropes, etc., for the manufacture of paper pulp, or as litter.

The heading covers, *inter alia*, the following raw materials:

(1) **Bamboos**, special varieties of grasses, which grow profusely in some regions and particularly in China, Japan and India. Bamboos have a very light, shiny, generally hollow stalk, in some cases with a groove between alternate pairs of nodes. Bamboos (whether or not split, sawn lengthwise or cut to length, rounded at the ends, bleached, rendered non-inflammable, polished or dyed) are covered by this heading.

(2) **Rattans** are stems of climbing palms usually of the genus *Calamus* and come mainly from Southern Asia. They are cylindrical, solid and flexible and generally vary between 0.3 cm and 6 cm in diameter and in colour vary from yellow to brown; they may have a dull (matt) or glossy surface. The heading includes rattan cores and the hard outer canes; it also covers the long strips obtained by cutting longitudinally these cores or canes or the whole rattans.

(3) **Reeds and rushes**, collective terms applied to many herbaceous plants which grow in damp places, both in temperate zones and in the tropics. **Reeds** generally have the more rigid stalks or stems, straight and hollow, with nodes at fairly regular intervals, marking the place of the leaves. The best known varieties include water rushes (*Scirpus lacustris*), common or wild reeds (*Arundo*

donax and *Phragmites communis*), various species of *Cyperus* (e.g., *Cyperus tegetiformis*, the Chinese mat grass) and species of *Juncus* (e.g., *Juncus effusus*, the Japanese mat rush).

(4) **Osier** (white, yellow, green or red), the long, pliable young shoots or branches of certain varieties of the willow tree (*Salix*).

(5) **Raffia**, the commercial name for the fibrous strips obtained from the leaves of certain palm trees of the genus *Raphia*, of which the most important is the *Raphia ruffia* grown chiefly in Madagascar. Raffia is used for plaiting and as a tying material in horticulture. Fabrics of unspun raffia are **excluded** (**heading 46.01**). The heading includes other leaves and grasses (e.g., those of the Panama and latania) which are used for the same purposes as raffia and in hat-making.

(6) **Cereal straw**, with or without ears, which has been cleaned, bleached or dyed (see below).

(7) **The inner bark (bast) of several varieties of lime** (*Tilia* species). The fibres of this bark are very strong and are used for the manufacture of ropes, packing cloth and coarse matting and also for tying plants. The heading includes baobab bark and the bark of certain willows or poplars, which serve similar purposes.

Apart fromcereal straws, which in the unprepared state are **excluded** (**heading 12.13**), vegetable plaiting materials fall in this heading whether or not washed and whether raw, or split in strips, peeled, polished, bleached, prepared for dyeing, dyed, varnished or lacquered, or rendered non-inflammable. The goods of the heading may also be cut to length, whether or not rounded at the ends (straw for making drinking straws, canes for making fishing-rods, bamboos for dyeing, etc.), or assorted in bundles or hanks which may be lightly twisted for convenience of packing, storage, transport, etc.; the materials of this heading which have been assembled by twisting so as to be suitable for use in that state in place of plaits are classified in**heading 46.01**.

The heading also **excludes**:

(a) Chipwood (**heading 44.04**).

(b) Vegetable materials described above which have been rolled, crushed, combed or otherwise prepared for spinning (**headings 53.03** or **53.05**).

1401.10

- Bamboos

1401.20

- Rattans

1401.90

- Other

Heading 1404

Vegetable products not elsewhere specified or included.

EXPLANATORY NOTES

14.04 - Vegetable products not elsewhere specified or included.

1404.20 - Cotton linters

1404.90 - Other

This heading covers all vegetable products, not specified or included elsewhere in the Nomenclature.

It includes:

(A) **Cotton linters.**

The seeds of certain varieties of cotton plants, after separation from the cotton fibres by ginning, are still covered with a fine down formed of very short fibres (usually less than 5 mm long). These fibres are known as cotton linters.

Linters are too short for spinning; their very high cellulose content makes them an ideal raw material for the preparation of smokeless powders and the manufacture of man-made fibres (e.g., rayon) and cellulose plastics. They are also sometimes used in the manufacture of certain varieties of paper, filter blocks and as a filler in the rubber industry.

Cotton linters are classified here irrespective of their intended use and whether raw, cleaned, bleached, dyed or rendered absorbent. They may be presented in bulk or strongly compressed in the form of sheets or slabs.

The heading **does not cover**:

(a) Wadding, medicated or put up in forms or packings for retail sale for medical, surgical, dental or veterinary purposes (**heading 30.05**).

(b) Other wadding (**heading 56.01**).

(B) **Raw vegetable materials of a kind used primarily in dyeing or tanning.**

Such products are used primarily in dyeing or tanning either directly or in the preparation of dyeing or tanning extracts. The materials may be untreated, cleaned, dried, ground or powdered (whether or not compressed).

The more important are:

(1) **Wood**: Sumach, fustic (including the so-called “young fustic”), logwood, quebracho, Brazil wood (including Pernambuco wood and sappan wood), chestnut, red sandalwood.

It should be noted that woods of a kind used primarily in dyeing or in tanning are classified here only if in chips, in shavings or in ground or powdered form. In other forms, such wood is **excluded** (**Chapter 44**).

(2) **Bark**: oaks of various kinds (including the black oak (quercitron) and the second bark of the cork-oak), chestnut, silver birch, sumach, “young fustic”, wattle, mimosa, mangrove, hemlock and willow.

(3) **Roots and the like**: madder, canaigre, *Berberis vulgaris* and alkanet.

(4) **Fruit, berries and seeds**: Algarobilla pods, vallonia, myrobalans, dividivi (libidibi), buckthorn berries (known also as Persian berries, Turkish seeds, yellow berries, etc.), annatto seeds and pulp, walnut hulls and almond hulls.

(5) **Gall nuts**: Aleppo galls, Chinese galls, Hungarian galls, pine galls, etc.

Gall nuts are excrescences produced on the leaves or twigs of various oak and other trees when punctured by certain insects such as those of the *Cynips* genus. They contain tannin and gallic acid, and are used in dyeing and in the preparation of certain writing inks.

(6) **Stems, stalks, leaves and flowers** : stems, stalks and leaves of woad, sumach, "young fustic", holly, myrtle, sunflower, henna, reseda, indigo plant; leaves of lentiscus (mastic); flowers of safflower (bastard saffron) and dyer's greenwood (*Genista tinctoria*; woadwaxen).

It is to be noted that saffron stigmas and styles are **excluded** (**heading 09.10**).

(7) **Lichens**: lichens from which the dyes known as orchil (or archil), cudbear and litmus are obtained (*Rocella tinctoria* and *fuciformis*, *Lichen tartareus* and *Lichen parellus*, pustulous lichen or *Umbilicaria pustulata*).

The heading **excludes**:

(a) Tanning extracts of vegetable origin and tannins (tannic acids) including water-extracted gall-nut tannin (**heading 32.01**).

(b) Dyewood extract and other vegetable dyeing extracts (**heading 32.03**).

(C) **Hard seeds, pips, hulls and nuts of a kind used for carving.**

These products are primarily used for the manufacture of buttons, beads, rosaries and other small fancy-goods.

They include, *inter alia*:

(1) **Corozo**, the seeds ("**nuts**") of several varieties of palm trees which grow mainly in South America. Its texture, hardness and colour resemble those of ivory, hence its common name, "vegetable ivory".

(2) **The seeds** ("**nuts**") **of the doum palm** which grows chiefly in East and Central Africa (Eritrea, Somaliland, the Sudan, etc.).

(3) **Similar** "**nuts**" **of certain other palms** (**e.g., Palmyra or Tahiti nuts**).

(4) **Seeds of the** *Canna indica* **variety of reed (Indian shot); the seeds of the** *Abrus precatorius* **(also called bead-tree); date stones; the nuts of the piassava palm.**

(5) **Coconut shells.**

The above products remain in this heading whether whole or (as is frequently the case with corozo and doum nuts) sliced, but not if otherwise worked. When otherwise worked, they are **excluded** (usually **heading 96.02** or **96.06**).

(D) **Vegetable materials of a kind used primarily as stuffing or as padding (for example, kapok, vegetable hair and eel-grass), whether or not put up as a layer with or without supporting material.**

This category includes vegetable materials primarily used for stuffing furniture, cushions, mattresses, pillows, saddlery and harness, life-buoys, etc. These materials remain classified in the heading even if they have subsidiary uses.

The heading **excludes** vegetable materials used as stuffing but specified elsewhere or used principally for other purposes, e.g., wood wool (**heading 44.05**), cork wool (**heading 45.01**), coconut fibres (or coir) (**heading 53.05**) and waste of vegetable textile fibres (**Chapter 52 or 53**).

The products of this group include, *inter alia*:

(1) **Kapok**, the commercial name for the pale yellow or sometimes brownish floss surrounding the seeds of various trees of the *Bombacaceae* family. The fibres are 15 to 30 mm in length, according to the variety, and are elastic, impermeable to water, light in weight but fragile.

(2) **Certain other vegetable downs** (sometimes known as vegetable silks), formed by the unicellular hairs of the seeds of certain varieties of tropical plants (e.g., *Asclepias*).

(3) **The products known as vegetable hair, including Algerian fibre** (*crin vegetal*), obtained from the leaves of certain varieties of dwarf palm trees (particularly the *Chamaerops humilis*).

(4) **Eel-grass** (e.g., *Zostera marina*), a variety of marine plant, which is hair-like or grass-like in form.

(5) **A naturally curled product** (*foin frisé*) obtained from the leaves of certain reeds of the genus *Carex*.

The heading covers these materials if raw, or if cleaned, bleached, dyed, carded or otherwise prepared (except for spinning). They remain classified in the heading when imported in hanks.

The heading also covers a layer of vegetable materials of the types described above on a support of textile fabric, paper, etc., or put up between sheets of textile fabric, paper, etc., by stapling or simple sewing.

(E) **Vegetable materials of a kind used primarily in brooms or in brushes (for example, broomcorn, piassava, couch-grass and istle), whether or not in hanks or bundles.**

This category includes vegetable materials primarily used in brooms and brushes, etc., even if they have subsidiary uses for other purposes. But it **excludes** vegetable materials specified elsewhere in the Nomenclature or not used principally for broom or brush making, for example, bamboos, whether or not split, reeds and rushes (**heading 14.01**), alfa, esparto grass and stalks of

broom, if prepared for textile use (**heading 53.03** (broom) or **heading 53.05** (alfa and esparto grass)), coconut fibres (or coir) (**heading 53.05**).

The products of this group include, *inter alia*:

(1) **The panicles of rice, broomcorn** (*Sorghum vulgare var. technicum*) **or certain millets, with their seeds removed**.

(2) **Piassava**, the fibres obtained from the leaves of certain tropical palms. The best known varieties are Brazilian and African piassava.

(3) **Roots of couch-grass**, a graminaceousplant of the genus *Andropogon*, which grows in dry, sandy soil. This plant, sometimes known as "brush-grass", is a weed found in Europe, particularly in Hungary and Italy. The couch-grass roots should not be confused with those of vetiver (Khus-Khus grass or Indian couch-grass) which give an essential oil, nor with medicinal couch-grass do the roots of which have curative properties (**heading 12.11**).

(4) **The roots of certain other graminaceous plants** of Central America such as those of the genus *Epicampes* (e.g., the broomroot or zacaton).

(5) **Gomuti fibres** obtained from the *Arenga saccharifera* or *pinnata*.

(6) **Istle or ixtle** (Tampico, Tampico-fibre, or Mexican fibre) composed of fibres, including the short stiff fibres obtained from the short-leaved Mexican agave.

All these materials remain in this heading whether or not cut, bleached, dyed or combed (other than for spinning), and whether or not in hanks or bundles.

The heading **does not**, however, **include** prepared knots or tufts of fibre, ready for incorporation without division in brooms or brushes (or requiring only certain minor processes to be ready for such incorporation). These are classified in **heading 96.03** (see Note 3 to Chapter 96).

(F) **Other vegetable products.**

These products include:

(1) **Esparto**, from the esparto grass (*Stipa tenacissima*) and the grass *Lygeum spartum* which grow in Africa and Spain. Their main use is in the manufacture of paper pulp, but they are also used in the manufacture of ropes and nets, of plaited articles such as carpets, matting, baskets, footwear, etc., and as stuffing and padding materials for chairs and mattresses.

Esparto is classified in this heading only if in the form of stems or leaves, whether raw, bleached or dyed; when rolled, crushed or combed as a textile fibre it is **excluded** (**heading 53.05**).

(2) **Alfa**, if not prepared for textile use.

(3) **Raw stalks of broom**, a leguminous plant the fibres of which are used in the textile industry; combed broom fibres or tow are **excluded** (**heading 53.03**).

(4) **Loofah**, also known as vegetable sponge, composed of the cellular tissue of a variety of gourd (*Luffa cylindrica*).

Sponges of animal origin are **excluded** (**heading 05.11**).

(5) **Flours of corozo**, of doum palm “nuts”, of coconut shell or the like.

(6) **Lichens** (but not those used for dyeing (see Item (A) (7)), medicinal or ornamental purposes). Agar-agar, carrageenan and other natural mucilages and thickeners extracted from vegetable materials are **excluded** (**heading 13.02**). Seaweeds and other algae of **heading 12.12** and dead unicellular algae (**heading 21.02**) are also **excluded**.

(7) **Teazle-heads**, including those prepared for use in textile finishing, but unmounted.

(8) **Japanese rice paper (so-called)** made by slicing the pith of certain trees indigenous to the Far East. It is used for making artificial flowers, for paintings, etc. Sheets of this rice paper remain classified in this heading whether or not they have been calendered to level their surface or have been cut to rectangular (including square) shape.

(9) **Betel leaves**, consisting of the fresh, green leaves of the vine *Piper betle L*. Betel leaves are most commonly chewed after meals for their refreshing and stimulating effects.

(10) **Quillaia bark (soap bark** or **Panama bark)** (*Quillaia saponaria*).

(11) **Sapindus berries or seeds** (soapberries) (Sapindus mukorossi, S. trifoliatus, S. saponaria, S. marginatus, and S. drummondii).

A layer of vegetable materials (of the types proper to this heading) on a support of textile fabric, paper, etc., or put up between sheets of textile fabric, paper, etc., by stapling or simple sewing, is also classified in this heading.

1404.20

- Cotton linters

1404.90

- Other

Section III

ANIMAL, VEGETABLE OR MICROBIAL FATS AND OILS AND THEIR CLEAVAGE PRODUCTS; PREPARED EDIBLE FATS; ANIMAL OR VEGETABLE WAXES

EXPLANATORY NOTES

Section III

ANIMAL OR VEGETABLE FATS AND OILS AND THEIR CLEAVAGE PRODUCTS; PREPARED EDIBLE FATS; ANIMAL OR VEGETABLE WAXES

Chapter 15

Animal, vegetable or microbial fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes

LEGAL NOTES

Notes.

1. - This Chapter does not cover:

(a) Pig fat or poultry fat of heading 02.09;

(b) Cocoa butter, fat or oil (heading 18.04);

(c) Edible preparations containing by weight more than 15 % of the products of heading 04.05 (generally Chapter 21);

(d) Greaves (heading 23.01) or residues of headings 23.04 to 23.06;

(e) Fatty acids, prepared waxes, medicaments, paints, varnishes, soap, perfumery, cosmetic or toilet preparations, sulphonated oils or other goods of Section VI; or

(f) Factice derived from oils (heading 40.02).

2. - Heading 15.09 does not apply to oils obtained from olives by solvent extraction (heading 15.10).

3. - Heading 15.18 does not cover fats or oils or their fractions, merely denatured, which are to be classified in the heading appropriate to the corresponding undenatured fats and oils and their fractions.

4. - Soap-stocks, oil foots and dregs, stearin pitch, glycerol pitch and wool grease residues fall in heading 15.22.

Subheading Note.

1.- For the purposes of subheading 1509.30, virgin olive oil has a free acidity expressed as oleic acid not exceeding 2.0 g/ 100 g and can be distinguished from the other virgin olive oil categories according to the characteristics indicated in the Codex Alimentarius Standard 33-1981.

2. - For the purposes of subheadings 1514.11 and 1514.19, the expression “low erucic acid rape or colza oil” means the fixed oil which has an erucic acid content of less than 2 % by weight.

EXPLANATORY NOTES

Chapter 15

Animal, vegetable or microbial fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes

Notes.

1. - This Chapter does not cover:

(a) Pig fat or poultry fat of heading 02.09;

(b) Cocoa butter, fat or oil (heading 18.04);

(c) Edible preparations containing by weight more than 15 % of the products of heading 04.05 (generally Chapter 21);

(d) Greaves (heading 23.01) or residues of headings 23.04 to 23.06;

(e) Fatty acids, prepared waxes, medicaments, paints, varnishes, soap, perfumery, cosmetic or toilet preparations, sulphonated oils or other goods of Section VI; or

(f) Factice derived from oils (heading 40.02).

2. - Heading 15.09 does not apply to oils obtained from olives by solvent extraction (heading 15.10).

3. - Heading 15.18 does not cover fats or oils or their fractions, merely denatured, which are to be classified in the heading appropriate to the corresponding undenatured fats and oils and their fractions.

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Subheading Note.

1.- For the purposes of subheading 1509.30, virgin olive oil has a free acidity expressed as oleic acid not exceeding 2.0 g/ 100 g and can be distinguished from the other virgin olive oil categories according to the characteristics indicated in the Codex Alimentarius Standard 33-1981.

2. - For the purposes of subheadings 1514.11 and 1514.19, the expression “low erucic acid rape or colza oil” means the fixed oil which has an erucic acid content of less than 2 % by weight.

GENERAL

(A) This Chapter covers:

(1) Animal, vegetable or microbial fats and oils, whether crude, purified or refined or treated in certain ways (e.g., boiled, sulphurised or hydrogenated).

(2) Certain products derived from fats or oils, particularly their cleavage products (e.g., crude glycerol).

(3) Compounded edible fats and oils (e.g., margarine).

(4) Animal or vegetable waxes.

(5) Residues resulting from the treatment of fatty substances or of animal or vegetable waxes.

The following are, however, **excluded**:

(a) Pig fat, free of lean meat, and poultry fat, not rendered or otherwise extracted, of **heading 02.09**.

(b) Butter and other fats and oils derived from milk (**heading 04.05**); dairy spreads of **heading 04.05**.

(c) Cocoa butter, fat and oil (**heading 18.04**).

(d) Greaves (**heading 23.01**); oil cake, residual olive pulp and other residues (except dregs) resulting from the extraction of vegetable or microbial fats and oils (**headings 23.04 to 23.06**).

(e) Fatty acids, acid oils from refining, fatty alcohols, glycerol (other than crude glycerol), prepared waxes, medicaments, paints, varnishes, soap, perfumery, cosmetic or toilet preparations, sulphonated oils or other goods of **Section VI**.

(f) Factice derived from oils (**heading 40.02**).

With the exception of sperm oil and jojoba oil, **animal, vegetable or microbial fats and oils** are esters of glycerol with fatty acids (such as palmitic, stearic and oleic acids).

They may be either solid or fluid, but are all lighter than water. On fairly long exposure to air they become rancid due to hydrolysis and oxidation. When heated they decompose, giving off an acrid, irritant odour. They are all insoluble in water, but completely soluble in diethyl ether, carbon disulphide, carbon tetrachloride, benzene, etc. Castor oil is soluble in alcohol but the other animal, vegetable or microbial fats and oils are only slightly soluble in alcohol. They all leave a persistent greasy stain on paper.

The esters forming triglyceride fats can be broken up (saponification) by the action of superheated steam, dilute acids, enzymes or catalysts, giving glycerol and fatty acids, or by the action of alkalis, which give glycerol and the alkali salts of fatty acids (soaps).

Headings 15.04 and 15.06 to 15.15 also cover fractions of the fats and oils mentioned in those headings, provided they are not more specifically described elsewhere in the Nomenclature (e.g., spermaceti, **heading 15.21**). The main methods used for fractionation are as follows:

(a) Dry fractionation which includes pressing, decantation, winterisation and filtration;

(b) Solvent fractionation; and

(c) Fractionation with the assistance of a surface-active agent.

Fractionation does not cause any changes in the chemical structure of the fats or oils.

The expression “fats or oils or their fractions, merely denatured” mentioned in Note 3 to this Chapter refers to fats or oils or their fractions to which a denaturant, such as fish oil, phenols, petroleum oils, oil of turpentine, toluene, methyl salicylate (wintergreen oil), oil of rosemary, has been added to render them inedible. These substances are added in small quantities (generally

not more than 1 %) which render the fats or oils or their fractions, e.g., rancid, sour, pungent, bitter. It should be noted, however, that Note 3 to this Chapter does not apply to denatured mixtures or preparations of fats or oils or their fractions (**heading 15.18**).

Subject to the exclusions in Note 1 to this Chapter, animal, vegetable or microbial fats and oils and their fractions are classified in this Chapter whether used as foodstuffs or for technical or industrial purposes (e.g., the manufacture of soap, candles, lubricants, varnishes or paints).

Vegetable or animal waxes consist essentially of the esters of certain higher fatty acids (palmitic, cerotic, myristic) with certain alcohols other than glycerol (cetyl, etc.). They contain a certain proportion of their acids and alcohols in the Free State, and also some hydrocarbons.

These waxes do not yield glycerol on hydrolysis and on heating they do not give off the acrid odour of fats and do not become rancid. Waxes are generally harder than fats.

(B) Headings 15.07 to 15.15 of this Chapter cover the single (i.e., not mixed with fats or oils of another nature), fixed vegetable or microbial fats and oils mentioned in the headings, together with their fractions, whether or not refined, but not chemically modified.

Vegetable fats and oils occur widely in nature and are found in the cells of certain parts of plants (e.g., seeds and fruit), from which they are extracted by pressure or by means of solvents.

The vegetable or microbial fats and oils classified in these headings are fixed fats and oils - i.e., fats and oils which cannot easily be distilled without decomposition, which are not volatile and which cannot be carried off by superheated steam (which decomposes and saponifies them).

With the exception of, e.g., jojoba oil, vegetable fats and oils are mixtures of glycerides, but whereas palmitic and stearic glycerides, which are solid at room temperature, predominate in solid oils, fluid oils are mainly composed of glycerides which are liquid at room temperature (glycerides of oleic acid, linoleic acid, linolenic acid, etc.). Microbial fats and oils are also mixtures of glycerides mainly of polyunsaturated fatty acids such as arachidonic acid and linoleic acid, which are liquid at room temperature.

These headings cover crude fats and oils and their fractions, as well as those which have been refined or purified, e.g., by clarifying, washing, filtering, decolourising, deacidifying or deodorising.

The by-products of the refining of oils, e.g., “oil foots and dregs”, and soap-stocks fall in **heading 15.22**. Acid oils from refining fall in **heading 38.23** and are prepared by decomposing with mineral acid the soap-stock obtained during the refining of crude oils.

The vegetable fats and oils covered by these headings are mainly obtained from the oil seeds and oleaginous fruits of headings 12.01 to 12.07, but may also be obtained from vegetable materials classified elsewhere (e.g.: olive oil, oils obtained from the kernels of peaches, apricots or plums of heading 12.12, oils obtained from almonds, walnuts, pine nuts, pistachio nuts, etc., of heading 08.02, oil obtained from germ of cereals). Microbial fats and oils covered by heading 15.15 are obtained by extracting lipid from oleaginous microorganisms. Microbial fats and oils are also known as single cell oils (SCO).

These headings **do not cover** edible or inedible mixtures or preparations, or vegetable fats and oils that have been chemically modified (**heading 15.16, 15.17** or **15.18, unless** they have the

character of products classified elsewhere, e.g., in **headings 30.03, 30.04, 33.03** to **33.07, 34.03**).

Heading 1501

Pig fat (including lard) and poultry fat, other than that of heading 02.09 or 15.03.

EXPLANATORY NOTES

15.01 - Pig fat (including lard) and poultry fat, other than that of heading 02.09 or 15.03.

1501.10 - Lard

1501.20 - Other pig fat

1501.90 - Other

The fats of this heading may be obtained by any process, e.g., by rendering, pressing or solvent-extraction. The most commonly used processes are wet rendering (steam or low-temperature) and dry rendering. In the dry rendering process a portion of the fat is drained off by application of high temperature; another portion of the fat is pressed out and added to the drained-off fat. In some cases, the remainder of the fat contained in the residues may be solvent-extracted.

Subject tothe above considerations, the heading includes:

- **Lard**, an edible soft creamy white solid or semi-solid fat obtained from the fatty tissue of pigs. Depending on the production method and the fatty tissue used, different lards are produced. For example, the best grade of edible pig fat is obtained, generally by dry rendering, from the internal fat of the abdomen of the pig. Most lards are deodorised and in some cases, antioxidants may be added to prevent rancidity.

  Lard containing bay leaves or other spices, added only in small quantities insufficient to change its essential character, is classified in this heading, but edible mixtures or preparations containing lard are **excluded** (**heading 15.17**).

- **Other pig fats**, including bone fat, fats obtained from waste and other inedible fats for uses other than human consumption, such as for manufacturing and animal feeding.

- **Poultry fats**, including bone fat and fats obtained from waste.

Bone fatobtained from fresh bones is a white or yellowish fat with the consistency and smell of tallow; but from stale bones it is soft, granular, dirty yellow or brown, with a disagreeable odour. It is used in soap or candle making and as a lubricant.

Fats obtained from waste are carcass fats, fats from certain other animal waste or residues (tongue parings, paunches, trimming, etc.) or greases obtained from the trimming or cleaning of skins. They generally have the following characteristic features: dark colour, unpleasant odour, higher content of e.g., free fatty acids (oleic, palmitic, etc.), cholesterol and impurities, and lower melting point than the lard or other fats of this heading. They are mainly used for technical purposes.

These fats may be crude or refined. Refining is effected by neutralisation, by treatment with Fuller's earth, insufflation with superheated steam, filtering, etc.

These products are used in the preparation of foods, for manufacturing ointments, soaps, etc.

The heading also **excludes**:

(a) Pig fat, free of lean meat, and poultry fat, not rendered or otherwise extracted, of **heading 02.09**.

(b) Lard stearin and lard oil (**heading 15.03**).

(c) Fats obtained from animals other than those mentioned in this heading (**heading 15.02, 15.04** or**15.06**).

(d) Bone oil of **heading 15.06**.

(e) Imitation lard (**heading 15.17**).

1501.10

- Lard

1501.20

- Other pig fat

1501.90

- Other

Heading 1502

Fats of bovine animals, sheep or goats, other than those of heading 15.03.

EXPLANATORY NOTES

15.02 - Fats of bovine animals, sheep or goats, other than those of heading 15.03.

1502.10 - Tallow

1502.90 - Other

This heading covers the fat surrounding the viscera and muscles of bovine animals, sheep or goats, that from bovine animals being the most important. This fat may be raw (fresh, chilled or frozen), salted, in brine, dried, smoked or in the form of rendered fat (tallow). The rendering processes used are the same as those for obtaining the fats of heading 15.01. The heading also covers fats obtained by pressing or solvent-extraction.

"*Premier Jus*" (oleo stock) is the best grade of edible tallow. It is a solid white or yellowish product which is odourless if of recent preparation but develops a characteristic rancid odour after exposure to air.

Tallow is almost exclusively composed of glycerides of oleic, stearic and palmitic acids.

Tallow is used for the preparation of edible fats or of lubricants, in the manufacture of soap or candles, for dressing leather, in the preparation of animal feeds, etc.

The heading also includes bone fat and fats obtained from waste, of bovine animals, sheep or goats. The description of the corresponding fats in the Explanatory Note to heading 15.01 applies also to such fats of this heading.

The heading **excludes**:

(a) Oleostearin, oleo-oil and tallow oil (**heading 15.03**).

(b) Fat obtained from horses (**heading 15.06**).

(c) Bone fat and fats obtained from waste, of animals other than those mentioned in this heading (**heading 15.01, 15.04** or **15.06**).

(d) Oils of animal origin (e.g., neat's foot oil and bone oil, of **heading 15.06**).

(e) Certain vegetable fats known as "vegetable tallows", e.g., "Chinese vegetable tallow" (stillingia fat) and "Borneo tallow" (**heading 15.15**).

1502.10

- Tallow

1502.90

- Other

Heading 1503

Lard stearin, lard oil, oleostearin, oleo-oil and tallow oil, not emulsified or mixed or otherwise prepared.

EXPLANATORY NOTES

15.03 - Lard stearin, lard oil, oleostearin, oleo-oil and tallow oil, not emulsified or mixed or otherwise prepared.

This heading covers products obtained by pressing lard (i.e., lard stearin and lard oil) or by pressing tallow (i.e., oleo-oil, tallow oil and oleostearin). In these processes the lard or tallow is held in heated tanks for three to four days during which time crystals of lard stearin or oleostearin are formed. The resulting grainy mass is then pressed to separate the oils from the stearins. This pressing differs from the pressing in dry rendering which is conducted at higher temperature to remove the residual fat from the other animal materials such as protein and connective tissue, etc. The products of this heading may also be obtained by other methods of fractionation.

Lard stearin is the solid white fat left after lard or other rendered pig fat has been pressed. The heading covers both the edible and inedible forms. Edible lard stearin is sometimes mixed with soft lard to give it a firmer consistency (**heading 15.17**). Inedible lard stearin is used as a lubricant or as a source of glycerol, olein or stearin.

Lard oilis a product obtained by the cold pressing of lard or other rendered pig fat. It is a yellowish liquid with a faintly greasy odour and pleasant taste, used in certain industrial processes (wool processing, soap manufacture, etc.) or as a lubricant or sometimes for food purposes.

Oleo-oil (edible) is a white or yellowish solid fat of soft consistency with a faint smell of tallow and an agreeable flavour. It is crystalline but may become granular on rolling or smoothing. It is composed mainly of the glyceride of oleic acid (triolein). Oleo-oil is chiefly used for the manufacture of edible products, such as margarine or imitation lard, and as a lubricant.

Tallow oil (inedible oleo-oil) is a yellowish liquid, smells of tallow, and turns rancid very easily when exposed to air. It is used for soap-making and is mixed with mineral oils for use as a lubricant.

The harder part which remains after the extraction of the oleo-oil or tallow oil is a mixture consisting mainly of the glycerides of stearic and palmitic acids (tristearin and tripalmitin). Known as **oleostearin** or **tallow stearin** (“pressed tallow”), it is generally in the form of hard, brittle cakes or tablets. It is white, odourless and tasteless.

The heading **excludes** products which have been emulsified, mixed or otherwise prepared (**heading 15.16, 15.17** or **15.18**).

1503.00

Lard stearin, lard oil, oleostearin, oleo-oil and tallow oil, not emulsified or mixed or otherwise prepared.

Heading 1504

Fats and oils and their fractions, of fish or marine mammals, whether or not refined, but not chemically modified.

EXPLANATORY NOTES

15.04 - Fats and oils and their fractions, of fish or marine mammals, whether or not refined, but not chemically modified.

1504.10 - Fish-liver oils and their fractions

1504.20 - Fats and oils and their fractions, of fish, other than liver oils

1504.30 - Fats and oils and their fractions, of marine mammals

This heading covers fats and oils and their fractions, derived from several varieties of fish (cod, halibut, menhaden, herring, sardines, anchovy, pilchard, etc.) or marine mammals (whales, dolphins, seals, etc.). They are extracted from the body or liver of the fish or marine mammal or from waste thereof. They usually have a characteristic fishy smell and a disagreeable taste, and vary in colour from yellow to reddish-brown.

Cod liver and halibut liver and other fish liver yield oils with a high content of vitamins and other organic substances. They are, therefore, chiefly used in medicine. These oils remain in this heading whether or not their vitamin content has been increased by irradiation or otherwise, but they fall in **Chapter 30** when put up as medicaments, or emulsified or containing other substances added with a view to therapeutic use.

This heading also includes “fish stearin”, a solid product obtained by pressing and decanting chilled fish oil. It is a yellowish or brown substance smelling of fish, and is used for the preparation of degras, lubricants and low-grade soap.

The fats and oils derived from fish or marine mammals remain in this heading when refined, but are **excluded** if partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised (**heading 15.16**).

1504.10

- Fish-liver oils and their fractions

1504.20

- Fats and oils and their fractions, of fish, other than liver oils

1504.30

- Fats and oils and their fractions, of marine mammals

Heading 1505

Wool grease and fatty substances derived therefrom (including lanolin).

EXPLANATORY NOTES

15.05 - Wool grease and fatty substances derived therefrom (including lanolin)

Wool grease is a sticky fat with a disagreeable odour, extracted from the soapy water in which the wool has been scoured or cloth fulled. It may also be extracted from greasy wool by means of volatile solvents (carbon disulphide, etc.). Wool grease does not consist of glycerol esters and, therefore, chemically it should be regarded as a wax rather than a fat. It is employed in the preparation of lubricants and for other industrial purposes, but it is mostly used as lanolin (its refined product) or for the extraction of wool grease olein or wool grease stearin.

Lanolin, obtained by purifying wool grease, has the consistency of an ointment; it ranges in colour from yellowish-white to brown according to the degree of refining, deteriorates only very slightly in the air and has a faint, characteristic odour. Lanolin is very soluble in boiling spirit but insoluble in water, although it can absorb a large quantity of water, turning into an unctuous emulsion known as hydrated lanolin.

Anhydrous lanolin is used for the preparation of lubricants, emulsifiable oils or dressings. Hydrated or emulsified lanolin is mainly used for the preparation of ointments or cosmetics.

Slightly modified lanolin, which retains the essential character of lanolin, and wool alcohols (also known as lanolin alcohols - mixtures of cholesterol, isocholesterol and other higher alcohols) are also covered by this heading.

The heading **excludes** chemically defined alcohols (generally **Chapter 29**) and preparations based on lanolin, for example lanolin to which medicated or perfumed substances have been added (**heading 30.03** or **30.04**, or **Chapter 33**). Also **excluded** are lanolins so extensively modified chemically that they have lost the essential character of lanolin, for example lanolin ethoxylated to such an extent as to be water soluble (usually **heading 34.02**).

When wool-grease is steam-distilled and pressed, it separates into a liquid, a solid and a residue.

The liquid, known as **wool grease olein** is cloudy, reddish-brown and with a faint odour of wool grease. It is soluble in alcohol, diethyl ether, motor spirit, etc. It is used as a textile greasing agent in spinning mills.

The solid part (**wool grease stearin**) is a waxy substance, yellow-brown in colour and smelling strongly of wool grease, soluble in boiling spirit and other organic solvents. It is used in the leather industry, for the preparation of lubricants or adhesive greases, and in the manufacture of candles or soap.

The heading **excludes** wool grease residues (**heading 15.22**).

1505.00

Wool grease and fatty substances derived therefrom (including lanolin).

Heading 1506

Other animal fats and oils and their fractions, whether or not refined, but not chemically modified.

EXPLANATORY NOTES

15.06 - other animal fats and oils and their fractions, whether or not refined, but not chemically modified.

This heading covers all fats and oils of animal origin and their fractions, **except** those which are classified in heading 02.09 or in earlier headings of this Chapter. It therefore covers all animal fats not obtained from pigs, poultry, bovine animals, sheep, goats, fish or marine mammals, and all animal oils except lard oil, oleo-oil, tallow oil, oils obtained from fish or marine mammals, and oils derived from wool grease.

The heading includes in particular:

(1) **Fat obtained from horses, hippopotamuses, bears, rabbits, land-crabs, turtles, etc.** (including fats obtained from bone, marrow or waste of these animals).

(2) **Neat's-foot and similar oils** obtained by cold pressing the grease obtained by boiling the foot or shin bones of bovine animals, horses or sheep.

These are pale yellow, sweetish oils, stable in air, chiefly used as lubricants for delicate mechanisms (watches, sewing-machines, fire-arms, etc.).

(3) **Bone oil** extracted from bone fat by pressure, or by the treatment of bones with hot water. This is an odourless, yellowish liquid oil, which does not readily become rancid. It is used as a lubricant for delicate mechanisms and for dressing skins.

(4) **Oil extracted from marrow**. A white or yellowish product used in pharmacy and in perfumery.

(5) **Egg-yolk oil** extracted from hard-boiled egg-yolks by pressure or by solvents. It is a clear, golden-yellow or reddish oil, with a smell of boiled eggs.

(6) **Turtle-egg oil**. Pale yellow and odourless; used for food.

(7) **Chrysalis oil** extracted from silk-worm chrysalises. This is a reddish-brown oil with a pronounced and very disagreeable odour; it is used in soap manufacture.

This heading **excludes**:

(a) Pig or poultry fat (**heading 02.09** or **15.01**).

(b) Fats of bovine animals, sheep or goats (**heading 15.02**).

(c) Fats and oils of fish or marine mammals and their fractions (**heading 15.04**).

(d) Products consisting mainly of pyridine bases (known as Dippel's oil, also sometimes called bone-oil) (**heading 38.24**).

1506.00

Other animal fats and oils and their fractions, whether or not refined, but not chemically modified.

Heading 1507

Soya-bean oil and its fractions, whether or not refined, but not chemically modified.

EXPLANATORY NOTES

15.07 - Soya-bean oil and its fractions, whether or not refined, but not chemically modified (+).

1507.10 - Crude oil, whether or not degummed

1507.90 - Other

Soya-bean oil is obtained by extraction from the seeds of the soya bean (*Glycine max*), using hydraulic or expeller presses, or solvents. It is a pale yellow, fixed drying oil used for both food and industrial purposes, e.g., in margarine and salad dressings, in the manufacture of soap, paints, varnishes, plasticisers, and alkyd resins.

The heading also includes fractions of soya-bean oil. However, soya-bean lecithin, obtained from crude soya-bean oil during refining, is to be classified in **heading 29.23**.

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Subheading Explanatory Note.

Subheading 1507.10

Fixed vegetable oils, fluid or solid, obtained by pressure, shall be considered as "crude" if they have undergone no processing other than decantation, centrifugation or filtration, provided that, in order to separate the oils from solid particles only mechanical force, such as gravity, pressure or centrifugal force, has been employed, excluding any adsorption filtering process, fractionation or any other physical or chemical process. If obtained by extraction an oil shall continue to be considered as "crude", provided it has undergone no change in colour, odour or taste when compared with the corresponding oil obtained by pressure.

1507.10

- Crude oil, whether or not degummed

1507.90

- Other

Heading 1508

Ground-nut oil and its fractions, whether or not refined, but not chemically modified.

EXPLANATORY NOTES

15.08 - Ground-nut oil and its fractions, whether or not refined, but not chemically modified (+).

1508.10 - Crude oil

1508.90 - Other

Ground-nut oil or peanut oil is a non-drying oil obtained from the seeds or “nuts” of the common ground-nut (*Arachis hypogaea*), by solvent extraction or by pressing.

The filtered and refined oil is used, for example, as a salad oil, for cooking and for making margarine. Inferior grades are used for making soaps or lubricants.

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Subheading Explanatory Note.

Subheading 1508.10

See the Explanatory Note to subheading 1507.10.

1508.10

- Crude oil

1508.90

- Other

Heading 1509

Olive oil and its fractions, whether or not refined, but not chemically modified.

EXPLANATORY NOTES

15.09 - Olive oil and its fractions, whether or not refined, but not chemically modified.

1509.20 - Extra virgin olive oil

1509.30 - Virgin olive oil

1509.40 - other virgin olive oils

1509.90 - Other

Olive oil is the oil obtained from the fruit of the olive tree (*Olea europaea L.*).

This heading covers:

Virgin olive oils are the oils obtained from the fruit of the olive tree solely by mechanical or other physical means under conditions, particularly thermal conditions, that do not lead to alterations in the oil, and which have not undergone any treatment other than washing, decanting, centrifuging and filtration.

(A) Extra virgin olive oil, which is obtained under specific conditions, in particular as regards the handling of the olives prior to processing or the temperature control during processing and storage, which do not lead to any alterations in the oil. As regards its organoleptic characteristics, it is fruity and presents no defects. It has a clear, light yellow to green colour. It is suitable for consumption in its natural state. Extra virgin olive oil has a free acidity expressed as oleic acid not exceeding 0.8 grams per 100 grams and can be distinguished from the other olive oil categories according to the characteristics indicated in the Codex Alimentarius Standard 33-1981.

(B) Virgin olive oil, which is obtained under specific conditions, particularly thermal ones during processing and storage that might lead to some slight alterations in the oil, producing organoleptic defects not exceeding the limits specified in the Codex Alimentarius Standard 33-1981. It has a specific fruity taste, a clear light yellow to green colour and is suitable for consumption in its natural state. Virgin olive oil has a free acidity expressed as oleic acid not exceeding 2.0 grams per 100 grams and can be distinguished from the other olive oil categories according to the characteristics indicated in the Codex Alimentarius Standard 33-1981.

(C) Other virgin olive oils, which are obtained under conditions that lead to a product that may not be suitable for human consumption without further refining and includes the two categories, i.e., lampante virgin olive oil and ordinary virgin olive oil.

(D) Other includes oils obtained from the virgin olive oils of the above-listed subheadings by refining methods, which do not lead to alterations in the initial glyceride structure. It includes the following two categories:

(1) ***Refined olive oil*** has a free acidity expressed as oleic acid not exceeding 0.3 grams per 100 grams and other characteristics corresponding to those reported in the Codex Alimentarius Standard 33-1981. It is a clear, limpid oil containing no sediment. It has a light-yellow colour and no specific odour or taste and it may be suitable for human consumption.

(2) ***Olive oil*** composed of refined olive oil and virgin olive oils is oil consisting of a blend of refined olive oil and virgin olive oils fit for consumption as they are. It has a free acidity, expressed as oleic acid, of not more than 1 gram per 100 grams and its other characteristics correspond to those reported in section 3 of the Codex Alimentarius Standard 33-1981. This product has a light-yellow to green colour, and a good odour and taste.

(E) Fractions and blends of the oils described under (A) to (D) above.

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This heading **does not cover** olive pomace oil and its blends with virgin olive oils (**heading 15.10**) or re-esterified oil obtained from olive oill (**heading 15.16**).

15.09 - Olive oil and its fractions, whether or not refined, but not chemically modified.

1509.20 - Extra virgin olive oil

1509.30 - Virgin olive oil

1509.40 - other virgin olive oils

1509.90 - Other

Olive oil is the oil obtained from the fruit of the olive tree (*Olea europaea L.*).

This heading covers:

Virgin olive oils are the oils obtained from the fruit of the olive tree solely by mechanical or other physical means under conditions, particularly thermal conditions, that do not lead to alterations in the

oil, and which have not undergone any treatment other than washing, decanting, centrifuging and filtration.

(A) Extra virgin olive oil, which is obtained under specific conditions, in particular as regards the handling of the olives prior to processing or the temperature control during processing and storage, which do not lead to any alterations in the oil. As regards its organoleptic characteristics, it is fruity and presents no defects. It has a clear, light yellow to green colour. It is suitable for consumption in its natural state. Extra virgin olive oil has a free acidity expressed as oleic acid not exceeding 0.8 grams per 100 grams and can be distinguished from the other olive oil categories according to the characteristics indicated in the Codex Alimentarius Standard 33-1981.

(B) Virgin olive oil, which is obtained under specific conditions, particularly thermal ones during processing and storage that might lead to some slight alterations in the oil, producing organoleptic defects not exceeding the limits specified in the Codex Alimentarius Standard 33-1981. It has a specific fruity taste, a clear light yellow to green colour and is suitable for consumption in its natural state. Virgin olive oil has a free acidity expressed as oleic acid not exceeding 2.0 grams per 100 grams and can be distinguished from the other olive oil categories according to the characteristics indicated in the Codex Alimentarius Standard 33-1981.

(C) Other virgin olive oils, which are obtained under conditions that lead to a product that may not be suitable for human consumption without further refining and includes the two categories, i.e., lampante virgin olive oil and ordinary virgin olive oil.

(D) Other includes oils obtained from the virgin olive oils of the above-listed subheadings by refining methods, which do not lead to alterations in the initial glyceride structure. It includes the following two categories:

(1) ***Refined olive oil*** has a free acidity expressed as oleic acid not exceeding 0.3 grams per 100 grams and other characteristics corresponding to those reported in the Codex Alimentarius Standard 33-1981. It is a clear, limpid oil containing no sediment. It has a light-yellow colour and no specific odour or taste and it may be suitable for human consumption.

(2) ***Olive oil*** composed of refined olive oil and virgin olive oils is oil consisting of a blend of refined olive oil and virgin olive oils fit for consumption as they are. It has a free acidity, expressed as oleic acid, of not more than 1 gram per 100 grams and its other characteristics correspond to those reported in section 3 of the Codex Alimentarius Standard 33-1981. This product has a light-yellow to green colour, and a good odour and taste.

(E) Fractions and blends of the oils described under (A) to (D) above.

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This heading **does not cover** olive pomace oil and its blends with virgin olive oils (**heading 15.10**) or re-esterified oil obtained from olive oill (**heading 15.16**).

1509.20

- Extra virgin olive oil

1509.30

- Virgin olive oil

1509.40

- Other virgin olive oils

1509.90

- Other

Heading 1510

Other oils and their fractions, obtained solely from olives, whether or not refined, but not chemically modified, including blends of these oils or fractions with oils or fractions of heading 15.09.

EXPLANATORY NOTES

15.10 - Other oils and their fractions, obtained solely from olives, whether or not refined, but not chemically modified, including blends of these oils or fractions with oils or fractions of heading 15.09.

1510.10 - Crude olive pomace oils

1510.90 - Other

This heading covers oils coming from olives, **other than** the oils of **heading 15.09**.

This heading includes oils obtained from olive pomace. Olive pomace is the residual solids of olives after extraction of olive oils of heading 15.09. This residual paste still contains a variable amount of water and oil.

The oils of this heading may be crude or refined or otherwise treated, provided that no modification of the glyceridic structure has taken place.

The heading also covers fractions and blends of oils or fractions of this heading with oils or fractions of heading 15.09. The most common blend consists of a mixture of refined olive pomace oil and virgin olive oils.

(A) **Crude olive pomace oil,** which is oil obtained by solvent-extraction or other physical treatments of the residues left after the extraction of olive oils of heading 15.09. This oil can be distinguished from those of heading 15.09 by the characteristics for this category indicated in the Standard of the International Olive Council (COI/T.15/NC No 3). It is intended for technical use or for human consumption after refining.

(B) **Refined olive pomace oil**, which is oil obtained from crude olive pomace oil by refining methods, which do not lead to alterations in the initial glyceridic structure.

Refined olive pomace oils include:

(1) ***Refined olive pomace oil***: it has a free acidity, expressed as oleic acid, of not more than 0.3 grams per 100 grams and other characteristics corresponding to those reported in the Codex Alimentarius Standard 33-1981 for this category. This product has a light-yellow to brownish yellow colour, an acceptable odour and taste, and is suitable for human consumption; however, it may be sold directly to the consumer only if permitted in the country of retail sale.

(2) ***Olive pomace oil*** is the oil consisting of a blend of refined olive pomace oil and extra virgin olive oil (A) and/or virgin olive oil (B). It has a free acidity, expressed as oleic acid, of not more than 1 grams per 100 grams and other characteristics corresponding to those reported in the Codex Alimentarius Standard 33-1981 for this category. This product has a light-yellow to green colour, a good odour and taste, and its fit for human consumption.

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This heading **does not cover** re-esterified oils obtained from olive oil (**heading 15.16**).

1510.10

- Crude olive pomace oil

1510.90

- Other

Heading 1511

Palm oil and its fractions, whether or not refined, but not chemically modified.

EXPLANATORY NOTES

15.11 - Palm oil and its fractions, whether or not refined, but not chemically modified (+).

1511.10 - Crude oil

1511.90 - Other

Palm oil is a vegetable fat obtained from the pulp of the fruits of oil palms. The main source is the African oil palm (*Elaeis guineensis*) which is native to tropical Africa but is also grown in Central America, Malaysia and Indonesia; other examples are *Elaeis melanococca* (also known as noli palm) and various species of *Acrocomia* palms, including the Paraguayan palm (coco mbocaya), originating in South America. The oils are obtained by extraction or pressing and may be of various colours depending on their condition and whether they have been refined. They are distinguishable from palm kernel oils **(heading 15.13**), which are obtained from the same oil palms by having a very high palmitic and oleic acid content.

Palm oil is used in the manufacture of soap, candles, cosmetic or toilet preparations, as a lubricant, for hot-dipped tin coating, in the production of palmitic acid, etc. Refined palm oil is used as a food stuff, e.g., as a frying fat, and in the manufacture of margarine.

This heading **does not cover** palm kernel oil or babassu oil (**heading 15.13**).

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Subheading Explanatory Note.

Subheading 1511.10

See the Explanatory Note to subheading 1507.10.

1511.10

- Crude oil

1511.90

- Other

CLASSIFICATION OPINIONS

1. **Crude palm stearin**, consisting mainly of triglycerides, with less than 5 % by weight of free fatty acids and less than 0.25 % by weight of moisture and impurities. It is generally presented as a semi-solid at room temperature and is the high-melting fraction obtained by a one-stage or multi-stage fractionation of crude palm oil. **Application of GIRs 1 and 6.** *Adoption: 2015*

2. **Refined Bleached Deodorized (RBD)** palm stearin, consisting mainly of triglycerides, with less than 0.2 % by weight of free fatty acids and less than 0.15 % by weight of moisture and impurities. It is a white to yellowish solid fraction with a melting point of 33 to 39 °C obtained by the fractionation of palm oil after crystallization at controlled temperatures. The product is used as cooking oil, for shortening margarine and for the production of confectionary and bakery products. **Application of GIRs 1 and 6.** *Adoption: 2015*

Heading 1512

Sunflower-seed, safflower or cotton-seed oil and fractions thereof, whether or not refined, but not chemically modified.

EXPLANATORY NOTES

15.12 - Sunflower-seed, safflower or cotton-seed oil and fractions thereof, whether or not refined, but not chemically modified (+).

- Sunflower-seed or safflower oil and fractions thereof:

1512.11 - - Crude oil

1512.19 - - Other

- Cotton-seed oil and its fractions:

1512.21 - - Crude oil, whether or not gossypol has been removed

1512.29 - - Other

(A) SUNFLOWER-SEED OIL

This oil is obtained from the common sunflower (*Helianthus annuus*) and is a light golden-yellow oil. It is used as a salad oil and in margarine and lard substitutes. The oil has semi-drying properties which render it useful in the paint or varnish industries.

(B) SAFFLOWER OIL

The seeds of the safflower (*Carthamus tinctoris*), which is a very important dye plant, furnish a drying, edible oil. This is used in foods and medicines, for alkyd resins, paints and varnishes.

(C) COTTON-SEED OIL

This is the most important of the semi-drying oils and is obtained from the kernels of the seeds of several species of the genus *Gossypium*. Cotton-seed oil has a wide range of industrial uses, e.g., in leather dressing, in the manufacture of soap, lubricants, glycerol and waterproofing compositions, and as a base for cosmetic creams. The pure refined oil is of great value as a salad or cooking oil and for making margarine and lard substitutes.

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Subheading Explanatory Note.

Subheadings 1512.11 and 1512.21

See the Explanatory Note to subheading 1507.10.

1512.1

- Sunflower-seed or safflower oil and fractions thereof:

1512.11

-- Crude oil

1512.19

-- Other

1512.2

- Cotton-seed oil and its fractions:

1512.21

-- Crude oil, whether or not gossypol has been removed

1512.29

-- Other

Heading 1513

Coconut (copra), palm kernel or babassu oil and fractions thereof, whether or not refined, but not chemically modified.

EXPLANATORY NOTES

15.13 - Coconut (copra), palm kernel or babassu oil and fractions thereof, whether or not refined, but not chemically modified (+).

- Coconut (copra) oil and its fractions:

1513.11 - - Crude oil

1513.19 - - Other

- Palm kernel or babassu oil and fractions thereof:

1513.21 - - Crude oil

1513.29 - - Other

(A) COCONUT (COPRA) OIL

This oil is obtained from the dried flesh or copra (as it is called) of the coconut (*Cocos nucifera*). Fresh coconut flesh can also be used. This non-drying oil is pale yellow or colourless and is solid below 25 °C. Coconut oil is used in soaps, in cosmetic or toilet preparations, for making lubricating greases, synthetic detergents, laundering or cleaning preparations and as a source of fatty acids, fatty alcohols and methyl esters.

Refined coconut oil is edible and is used for food products such as margarine, dietary supplements.

(B) PALM KERNEL OIL

This white oil is obtained from the kernel of the nut, rather than the pulp of the fruits of oil palms, mainly the African oil palm *Elaeis guineensis* (see Explanatory Note to heading 15.11). It is extensively used in the margarine and candy industries, as it has a pleasant odour and nutty flavour. It is also used in the manufacture of glycerol, shampoos, soap and candles.

(C) BABASSU OIL

This non-drying oil is obtained from the babassu palm *Orbignya martiana* and O*. oleifera*. It is expressed from the kernel of the nut of the fruits.

Babassu oil is used in making industrial products, e.g., soap. When refined it is used as a substitute for palm kernel oil in food products.

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Subheading Explanatory Note.

Subheadings 1513.11 and 1513.21

See the Explanatory Note to subheading 1507.10.

1513.1

- Coconut (copra) oil and its fractions:

1513.11

-- Crude oil

1513.19

-- Other

1513.2

- Palm kernel or babassu oil and fractions thereof:

1513.21

-- Crude oil

1513.29

-- Other

Heading 1514

Rape, colza or mustard oil and fractions thereof, whether or not refined, but not chemically modified.

EXPLANATORY NOTES

15.14 - Rape, colza or mustard oil and fractions thereof, whether or not refined, but not chemically modified (+).

- Low erucic acid rape or colza oil and its fractions:

1514.11 - - Crude oil

1514.19 - - Other

- Other:

1514.91 - - Crude oil

1514.99 - - Other

(A) RAPE OR COLZA OILS

The seeds of several species of *Brassica*, particularly *B. napus* and *B. rapa* (or *B. campestris*), yield semi-drying oils with similar characteristics, which are classified commercially as rape or colza oils.

These oils generally contain high levels of erucic acid. This heading also covers low erucic acid rape seed oil and colza seed oil (which are produced from the low erucic acid oil bearing seeds of specially developed strains of rape or colza), e.g., canola oil or the European rape or colza oil "double zero".

They are used for salad dressings, in the manufacturing of margarine, etc. They are also used for making industrial products, e.g., as a lubricant additive. The refined oils, generally referred to as colza oil, are also edible.

(B) MUSTARD OIL

This is a fixed vegetable oil obtained from, for example, the following three species: white mustard (*Sinapsis Alba* and *Brassica hirta*), black mustard (*Brassica nigra*) or Indian mustard (*Brassica juncea*). It generally contains a high level of erucic acid and is used, e.g., in medicines, for cooking or in industrial products.

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Subheading Explanatory Note.

Subheadings 1514.11 and 1514.91

See the Explanatory Note to subheading 1507.10.

1514.1

- Low erucic acid rape or colza oil and its fractions:

1514.11

-- Crude oil

1514.19

-- Other

1514.9

- Other:

1514.91

-- Crude oil

1514.99

-- Other

Heading 1515

Other fixed vegetable or microbial fats and oils (including jojoba oil) and their fractions, whether or not refined, but not chemically modified.

EXPLANATORY NOTES

15.15 - other fixed vegetable or microbial fats and oils (including jojoba oil) and their fractions, whether or not refined, but not chemically modified (+).

- Linseed oil and its fractions:

1515.11 - - Crude oil

1515.19 - - Other

- Maize (corn) oil and its fractions:

1515.21 - - Crude oil

1515.29 - - Other

1515.30 - Castor oil and its fractions

1515.50 - Sesame oil and its fractions

1515.60 - Microbial fats and oils and their fractions

1515.90 - Other

This heading covers single, fixed vegetable or microbial fats and oils and their fractions (see the General Explanatory Note, Part (B)) **other than** those specified in **headings 15.07 to 15.14**. The following are of particular commercial importance:

(1) **Linseed oil**, obtained from the seeds of the flax plant (*Linum usitatissimum*). This oil is one of the most important of the drying oils. Linseed oil varies from yellow to brownish in colour and has an acrid taste and smell. On oxidation it forms a very tough elastic film. The oil is used chiefly in making paints, varnishes, oil cloth, putty, soft soap, printing inks, alkyd resins or pharmaceuticals. Cold-pressed linseed oil is edible.

(2) **Maize (corn) oil**, obtained from the kernels of maize, most of the lipids (around 80 %) being contained in the germ. The crude oil has many industrial uses, e.g., in making soap, lubricants, leather dressing, etc. The refined oil is edible and is used for cooking, in bakeries, for mixing with other oils, etc. Maize oil is a semi-drying oil.

(3) **Castor oil** comes from the seeds of *Ricinus communis*. It is a non-drying, thick, generally colourless or lightly coloured oil, which was formerly used chiefly in medicine as a purgative, but is now used in industry as a plasticiser in lacquers or nitrocellulose, in the production of dibasic acids, elastomers or adhesives, surface-active agents, hydraulic fluids, etc.

(4) Sesame oil, obtained from the seeds of an annual herb, Sesamum indicum. It is a semi-drying oil, the finer grades of which are used in shortenings, salad oil, margarine and similar food products, and in medicines. The poorer grades are used for industrial purposes.

(5) **Microbial fats and oils**, also known as single cell oils (SCOs), are obtained by extracting lipids from oleaginous microorganisms such as fungi (including yeasts), bacteria and microalgae. These lipids contain a high percentage of triacylglycerols (TAGs), mainly of polyunsaturated fatty acids such as arachidonic acid and linoleic acid, which are liquid at room temperature. They may be used for the same range of purposes for which vegetable oils are used. Oils obtained from other oleaginous multi-cellular microorganisms are also included in this heading.

For example:

(a) Arachidonic acid oil (ARA), obtained from the fungus *Mortierella alpina,* is a yellow or orange-yellow liquid which may be used as an ingredient in food, animal feed, medicine or cosmetics.

(b) Schizochytrium oil, obtained from the microalgae *Schizochytrium* sp., which may be used as an ingredient in food.

Oleaginous microorganisms from which microbial fats and oils are obtained include, *inter alia*, yeasts, fungi, microalgae and bacteria."

(6) **Tung oil**, (China-wood oil) obtained from the seeds of different species of the genus *Aleurites* (e.g., *A. fordii, A. montana*). It is pale yellow to dark brown in colour, dries very rapidly and has preservative and waterproofing qualities. Its main use is in the manufacture of varnishes and paints.

(7) **Jojoba oil**, often described as a liquid wax, a colourless or yellowish, odourless liquid, consisting mainly of esters of higher fatty alcohols, obtained from the seeds of desert shrubs of the genus *Simmondsia* (*S. californica* or *S. chinensis*), used as a substitute for sperm oil, e.g., in cosmetic preparations.

(8) The products known as **vegetable tallows** (chiefly Borneo tallow and Chinese vegetable tallow), obtained by processing certain oleaginous seeds. Borneo tallow is in the form of crystalline or granular cakes, white outside and greenish-yellow inside. Chinese tallow is a solid, waxy substance, greenish in colour and with a slightly aromatic odour, oily to the touch.

(9) The products known by the trade as **myrtle-wax** and **Japan wax**, which are actually vegetable fats. Myrtle wax, extracted from various kinds of myrtle berries, is presented in the form of hard, greenish-yellow cakes with a waxy appearance and a characteristic odour reminiscent of balsam. Japan wax is a substance extracted from the fruit of several varieties of Chinese or Japanese trees of the *Rhus* family. It takes the form of greenish, yellowish or white, waxy-looking tablets or discs, crystalline and brittle, with a faintly resinous odour.

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Subheading Explanatory Note.

Subheadings 1515.11 and 1515.21

See the Explanatory Note to subheading 1507.10.

1515.1

- Linseed oil and its fractions:

1515.11

-- Crude oil

1515.19

-- Other

1515.2

- Maize (corn) oil and its fractions:

1515.21

-- Crude oil

1515.29

-- Other

1515.30

- Castor oil and its fractions

1515.50

- Sesame oil and its fractions

1515.60

- Microbial fats and oils and their fractions

CLASSIFICATION OPINIONS

1. Arachidonic Acid (ARA) Oil, in the form of a yellow or orange-yellow liquid at room temperature, obtained by fungus *(Mortierella Alpina)* fermentation from raw materials such as glucose. The oil has the following glyceride profile: 95 to 98 % triglyceride and 2 to 5 % diglycerides and monoglycerides. The profile of the main fatty acids of the product consists of polyunsaturated fatty acids, such as 40 to 45 % arachidonic acid and 0 to 15 % linoleic acid.
This oil may be used as an ingredient in food, animal feed, medicine or cosmetics.
Application of GIRs 1 and 6.
Adoption: 2017

1515.90

- Other

Heading 1516

Animal, vegetable or microbial fats and oils and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared.

EXPLANATORY NOTES

15.16 - Animal, vegetable or microbial fats and oils and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared.

1516.10 - Animal fats and oils and their fractions

1516.20 - Vegetable fats and oils and their fractions

1516.30 - Microbial fats and oils and their fractions

This heading covers animal, vegetable or microbial fats and oils, which have undergone a specific chemical transformation of a kind mentioned below, but have not been further prepared.

The heading also covers similarly treated fractions of animal, vegetable or microbial fats and oils.

(A) **Hydrogenated fats and oils.**

Hydrogenation, which is effected by bringing the products into contact with pure hydrogen at a suitable temperature and pressure in the presence of a catalyst (usually finely divided nickel), raises the melting points of fats and increases the consistency of oils by transforming unsaturated glycerides (e.g., of oleic, linoleic, etc., acids) into saturated glycerides of higher melting points (e.g., of palmitic, stearic, etc., acids). The degree of hydrogenation and the final consistency of the products depend on the conditions employed in the process and the length of treatment. The heading covers such products whether they have been:

(1) Partly hydrogenated (even if these products tend to separate into pasty and liquid layers). This also has the effect of converting the *cis*-form of the unsaturated fatty acids into the *trans*-form in order to raise the melting point.

(2) Wholly hydrogenated (e.g., oils converted into pasty or solid fats).

The products most commonly hydrogenated are oils of fish or marine mammals and certain vegetable oils (cotton-seed oil, sesame oil, ground-nut oil, colza oil, soya-bean oil, maize (corn) oil, etc.). Wholly or partly hydrogenated oils of this type are frequently used as constituents in the preparation of edible fats of heading 15.17, since the hydrogenation not only increases their consistency but also makes them less liable to deterioration by atmospheric oxidation, and improves their taste and odour, and, by bleaching them, gives them a better appearance.

This part also covers hydrogenated castor oil, so called “opal wax”.

(B) **Inter-esterified, re-esterified or elaidinised fats and oils.**

(1) **Inter-esterified (or trans-esterified) fats and oils**. The consistency of an oil or fat can be increased by suitable rearrangement of the fatty acid radicals in the triglycerides contained in the product. The necessary interaction and rearrangements of the esters is stimulated by the use of catalysts.

(2) **Re-esterified fats and oils** (also called esterified fats and oils) are triglycerides obtained by direct synthesis from glycerol with mixtures of free fatty acids or acid oils from refining. The arrangement of the fatty acid radicals in the triglycerides is different from that normally found in natural oils.

Oils obtained from olives, containing re-esterified oils, fall in this heading.

(3) **Elaidinised fats and oils** are fats and oils processed in such a way that the unsaturated fatty acid radicals are substantially converted from the *cis*-form to the corresponding *trans*-form.

The heading includes the products as described above, even if they have a waxy character and even if they have been subsequently deodorised or subjected to similar refining processes, and whether or not they can be used directly as food. But it **excludes** hydrogenated, etc., fats and oils and their fractions which have undergone such further preparation for food purposes as texturation (modification of the texture or crystalline structure) (**heading 15.17**). The heading further **excludes** hydrogenated, inter-esterified, re-esterified or elaidinised fats and oils or their fractions, where modification involves more than one fat or oil (**heading 15.17** or **15.18**).

1516.10

- Animal fats and oils and their fractions

CLASSIFICATION OPINIONS

1. A product consisting of 90 % of re-esterified triglycerides of highly concentrated omega-3 fatty acids EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid) produced from raw anchovy oil. The remaining 10 % of the product consists mainly of mono- and diglycerides. The product contains EPA (400 mg/g) and DHA (300 mg/g). Vitamin E (tocopherol) has been added to the product as an antioxidant.
The raw anchovy oil has undergone the manufacturing steps of deacidification, ethyl esterification, distillation, filtration, bleaching, re-esterification and deodorization.
The product is presented in barrels and will be used in the manufacture of food supplements.
Application of GIRs 1 and 6.
See also Opinion 2106.90/36.
Adoption: 2018

1516.20

- Vegetable fats and oils and their fractions

1516.30

- Microbial fats and oils and their fractions

Heading 1517

Margarine; edible mixtures or preparations of animal, vegetable or microbial fats or oils or of fractions of different fats or oils of this Chapter, other than edible fats or oils or their fractions of heading 15.16.

EXPLANATORY NOTES

15.17 - Margarine; edible mixtures or preparations of animal, vegetable or microbial fats or oils or of fractions of different fats or oils of this Chapter, other than edible fats and oils or their fractions of heading 15.16 (+).

1517.10 - Margarine, excluding liquid margarine

1517.90 - Other

This heading covers margarine and other edible mixtures or preparations of animal, vegetable or microbial fats and oils or of fractions of different fats or oils of this Chapter, **other than** those of **heading 15.16**. They are generally liquid or solid mixtures or preparations of:

(1) Different animal fats or oils or their fractions;

(2) Different vegetable fats or oils or their fractions;

(3) Different microbial fats or oils or their fractions; or

(4) Two or more of animal, vegetable or microbial fats or oils or their fractions.

The products of this heading, the fats or oils of which may previously have been hydrogenated, may be worked by emulsification (e.g., with skimmed milk), churning, texturation (modification of the texture or crystalline structure), etc., and may contain small quantities of added lecithin, starch, colouring, flavouring, vitamins, butter or other milkfat (subject to the restrictions in Note 1 (c) to this Chapter).

The heading also covers edible preparations made from a single fat or oil (or fractions thereof), whether or not hydrogenated, which have been worked by emulsification, churning, texturation, etc.

The heading includes hydrogenated, inter-esterified, re-esterified or elaidinised fats and oils or their fractions, where modification involves more than one fat or oil.

The principal products of this heading are:

(A) **Margarine** (other than liquid margarine), which is a plastic mass, generally yellowish, obtained from fats or oils of animal or vegetable origin or from a mixture of these fats or oils. It is an emulsion of the water-in-oil type, generally made to resemble butter in appearance, consistency, colour, etc.

(B) **Edible mixtures or preparations of animal, vegetable or microbial fats and oils of fractions of different fats or oils of this Chapter, other than edible fats or oils or their fractions of heading 15.16**; for example, imitation lard, liquid margarine and *shortenings* (produced from texturised oils or fats).

The heading further includes edible mixtures or preparations of animal, vegetable or microbial fats or oils or of fractions of different fats or oils of this Chapter, of a kind used as mould release preparations.

The heading **does not include** single fats and oils simply refined, without further treatment; these remain classified in their respective headings even if they are put up for retail sale. The heading also **excludes** preparations containing more than 15 % by weight of butter or other milkfat (generally **Chapter 21**).

The heading further **excludes** products obtained by pressing tallow or lard (**heading 15.03**) as well as hydrogenated, inter-esterified or elaidinised fats and oils or their fractions, where modifications involves only one fat or oil (**heading 15.16**).

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Subheading Explanatory Note.

Subheadings 1517.10 ET 157.90

For the purposes of subheadings 1517.10 and 1517.90, the physical properties of margarine shall be determined by means of visual examination at a temperature of 10°C.

1517.10

- Margarine, excluding liquid margarine

1517.90

- Other

CLASSIFICATION OPINIONS

1. **Evening primrose oil with added vitamin E and milkfat**, put up in gelatin/glycerol capsules and packaged in blister packs for retail sale, used to supplement the diet with essential fatty acids contained in the oil (in particular, gamma-linolenic acid). *Adoption: 1995*

2. **Mixed grease product**, consisting of 80 to 90 % rendered pork fat (lard) and 10 to 20 % beef tallow, suitable for human consumption. **Application of GIRs 1 and 6.** *Adoption: 2002*

3. **Preparation consisting of low erucic acid rape oil ("Canola") with** the addition of dry chilli pepper (two pods) and black pepper-corns (approximately 10 % by volume), put up in a glass bottle of approximately 250 ml. **Application of GIRs 1 and 6.** *Adoption: 2008*



Heading 1518

Animal, vegetable or microbial fats and oils and their fractions, boiled, oxidised, dehydrated, sulphurised, blown, polymerised by heat in vacuum or in inert gas or otherwise chemically modified, excluding those of heading 15.16; inedible mixtures or preparations of animal, vegetable or microbial fats or oils or of fractions of different fats or oils of this Chapter, not elsewhere specified or included.

EXPLANATORY NOTES

15.18 - Animal, vegetable or microbial fats and oils and their fractions, boiled, oxidised, dehydrated, sulphurised, blown, polymerised by heat in vacuum or in inert gas or otherwise chemically modified, excluding those of heading 15.16; inedible mixtures or preparations of animal, vegetable or microbial fats or oils or of fractions of different fats or oils of this Chapter, not elsewhere specified or included.

(A) **Animal, vegetable or microbial fats and oils and their fractions, boiled, oxidised, dehydrated, sulphurised, blown, polymerised by heat in vacuum or in inert gas or otherwise chemically modified, excluding those of heading 15.16.**

This part covers animal, vegetable or microbial fats and oils and their fractions which have been subjected to processes which modify their chemical structure thereby improving their viscosity, drying power (i.e., the property of absorbing oxygen when exposed to the air and forming elastic films) or modifying their other properties, **provided** they retain their original fundamental structure and are not more specifically covered elsewhere, e.g.:

(1) **Boiled or oxidised oils** are obtained by heating oils, generally with the addition of small quantities of oxidising agents. These oils are used in the paint and varnish industry.

(2) **Blown oils** are partially oxidised and polymerised oils produced by blowing air through the oil, with application of heat. They are used for the manufacture of insulating varnishes, imitation leather and, when mixed with mineral oils, lubricating preparations (compound oils).

Linoxyn, a semi-solid rubbery product, which is a highly oxidised linseed oil used in the manufacture of linoleum is also included in this heading.

(3) **Dehydrated castor oil** is obtained by dehydrating castor oil in the presence of a catalyst. It is used in the preparation of paints or varnishes.

(4) **Sulphurised oils** are oils which have been treated with sulphur or sulphur chloride to cause polymerisation in the molecules. Oil thus processed dries more rapidly and forms a film which absorbs less water than the usual film of dried oil, and has greater mechanical strength. Sulphurised oils are used for anti-rust paints and varnishes.

If the process is carried further, a solid product is obtained (factice derived from oils) (**heading 40.02**).

(5) **Oils polymerised by heat in vacuum or in inert gas** are certain oils (particularly linseed oil and tung oil) which have been polymerised by simply heating, without oxidation, at 250 °C to 300 °C, either in inert carbon dioxide gas or in a vacuum. This process produces thick oils commonly called "stand-oils", used for the manufacture of varnishes forming a particularly supple and waterproof film.

Stand-oils from which the non-polymerised portion has been extracted (Teka oils) and mixtures of stand-oils are included in this heading.

(6) The **other modified oils** in the heading include:

(a) **Maleic oils** obtained by treating, e.g., soya-bean oil with limited amounts of maleic anhydride at a temperature of 200 °C or more, in conjunction with sufficient polyhydric alcohol to esterify the extra acid groups. Maleic oils so obtained have good drying properties.

(b) **Drying oils** (such as linseed oil) to which have been added in the cold small quantities of driers (e.g., lead borate, zinc naphthenate, cobalt resinate) to increase their drying properties. These oils are used in the place of boiled oils, in the preparation of varnishes or paints. They are very different from the prepared liquid driers of**heading 32.11** (which are concentrated solutions of driers) and must not be confused with those products.

(c) **Epoxidised oils** obtained by treating, for example, soya-bean oil with peracetic acid pre-formed or formed *in situ* by reaction between hydrogen peroxide and acetic acid in the presence of a catalyst. They are used as plasticisers or stabilisers for, e.g., vinyl resins.

(d) **Brominated oils** used as an emulsion or suspension stabiliser for essential oils, for example, in the pharmaceutical industry.

(B) **Inedible mixtures or preparations of animal, vegetable or microbial fats and oils or of fractions of different fats or oils of this Chapter, not elsewhere specified or included.**

This part covers, *inter alia*, used deep-frying oil containing, for example, rape oil, soya-bean oil and a small quantity of animal fat, for use in the preparation of animal feeds.

The heading also includes hydrogenated, inter-esterified, re-esterified or elaidinised fats and oils or their fractions, where modification involves more than one fat or oil.

The heading **does not include**:

(a) Fats or oils merely denatured (see Note 3 to this Chapter).

(b) Hydrogenated, inter-esterified, re-esterified or elaidinised fats and oils or their fractions, where modification involves only one fat or oil (**heading 15.16**).

(c) Preparations of a kind used in animal feeding (**heading 23.09**).

(d) Sulphonated oils (i.e., oils treated with sulphuric acid) (**heading 34.02**).

1518.00

Animal, vegetable or microbial fats and oils and their fractions, boiled, oxidised, dehydrated, sulphurised, blown, polymerised by heat in vacuum or in inert gas or otherwise chemically modified, excluding those of heading 15.16; inedible mixtures or preparations of animal, vegetable or microbial fats or oils or of fractions of different fats or oils of this Chapter, not elsewhere specified or included.

Heading 1520

Glycerol, crude; glycerol waters and glycerol lyes.

EXPLANATORY NOTES

15.20 - Glycerol, crude; glycerol waters and glycerol lyes.

Crude glycerol is a product of a purity of less than 95 % (calculated on the weight of the dry product). It may be obtained either by cleavage of fats or oils or synthetically from propylene. It is of varying quality according to the method of production, e.g.:

(1) Obtained by hydrolysis with water, acids or alkalis, it is a sweetish liquid with a not unpleasant odour and ranges in colour from yellowish to brown.

(2) Obtained from glycerol lyes, it is a pale yellow liquid with an astringent taste and a disagreeable odour.

(3) Derived from the residues of soap-making, it is a blackish-yellow liquid with a sweetish flavour (sometimes tasting of garlic, if very impure) and a more or less disagreeable odour.

(4) Obtained by catalytic and enzymatic hydrolysis, it is generally a liquid of disagreeable taste and odour, containing large quantities of organic substances and mineral matter.

Crude glycerol may also be obtained from inter-esterification of oils or fats with other alcohols.

The heading also includes **glycerol waters**, which are by-products of the production of fatty acids, and **glycerol lyes**, which are by-products of the production of soap.

The heading **excludes**:

(a) Glycerol of a purity of 95 % or more (calculated on the weight of the dry product) (**heading 29.05**).

(b) Glycerol put up as a medicament or with added pharmaceutical substances (**heading 30.03** or**30.04**).

(c) Perfumed glycerol or glycerol with added cosmetics (**Chapter 33**).

1520.00

Glycerol, crude; glycerol waters and glycerol lyes.

Heading 1521

Vegetable waxes (other than triglycerides), beeswax, other insect waxes and spermaceti, whether or not refined or coloured.

EXPLANATORY NOTES

15.21 - Vegetable waxes (other than triglycerides), beeswax, other insect waxes and spermaceti, whether or not refined or coloured.

1521.10 - Vegetable waxes

1521.90 - Other

(I) **Vegetable waxes (other than triglycerides), whether or not refined or coloured.**

The following are the principal vegetable waxes:

(1) **Carnauba wax**, exuded from the leaves of a variety of palm tree (*Corypha cerifera* or *Copernicia cerifera*). It is greenish, greyish or yellowish in colour, more or less oily, nearly crystalline in structure, very brittle and with an agreeable odour of hay.

(2) **Ouricury wax**, obtained from the leaves of a variety of palm tree (*Attalea excelsa*).

(3) **Palm wax**, spontaneously exuded from the intersection of the leaves of another variety of palm tree (*Ceroxylon andicola*) and collected from the trunk of the tree. It generally appears in the form of porous and brittle spherical pieces, yellowish-white in colour.

(4) **Candelilla wax**, obtained by boiling a Mexican plant (*Euphorbia antisyphilitica* or *Pedilanthus pavonis*) in water. It is a hard, translucent, brown substance.

(5) **Sugar-cane wax**, existing in the natural state on the surface of the canes and industrially obtained from the defecation scum during the manufacture of sugar. It is blackish in the raw state, soft and with an odour resembling that of sugar-cane molasses.

(6) **Cotton wax and flax wax**, contained in the vegetablefibres, from which they are extracted by solvents.

(7) **Ocotilla wax**, extracted by solvents from the bark of a tree growing in Mexico.

(8) **Pyzang wax**, obtained from a kind of dust found in Java on the leaves of certain banana trees.

(9) **Esparto wax**, obtained from esparto grass and collected as a dust when the bales of the dried grass are opened.

The heading covers vegetable waxes, crude or refined, bleached or coloured, whether or not in cakes, sticks, etc.

The heading **excludes**, however:

(a) Jojoba oil (**heading 15.15**).

(b) The products known by the trade as myrtle wax and Japan wax (**heading 15.15**).

(c) Mixtures of vegetable waxes.

(d) Vegetable waxes mixed with animal, mineral or artificial waxes.

(e) Vegetable waxes mixed with fats, resins, mineral or other materials (other than colouring matter).

These mixtures are, in general, classified in **Chapter 34** (usually **heading 34.04** or **34.05**).

(II) **Beeswax and other insect waxes whether or not refined or coloured.**

Beeswax is the substance with which bees build the hexagonal cells of the combs in the hives. In the natural state it has a granular structure and is light yellow, orange or sometimes brown, with a particularly agreeable smell; when bleached and purified, it is white or faintly yellow with a very slight smell.

It is used, *inter alia*, for the manufacture of candles, waxed cloth or paper, mastics, polishes, etc.

The best known among the other insect waxes are:

(1) **Lac wax**, obtained from shellac by extraction with alcohol. It occurs in the form of brown lumps with the odour of shellac.

(2) **Chinese wax** (also known as insect wax or tree wax). It is found mainly in China, secreted and deposited by insects on the branches of certain ash trees as a whitish efflorescence which is collected and purified (by melting in boiling water and filtering). It is a white or yellowish substance, glossy, crystalline and tasteless, with an odour akin to that of tallow.

Beeswax and other insect waxes are classified in this heading whether in the raw state (including in natural combs), or pressed or refined, whether or not bleached or coloured.

The heading **does not include**:

(a) Mixtures of insect waxes, insect waxes mixed with spermaceti, vegetable, mineral or artificial waxes, or insect waxes mixed with fats, resins, mineral or other materials (other than colouring matter); these mixtures usually fall in **Chapter 34** (e.g., **heading 34.04** or **34.05**).

(b) Wax prepared in combs for beehives (**heading 96.02**).

(III) **Spermaceti, crude, pressed or refined, whether or not coloured.**

Spermaceti is a waxy substance extracted from the fat or oil contained in the head cavities or the sub-cutaneous ducts of sperm whales and similar cetaceans.

Crude spermaceti, which consists of about one third pure spermaceti and two thirds fat, occurs in yellowish or brown lumps, with a disagreeable odour.

Pressed spermaceti is obtained when all the fat has been extracted. It occurs in the form of small, solid scales, yellowish-brown in colour, and leaves little or no stain on paper.

Refined spermaceti is obtained by treating pressed spermaceti with dilute caustic soda. It occurs in very white, shiny strips with a pearly sheen.

Spermaceti is used in the manufacture of certain candles, in perfumery, in pharmacy or as a lubricant.

All the above products remain classified in the heading whether coloured or not.

The heading **excludes** sperm oil, whether crude or refined by separation of the spermaceti (**heading 15.04**).

15.21 - Vegetable waxes (other than triglycerides), beeswax, other insect waxes and spermaceti, whether or not refined or coloured.

1521.10 - Vegetable waxes

1521.90 - Other

(I) **Vegetable waxes (other than triglycerides), whether or not refined or coloured.**

The following are the principal vegetable waxes:

(1) **Carnauba wax**, exuded from the leaves of a variety of palm tree (*Corypha cerifera* or *Copernicia cerifera*). It is greenish, greyish or yellowish in colour, more or less oily, nearly crystalline in structure, very brittle and with an agreeable odour of hay.

(2) **Ouricury wax**, obtained from the leaves of a variety of palm tree (*Attalea excelsa*).

(3) **Palm wax**, spontaneously exuded from the intersection of the leaves of another variety of palm tree (*Ceroxylon andicola*) and collected from the trunk of the tree. It generally appears in the form of porous and brittle spherical pieces, yellowish-white in colour.

(4) **Candelilla wax**, obtained by boiling a Mexican plant (*Euphorbia antisyphilitica* or *Pedilanthus pavonis*) in water. It is a hard, translucent, brown substance.

(5) **Sugar-cane wax**, existing in the natural state on the surface of the canes and industrially obtained from the defecation scum during the manufacture of sugar. It is blackish in the raw state, soft and with an odour resembling that of sugar-cane molasses.

(6) **Cotton wax and flax wax**, contained in the vegetablefibres, from which they are extracted by solvents.

(7) **Ocotilla wax**, extracted by solvents from the bark of a tree growing in Mexico.

(8) **Pyzang wax**, obtained from a kind of dust found in Java on the leaves of certain banana trees.

(9) **Esparto wax**, obtained from esparto grass and collected as a dust when the bales of the dried grass are opened.

The heading covers vegetable waxes, crude or refined, bleached or coloured, whether or not in cakes, sticks, etc.

The heading **excludes**, however:

(a) Jojoba oil (**heading 15.15**).

(b) The products known by the trade as myrtle wax and Japan wax (**heading 15.15**).

(c) Mixtures of vegetable waxes.

(d) Vegetable waxes mixed with animal, mineral or artificial waxes.

(e) Vegetable waxes mixed with fats, resins, mineral or other materials (other than colouring matter).

These mixtures are, in general, classified in **Chapter 34** (usually **heading 34.04** or **34.05**).

(II) **Beeswax and other insect waxes whether or not refined or coloured.**

Beeswax is the substance with which bees build the hexagonal cells of the combs in the hives. In the natural state it has a granular structure and is light yellow, orange or sometimes brown, with a particularly agreeable smell; when bleached and purified, it is white or faintly yellow with a very slight smell.

It is used, *inter alia*, for the manufacture of candles, waxed cloth or paper, mastics, polishes, etc.

The best known among the other insect waxes are:

(1) **Lac wax**, obtained from shellac by extraction with alcohol. It occurs in the form of brown lumps with the odour of shellac.

(2) **Chinese wax** (also known as insect wax or tree wax). It is found mainly in China, secreted and deposited by insects on the branches of certain ash trees as a whitish efflorescence

which is collected and purified (by melting in boiling water and filtering). It is a white or yellowish substance, glossy, crystalline and tasteless, with an odour akin to that of tallow.

Beeswax and other insect waxes are classified in this heading whether in the raw state (including in natural combs), or melted, pressed or refined, whether or not bleached or coloured.

The heading **does not include**:

(a) Mixtures of insect waxes, insect waxes mixed with spermaceti, vegetable, mineral or artificial waxes, or insect waxes mixed with fats, resins, mineral or other materials (other than colouring matter); these mixtures usually fall in **Chapter 34** (e.g., **heading 34.04** or **34.05**).

(b) Wax prepared in combs for beehives (**heading 96.02**).

(III) **Spermaceti, crude, pressed or refined, whether or not coloured.**

Spermaceti is a waxy substance extracted from the fat or oil contained in the head cavities or the sub-cutaneous ducts of sperm whales and similar cetaceans.

Crude spermaceti, which consists of about one third pure spermaceti and two thirds fat, occurs in yellowish or brown lumps, with a disagreeable odour.

Pressed spermaceti is obtained when all the fat has been extracted. It occurs in the form of small, solid scales, yellowish-brown in colour, and leaves little or no stain on paper.

Refined spermaceti is obtained by treating pressed spermaceti with dilute caustic soda. It occurs in very white, shiny strips with a pearly sheen.

Spermaceti is used in the manufacture of certain candles, in perfumery, in pharmacy or as a lubricant.

All the above products remain classified in the heading whether coloured or not.

The heading **excludes** sperm oil, whether crude or refined by separation of the spermaceti (**heading 15.04**).

1521.10

- Vegetable waxes

1521.90

- Other

Heading 1522

Degras; residues resulting from the treatment of fatty substances or animal or vegetable waxes.

EXPLANATORY NOTES

15.22 - Degras; residues resulting from the treatment of fatty substances or animal or vegetable waxes.

(A) **Degras.**

This heading covers both natural and artificial degras, used in the leather industry for greasing (stuffing) leather.

Natural degras (also known as “moellen” and “sod oil”) is a residue from the oil tanning of chamois leather, obtained by pressing or extracted with solvents. It is composed of rancid oil of marine animals, resinous substances due to the oxidation of the oil, water, mineral substances (soda, lime, sulphates), together with waste of hair, membranes and skin.

Natural degras takes the form of very thick, pasty, homogeneous liquids, smelling strongly of fish oil and coloured yellow or dark brown.

Artificial degras consists essentially of oxidised, emulsified or polymerised fish oils (including mixtures of any of these oils) mixed with wool grease, tallow, rosin oils, etc., and, sometimes, with natural degras. These mixtures are thick yellow liquids (more fluid than natural degras), with a characteristic odour of fish oil. They do not contain waste of hair, membranes or skin. When left to stand they tend to separate into two layers, with water at the bottom.

The heading **excludes**, however, fish oils which have been merely oxidised or polymerised (**heading 15.18**), sulphonated oils (**heading 34.02**) and preparations for greasing (stuffing) leather (**heading 34.03**).

The heading also includes degras obtained by treatment of chamois leather with an alkaline solution and the precipitation by sulphuric acid of the fatty hydroxyacids. These products are encountered commercially in the form of emulsions.

(B) **Residues resulting from the treatment of fatty substances or animal or vegetable waxes.**

This heading covers, *inter alia*:

(1) **Oil foots and dregs**. Oily or mucilaginous residues resulting from the purification of oils. They are used in the manufacture of soaps or lubricants.

(2) **Soap-stocks**. By-products of oil refining produced by the neutralisation of the free fatty acids with a base (sodium hydroxide), and consisting of a mixture of crude soap and neutral oils or fats. They are of a pasty consistency, varying in colour (brownish-yellow, whitish, brownish-green, etc.), according to the raw material from which the oils are extracted. They are used in soap-making.

(3) **Stearin pitch** from the distillation of fatty acids. It consists of a sticky, blackish mass, fairly hard, sometimes elastic, and partly soluble in light petroleum. It is used in the preparation of mastics, waterproof paperboard and electric insulators.

(4) **Residues from the distillation of wool grease**. These look like stearin residues and are used for the same purposes.

(5) **Glycerol pitch**. Residue resulting from the distillation of glycerol. It is used for dressing fabrics and waterproofing paper.

(6) **Used decolourising earths containing fats or animal or vegetable waxes**.

(7) **Filtration residues of animal or vegetable waxes** consisting of impurities containing certain quantities of wax.

This heading **excludes**:

(a) Greaves, membranous residues obtained from rendering pig fat or other animal fats (**heading 23.01**).

(b) Oil-cakes, residual pulp and other residues (**except dregs**) resulting from the extraction of vegetable oils (**headings 23.04 to 23.06**).

1522.00

Degras; residues resulting from the treatment of fatty substances or animal or vegetable waxes.

Section IV

PREPARED FOODSTUFFS; BEVERAGES, SPIRITS AND VINEGAR; TOBACCO AND MANUFACTURED TOBACCO SUBSTITUTES; PRODUCTS, WHETHER OR NOT CONTAINING NICOTINE, INTENDED FOR INHALATION WITHOUT COMBUSTION; OTHER NICOTINE CONTAINING PRODUCTS INTENDED FOR THE INTAKE OF NICOTINE INTO THE HUMAN BODY

LEGAL NOTES

Note.

1. - In this Section the term “pellets” means products which have been agglomerated either directly by compression or by the addition of a binder in a proportion not exceeding 3 % by weight.

EXPLANATORY NOTES

Section IV

PREPARED FOODSTUFFS; BEVERAGES, SPIRITS AND VINEGAR; TOBACCO AND MANUFACTURED TOBACCO SUBSTITUTES; PRODUCTS, WHETHER OR NOT CONTAINING NICOTINE, INTENDED FOR INHALATION WITHOUT COMBUSTION; OTHER NICOTINE CONTAINING PRODUCTS INTENDED FOR THE INTAKE OF NICOTINE INTO THE HUMAN BODY

Note.

1. - In this Section the term “pellets” means products which have been agglomerated either directly by compression or by the addition of a binder in a proportion not exceeding 3 % by weight.

Chapter 16

Preparations of meat, of fish, of crustaceans, molluscs or other aquatic invertebrates, or of insects.

LEGAL NOTES

Notes.

1.- This Chapter does not cover meat, meat offal, fish, crustaceans, molluscs or other aquatic invertebrates, as well as insects, prepared or preserved by the processes specified in Chapter 2 or 3, Note 6 to Chapter 4 or in heading 05.04.

2.- Food preparations fall in this Chapter provided that they contain more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof. In cases where the preparation contains two or more of the products mentioned above, it is classified in the heading of Chapter 16 corresponding to the component or components which predominate by weight. These provisions do not apply to the stuffed products of heading 19.02 or to the preparations of heading 21.03 or 21.04.

Subheading Notes.

1.- For the purposes of subheading 1602.10, the expression “homogenised preparations” means preparations of meat, meat offal, blood or insects, finely homogenised, put up for retail sale as food suitable for infants or young children or for dietetic purposes, in containers of a net weight content not exceeding 250 g. For the application of this definition no account is to be taken of small quantities of any ingredients which may have been added to the preparation for seasoning, preservation or other purposes. These preparations may contain a small quantity of visible pieces of meat, meat offal or insects. This subheading takes precedence over all other subheadings of heading 16.02.

2.- The fish, crustaceans, molluscs and other aquatic invertebratesspecified in the subheadings of heading 16.04 or 16.05 under their common names only, are of the same species as those mentioned in Chapter 3 under the same name.

EXPLANATORY NOTES

Notes.

1.- This Chapter does not cover meat, meat offal, fish, crustaceans, molluscs or other aquatic invertebrates, as well as insects, prepared or preserved by the processes specified in Chapter 2 or 3, Note 6 to Chapter 4 or in heading 05.04.

2.- Food preparations fall in this Chapter provided that they contain more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof. In cases where the preparation contains two or more of the products mentioned above, it is classified in the heading of Chapter 16 corresponding to the component or components which predominate by weight. These provisions do not apply to the stuffed products of heading 19.02 or to the preparations of heading 21.03 or 21.04.

Subheading Notes.

1.- For the purposes of subheading 1602.10, the expression “homogenised preparations” means preparations of meat, meat offal, blood or insects, finely homogenised, put up for retail sale as food suitable for infants or young children or for dietetic purposes, in containers of a net weight content not exceeding 250 g. For the application of this definition no account is to be taken of small quantities of any ingredients which may have been added to the preparation for seasoning, preservation or other purposes. These preparations may contain a small quantity of visible pieces of meat, meat offal or insects. This subheading takes precedence over all other subheadings of heading 16.02.

2.- The fish, crustaceans, molluscs and other aquatic invertebratesspecified in the subheadings of heading 16.04 or 16.05 under their common names only, are of the same species as those mentioned in Chapter 3 under the same name.

Heading 1601

Sausages and similar products, of meat, meat offal, blood or insects; food preparations based on these products.

EXPLANATORY NOTES

16.01 - Sausages and similar products, of meat, meat offal, blood or insects; food preparations based on these products.

This heading covers sausages and similar products, i.e., **preparations** consisting of meat, meat offal (including guts and stomachs) or insects, which have been chopped or minced, or blood, enclosed in guts, stomachs, bladders, skins or similar casings (natural or artificial). Some of these products may however be skinless, being merely pressed into the characteristic shape of sausages, i.e., a cylinder or similar shape having a cross-section which is round, oval or rectangular (with more or less rounded corners).

Sausages and similar products may be raw or cooked, smoked or not, and they may contain added fat, starch, condiments, spices, etc. In addition, they may contain relatively large (e.g., bite-sized) pieces of meat or meat offal. Sausages and the like remain classified in the heading whether or not they have been cut into slices or put up in airtight containers.

The heading includes, *inter alia*:

(1) Sausages and similar products, with a basis of meat (e.g., Frankfurter, salami).

(2) Liver sausages (including those made of poultry liver).

(3) “Black puddings” and “white puddings”.

(4) “Andouillettes” (small sausages made of chitterlings), saveloys, bolognas and similar specialities.

(5) Pâtés, meat pastes, galantines and rillettes (potted mince), if put up in sausage casings or pressed into the characteristic shape of sausages.

This heading also includes certain food preparations (including so-called “prepared meals”) based on sausage or similar products (see the General Explanatory Note to this Chapter, third paragraph).

However this heading **excludes**:

(a) Meats put up in bladders, guts or similar casings (natural or artificial) without prior mincing or chopping, e.g., rolled ham and shoulder (generally **heading 02.10** or **16.02**).

(b) Raw meat, chopped or minced but not containing other ingredients, even if put up in a casing (**Chapter 2**).

(c) Preparations put up in casings of a kind not normally used as sausage casings, unless these preparations were classifiable in this heading without such casings (generally **heading 16.02**).

(d) Poultry cooked and merely boned, such as turkey roll (**heading 16.02**).

1601.00

Sausages and similar products, of meat, meat offal, blood or insects; food preparations based on these products.

CLASSIFICATION OPINIONS

1. Pepperoni, put up together with Mozzarella cheese in a sealed bag of plastics having a net weight of 280 g, the pepperoni and the cheese being separated by a piece of wax paper. The bag contains a portion-controlled amount of topping for one extra-large pizza, which consists of 76 % Mozzarella cheese, sliced into small pieces and coated with spices, 22 % pepperoni, approximately 1 % spices, canola oil and approximately 1 % calcium silicate.
Sixty-five such bags are presented together in a single box, and are intended for use in the food service industry (pizzerias).
The Mozzarella cheese presented with the pepperoni is classified separately in subheading 0406.10.
Application of GIR 1.
See also Opinion 0406.10/1.
Adoption: 2015



Heading 1602

Other prepared or preserved meat, meat offal, blood or insects.

EXPLANATORY NOTES

16.02 - other prepared or preserved meat, meat offal, blood or insects.

1602.10 - Homogenised preparations

1602.20 - of liver of any animal

- Of poultry of heading 01.05:

1602.31 - - of turkeys

1602.32 - - of fowls of the species *Gallus domesticus*

1602.39 - - Other

- Of swine:

1602.41 - - Hams and cuts thereof

1602.42 - - Shoulders and cuts thereof

1602.49 - - other, including mixtures

1602.50 - of bovine animals

1602.90 - other, including preparations of blood of any animal

This heading covers all prepared or preserved meat, meat offal, blood or insects of the kind falling in this Chapter, **except** sausages and similar products (**heading 16.01**), meat extracts and meat juices (**heading 16.03**).

The heading covers:

(1) Meat or meat offal which has been boiled (**other than** by scalding or similar treatment - see the General Explanatory Note to Chapter 2), steamed, grilled, fried, roasted or otherwise cooked.

(2) Pâtés, meat pastes, galantines and rillettes (potted mince), **provided** that they do not meet the requirements for classification in **heading 16.01** as sausages or similar products.

(3) Meat and meat offal prepared or preserved by other processes not provided for in Chapter 2 or heading 05.04, including those merely covered with batter or bread crumbs, truffled, seasoned (e.g., with both pepper and salt) or finely homogenised (see the General Explanatory Note to this Chapter, Item (4)).

(4) Preparations of blood, **other than** “black puddings” and similar products of **heading 16.01**.

(5) Food preparations (including so-called “prepared meals”) containing more than 20 % by weight of meat, meat offal, blood or insects (see the General Explanatory Note to this Chapter).

The heading also **excludes**:

(a) Pasta (ravioli, etc.) stuffed with meat or meat offal (**heading 19.02**).

(b) Sauces and preparations therefor, mixed condiments and mixed seasonings (**heading 21.03**).

(c) Soups and broths and preparations therefor and homogenised composite food preparations (**heading 21.04**).

1602.10

- Homogenised preparations

1602.20

- Of liver of any animal

1602.3

- Of poultry of heading 01.05:

1602.31

-- Of turkeys

1602.32

-- Of fowls of the species Gallus domesticus

1602.39

-- Other

1602.4

- Of swine:

1602.41

-- Hams and cuts thereof

CLASSIFICATION OPINIONS

1. Tinned ham: ham (or other pig meat) injected with sodium nitrite or marinade (comprising water, salt, sugar, vitamin C, sodium tripolyphosphate, potassium nitrate and sodium nitrite), vacuum packed in hermetically sealed tins and cooked at a temperature of about 70 °C; it may contain a small quantity of added gelatin.
Adoption: 1983

1602.42

-- Shoulders and cuts thereof

CLASSIFICATION OPINIONS

1. Tinned ham: ham (or other pig meat) injected with sodium nitrite or marinade (comprising water, salt, sugar, vitamin C, sodium tripolyphosphate, potassium nitrate and sodium nitrite), vacuum packed in hermetically sealed tins and cooked at a temperature of about 70 °C; it may contain a small quantity of added gelatin.
Adoption: 1983

1602.49

-- Other, including mixtures

CLASSIFICATION OPINIONS

1. Tinned ham: ham (or other pig meat) injected with sodium nitrite or marinade (comprising water, salt, sugar, vitamin C, sodium tripolyphosphate, potassium nitrate and sodium nitrite), vacuum packed in hermetically sealed tins and cooked at a temperature of about 70 °C; it may contain a small quantity of added gelatin.
Adoption: 1983

1602.50

- Of bovine animals

CLASSIFICATION OPINIONS

1. **Micro-ready sandwiches with potato chips (French fries)**, consisting of a hamburger (with bun), a cheeseburger (with bun) or a roast beef sandwich (with bun), each with more than 20 % by weight of meat, packaged for retail sale with potato chips (French fries). **Application of GIR 3 (b).**
Adoption: 1994



2. **Prepared chilli stew**, consisting of 70 % beef, 7 % sweet pepper, 7 % onion, 5.3 % rape seed oil, 3.5 % sugar, 3.2 % spices (kitchen herbs), 2.1 % vegetable starch, 0.7 % dark chocolate, 0.5 % salt, 0.3 % cocoa and 0.4 % other ingredients. The product is frozen and put up in a plastic bag for retail sale. **Application of GIRs 1 (Note 2 to Chapter 16) and 6.**
Adoption: 2017

1602.90

- Other, including preparations of blood of any animal

Heading 1603

Extracts and juices of meat, fish or crustaceans, molluscs or other aquatic invertebrates.

EXPLANATORY NOTES

16.03 - Extracts and juices of meat, fish or crustaceans, molluscs or other aquatic invertebrates.

Though obtained from different sources, the extracts of this heading have very similar physical characteristics (appearance, odour, flavour, etc.) and chemical composition.

The heading includes:

(1) **Meat extracts**. These are concentrates generally obtained by boiling or steaming meat under pressure and concentrating the resultant liquid after removal of the fat by filtration or centrifuging. These extracts may be solid or liquid according to the degree of concentration.

(2) **Meat juices** obtained by pressing raw meat.

(3) **Extracts of fish or of crustaceans, molluscs or other aquatic invertebrates**. Extracts of fish are obtained, e.g., by concentrating water extracts of the flesh of herring or other fish or made from fish meal (whether or not defatted); during the production all or part of the constituents which give the fishy taste (e.g., trimethylamine in the case of sea fish) may be eliminated and such extracts therefore have characteristics similar to those of meat extracts.

(4) **Juices** obtained by pressing raw fish or crustaceans, molluscs or other aquatic invertebrates.

All these products may contain salt or other substances added in sufficient quantities to ensure their preservation.

Extracts are used for making certain food preparations such as soups (whether or not concentrated) and sauces. Juices are used mainly as dietetic foods.

The heading **does not cover**:

(a) Soups and broths and preparations therefor and homogenised composite food preparations containing meat, fish, etc., extract (including soups and broths in the form of tablets or cubes) which in addition to such products contain other substances such as fat, gelatin and usually a large proportion of salt (**heading 21.04**).

(b) Fish or marine mammal solubles of **heading 23.09**.

(c) Medicaments in which any products of this heading serve merely as a support or vehicle for medicinal substances (**Chapter 30**).

(d) Peptones and peptonates (**heading 35.04**).

1603.00

Extracts and juices of meat, fish or crustaceans, molluscs or other aquatic invertebrates.

Heading 1604

Prepared or preserved fish; caviar and caviar substitutes prepared from fish eggs.

EXPLANATORY NOTES

16.04 - Prepared or preserved fish; caviar and caviar substitutes prepared from fish eggs.

- Fish, whole or in pieces, but not minced:

1604.11 - - Salmon

1604.12 - - Herrings

1604.13 - - Sardines, sardinella and brisling or sprats

1604.14 - - Tunas, skipjack tuna and bonito (*Sarda spp*.)

1604.15 - - Mackerel

1604.16 - - Anchovies

1604.17 - - Eels

1604.18 - - Shark fins

1604.19 - - Other

1604.20 - other prepared or preserved fish

- Caviar and caviar substitutes:

1604.31 - - Caviar

1604.32 - - Caviar substitutes

This heading covers:

(1) Fish which has been boiled, steamed, grilled, fried, roasted or otherwise cooked; it should be noted, however, that smoked fish which has been cooked before or during smoking remains classified in **heading 03.05 provided** it has not been prepared in any other way.

(2) Fish prepared or preserved in vinegar, oil, etc.; fish marinades (fish prepared in wine, vinegar, etc., with added spices or other ingredients); fish sausages; fish paste; the products known as “anchovy paste” and “salmon paste” (pastes made from these fish with added fat), etc.

(3) Fish, and their parts, prepared or preserved by other processes not provided for in headings 03.02 to 03.05, e.g., fish fillets merely covered with batter or bread crumbs, prepared milt and livers, finely homogenised fish (see the General Explanatory Note to this Chapter, Item (4)) and pasteurised or sterilised fish.

(4) Certain food preparations (including so-called “prepared meals”) containing fish (see the General Explanatory Note to this Chapter).

(5) Caviar. This is prepared from the roe of the sturgeon, a fish found in the rivers of several regions (Italy, Alaska, Turkey, Iran and Russia); the main varieties are Beluga, Schirp, Ossiotr and Sewruge. Caviar is usually in the form of a soft, granular mass, composed of eggs between 2 and 4 mm in diameter and ranging in colour from silver-grey to greenish-black; it has a strong smell and a slightly salty taste. It may also be presented pressed - i.e., reduced to a homogeneous paste, sometimes shaped into small slender cylinders or packed in small containers.

(6) Caviar substitutes. These are products consumed as caviar but prepared from the eggs of fish other than sturgeon (e.g., salmon, carp, pike, tuna, mullet, cod, lumpfish), which have been washed, cleaned of adherent organs, salted and sometimes pressed or dried. Such fish eggs may also be seasoned and coloured.

All these products remain classified in the heading whether or not put up in airtight containers.

This heading also **excludes**:

(a) Fish roes, i.e., fish eggs, and milt, not prepared or preserved or prepared or preserved only by processes provided for in Chapter 3, other than those suitable for immediate consumption as caviar or caviar substitutes (**Chapter 3**).

(b) Fish extracts and juices (**heading 16.03**).

(c) Pasta stuffed with fish (**heading 19.02**).

(d) Sauces and preparations therefor, mixed condiments and mixed seasonings (**heading 21.03**).

(e) Soups and broths and preparations therefor and homogenised composite food preparations (**heading 21.04**).

1604.1

- Fish, whole or in pieces, but not minced:

1604.11

-- Salmon

1604.12

-- Herrings

1604.13

-- Sardines, sardinella and brisling or sprats

1604.14

-- Tunas, skipjack tuna and bonito (Sarda spp.)

1604.15

-- Mackerel

1604.16

-- Anchovies

1604.17

-- Eels

1604.18

-- Shark fins

1604.19

-- Other

1604.20

- Other prepared or preserved fish

1604.3

- Caviar and caviar substitutes:

1604.31

-- Caviar

1604.32

-- Caviar substitutes

Heading 1605

Crustaceans, molluscs and other aquatic invertebrates, prepared or preserved.

EXPLANATORY NOTES

16.05 - Crustaceans, molluscs and other aquatic invertebrates, prepared or preserved.

1605.10 - Crab

- Shrimps and prawns:

1605.21 - - Not in airtight container

1605.29 - - Other

1605.30 - Lobster

1605.40 - other crustaceans

- Molluscs:

1605.51 - - Oysters

1605.52 - - Scallops, including queen scallops

1605.53 - - Mussels

1605.54 - - Cuttle fish and squid

1605.55 - - Octopus

1605.56 - - Clams, cockles and arkshells

1605.57 - - Abalone

1605.58 - - Snails, other than sea snails

1605.59 - - Other

- Other aquatic invertebrates:

1605.61 - - Sea cucumbers

1605.62 - - Sea urchins

1605.63 - - Jellyfish

1605.69 - - Other

The Explanatory Note to heading 16.04 relating to the different states in which the products falling within this heading may be presented applies, mutatis mutandis, to crustaceans, molluscs and other aquatic invertebrates.

The crustaceans and molluscs most commonly prepared or preserved include crab, shrimps and prawns, lobster, crawfish, crayfish, mussels, octopus, squid and snails. The principal other aquatic invertebrates, prepared or preserved, of this heading are sea-urchins, sea cucumbers (bêches-de-mer) and jellyfish.

However, this heading **excludes** crustaceans, in shell, which have been cooked by steaming or by boiling in water (whether or not with small quantities of provisional chemical preserving agents) (**heading 03.06**) and molluscs that have been subjected only to scalding or other types of heat shock (which do not entail cooking as such), necessary to open the shell or stabilize the mollusc prior to transportation or freezing (**heading 03.07**).

1605.10

- Crab

1605.2

- Shrimps and prawns:

1605.21

-- Not in airtight container

1605.29

-- Other

1605.30

- Lobster

1605.40

- Other crustaceans

1605.5

- Molluscs:

1605.51

-- Oysters

1605.52

-- Scallops, including queen scallops

1605.53

-- Mussels

1605.54

-- Cuttle fish and squid

1605.55

-- Octopus

1605.56

-- Clams, cockles and arkshells

1605.57

-- Abalone

1605.58

-- Snails, other than sea snails

1605.59

-- Other

1605.6

- Other aquatic invertebrates:

1605.61

-- Sea cucumbers

1605.62

-- Sea urchins

1605.63

-- Jellyfish

1605.69

-- Other

Chapter 17

Sugars and sugar confectionery

LEGAL NOTES

Note.

1. - This Chapter does not cover:

(a) Sugar confectionery containing cocoa (heading 18.06);

(b) Chemically pure sugars (other than sucrose, lactose, maltose, glucose and fructose) or other products of heading 29.40; or

(c) Medicaments or other products of Chapter 30.

Subheading Notes.

1.- for the purposes of subheadings 1701.12, 1701.13 and 1701.14, “raw sugar” means sugar whose content of sucrose by weight, in the dry state, corresponds to a polarimeter reading of less than 99.5°.

2.- Subheading 1701.13 covers only cane sugar obtained without centrifugation, whose content of sucrose by weight, in the dry state, corresponds to a polarimeter reading of 69° or more but less than 93°. The product contains only natural anhedral microcrystals, of irregular shape, not visible to the naked eye, which are surrounded by residues of molasses and other constituents of sugar cane.

EXPLANATORY NOTES

Chapter 17

Sugars and sugar confectionery

Note.

1. - This Chapter does not cover:

(a) Sugar confectionery containing cocoa (heading 18.06);

(b) Chemically pure sugars (other than sucrose, lactose, maltose, glucose and fructose) or other products of heading 29.40; or

(c) Medicaments or other products of Chapter 30.

Subheading Notes.

1.- for the purposes of subheadings 1701.12, 1701.13 and 1701.14, “raw sugar” means sugar whose content of sucrose by weight, in the dry state, corresponds to a polarimeter reading of less than 99.5°.

2.- Subheading 1701.13 covers only cane sugar obtained without centrifugation, whose content of sucrose by weight, in the dry state, corresponds to a polarimeter reading of 69° or more but less than 93°. The product contains only natural anhedral microcrystals, of irregular shape, not visible to the naked eye, which are surrounded by residues of molasses and other constituents of sugar cane.

GENERAL

This Chapter covers not only sugars as such (e.g., sucrose, lactose, maltose, glucose and fructose), but also sugar syrups, artificial honey, caramel, molasses resulting from the extraction or refining of sugar and sugar confectionery. Solid sugar and molasses of this Chapter may contain added colouring matter, flavouring matter (e.g., citric acid or vanilla) or artificial sweeteners (e.g., aspartame or stevia), as long as they retain their original character as sugar or molasses.

The Chapter **does not include:**

(a) Sugar confectionery containing cocoa or chocolate (**other than** white chocolate) in any proportion, and sweetened cocoa powders (**heading 18.06**).

(b) Sweetened food preparations of **Chapter 19, 20, 21** or **22**.

(c) Sweetened forage (**heading 23.09**).

(d) Chemically pure sugars (other than sucrose, lactose, maltose, glucose and fructose), and aqueous solutions thereof (**heading 29.40**).

(e) Medicaments containing sugar (**Chapter 30**).

Heading 1701

Cane or beet sugar and chemically pure sucrose, in solid form.

EXPLANATORY NOTES

17.01 - Cane or beet sugar and chemically pure sucrose, in solid form (+).

- Raw sugar not containing added flavouring or colouring matter:

1701.12 - - Beet sugar

1701.13 - - Cane sugar specified in Subheading Note 2 to this Chapter

1701.14 - - other cane sugar

- Other:

1701.91 - - Containing added flavouring or colouring matter

1701.99 - - Other

Cane sugaris derived from the juices of the sugar cane stalk. **Beet sugar** is derived from the juices obtained by extraction from the root of the sugar beet.

Raw or crude cane or beet sugars occur in the form of brown crystals or other solid forms, the colour being due to the presence of impurities. Their sucrose content by weight, in the dry state, corresponds to a polarimeter reading of less than 99.5° (see Subheading Note 1). They are generally destined for processing into refined sugar products. Raw sugar may, however, be of such a high degree of purity that it is suitable for human consumption without refining.

Refinedcane or beet sugars are produced by the further processing of raw sugar. They are generally produced as a white crystalline substance which is marketed in various degrees of fineness or in the form of small cubes, loaves, slabs, or sticks or regularly moulded, sawn or cut pieces.

In addition to the raw or refined sugars mentioned above, this heading covers brown sugar consisting of white sugar mixed with small quantities of, e.g., caramel or molasses, and sugar candy consisting of large crystals produced by slow crystallisation of concentrated solutions of sugar.

It should be noted that cane and beet sugar fall in this heading **only** when in the solid form (including powders); such sugar may contain added flavouring or colouring matter.

Sugar syrups of cane or beet sugar, consisting of aqueous solutions of sugars, are classified in **heading 17.02** when not containing added flavouring or colouring matter and otherwise in **heading 21.06**.

The heading further **excludes** preparations in solid form (including granules or powders) which have lost the character of sugar, of a kind used for making beverages (**heading 21.06**).

The heading also includes chemically pure sucrose in solid form, whatever its origin. Sucrose (other than chemically pure sucrose) obtained from sources other than sugar cane or sugar beet is **excluded** (**heading 17.02**).

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Subheading Explanatory Note.

Subheadings 1701.12, 1701.13 and 1701.14

Raw cane sugar in trade always contains more than 0.1 % of invert sugar while the invert sugar content of raw beet sugar is normally less than 0.1 %. These two types of raw sugars may also be distinguished from each other by their difference in odour which develops on overnight storage in stoppered containers of samples in aqueous solution.

1701.1

- Raw sugar not containing added flavouring or colouring matter:

1701.12

-- Beet sugar

1701.13

-- Cane sugar specified in Subheading Note 2 to this Chapter

1701.14

-- Other cane sugar

1701.9

- Other:

1701.91

-- Containing added flavouring or colouring matter

CLASSIFICATION OPINIONS

1. Sugar cubes containing a minimum of 99.7 % sucrose from cane sugar and a small amount of caramel (also obtained from cane sugar) added as a colouring matter.
Application of GIRs 1 and 6.
Adoption: 2004

1701.99

-- Other

Heading 1702

Other sugars, including chemically pure lactose, maltose, glucose and fructose, in solid form; sugar syrups not containing added flavouring or colouring matter; artificial honey, whether or not mixed with natural honey; caramel.

EXPLANATORY NOTES

17.02 - other sugars, including chemically pure lactose, maltose, glucose and fructose, in solid form; sugar syrups not containing added flavouring or colouring matter; artificial honey, whether or not mixed with natural honey; caramel.

- Lactose and lactose syrup:

1702.11 - - Containing by weight 99 % or more lactose, expressed as anhydrous lactose, calculated on the dry matter

1702.19 - - Other

1702.20 - Maple sugar and maple syrup

1702.30 - Glucose and glucose syrup, not containing fructose or containing in the dry state less than 20 % by weight of fructose

1702.40 - Glucose and glucose syrup, containing in the dry state at least 20 % but less than 50 % by weight of fructose, excluding invert sugar

1702.50 - chemically pure fructose

1702.60 - other fructose and fructose syrup, containing in the dry state more than 50 % by weight of fructose, excluding invert sugar

1702.90 - Other, including invert sugar and other sugar and sugar syrup blends containing in the dry state 50 % by weight of fructose

This heading covers other sugars in solid form, sugar syrups and also artificial honey and caramel.

(A) **OTHER SUGARS**

This part covers sugars, **other than** sugars of **heading 17.01** or chemically pure sugars of **heading 29.40**, in solid form (including powders), whether or not containing added flavouring or colouring matter. The principal sugars of this heading are:

(1) **Lactose** (also known as milk sugar) ($C_{12}H_{22}O_{11}$), which occurs in milk and is produced commercially from whey. This heading covers both commercial and chemically pure lactose. Such products must contain by weight more than 95 % lactose, expressed as anhydrous lactose, calculated on the dry matter. For the purposes of calculating the percentage weight of lactose in a product the expression “dry matter” should be taken to exclude both free water and water of crystallisation. Products obtained from whey and containing 95 % or less by weight of lactose, expressed as anhydrous lactose, calculated on the dry matter, are **excluded** (generally **heading 04.04**).

Commercial lactose, when refined, is a white, slightly sweet, crystalline powder. Chemically pure lactose, whether anhydrous or hydrated, occurs as hard colourless crystals, which absorb odours.

Lactose is used extensively, with milk, in the preparation of infant foods; it is also used in confectionery, in jam-making or in pharmacy.

(2) **Invert sugar**, the main constituent of natural honey. It is usually prepared commercially by the hydrolysis of refined sucrose solutions and consists of equal proportions by weight of glucose and fructose. It may be presented in solid form or as a viscous syrup (see Part (B)). It is used in pharmacy, in bread making, in the manufacture of fruit preserves and artificial honey and in the brewing industry.

(3) **Glucose**, which occurs naturally in fruits and honey. Together with an equal part of fructose it constitutes invert sugar.

The heading includes dextrose (chemically pure glucose) and commercial glucose.

Dextrose ($C_6H_{12}O_6$) is a white crystalline powder. It is used in the food and pharmaceutical industries.

Commercial glucose is obtained by hydrolysing starch with acids and/or enzymes. It always contains, in addition to dextrose, a variable proportion of di-, tri- and other polysaccharides (maltose, maltotriose, etc.). It has a reducing sugar content, expressed as dextrose on the dry substance, of not less than 20 %. It is usually in the form of a colourless, more or less viscous liquid (glucose syrup, see Part (B)) or of lumps or cakes (glucose aggregates) or of an amorphous powder. It is used mainly in the food industry, in brewing, in tobacco fermentation and in pharmacy.

(4) **Fructose** ($C_6H_{12}O_6$) which is present in large quantities, with glucose, in sweet fruits and in honey. Commercially it is produced from commercial glucose (e.g., corn syrup), from sucrose or by hydrolysis of inulin, a substance found mainly in the tubers of the dahlia and the Jerusalem artichoke. It occurs in the form of a whitish, crystalline powder or as a viscous syrup (see Part (B)); it is sweeter than ordinary sugar (sucrose) and is especially suitable for use by diabetics. This heading covers both commercial and chemically pure fructose.

(5) **Sucrose sugars**, obtained from sources other than the sugar beet and the sugar cane. The most important is **maple** sugar, obtained from the sap of varieties of the maple tree, chiefly the *Acer saccharum* and the *Acer nigrum* which grow mainly in Canada and the North-Eastern United States. The sap is usually concentrated and crystallised unrefined in order to retain certain non-sugar constituents to which the sugar owes its delicate flavour. It is also marketed in the form of a syrup (see Part (B)). Other sucrose syrups (see Part (B)) are obtained from sweet sorghum (*Sorghum vulgare var. saccharatum*), carob beans, certain palms, etc.

(6) **Malto-dextrins** (or **dextri-maltoses**), obtained by the same process as commercial glucose. They contain maltose and polysaccharides in variable proportions. However, they are less hydrolysed and therefore have a lower reducing sugar content than commercial glucose. The heading covers only such products with a reducing sugar content, expressed as dextrose on the dry substance, exceeding 10 % (but less than 20 %). Those with a reducing sugar content not exceeding 10 % fall in **heading 35.05**. Malto-dextrins are generally in the form of white powders, but they are also marketed in the form of a syrup (see Part (B)). They are used chiefly in the manufacture of baby food and low-calory dietetic foods, as extenders for flavouring substances or food colouring agents, and in the pharmaceutical industry as carriers.

(7) **Maltose** ($C_{12}H_{22}O_{11}$) which is produced industrially from starch by hydrolysis with malt diastase and is produced in the form of a white crystalline powder. It is used in the brewing industry. This heading covers both commercial and chemically pure maltose.

(B) **SUGAR SYRUPS**

This part covers syrups of all sugars (including lactose syrups and aqueous solutions **other than** aqueous solutions of chemically pure sugars of **heading 29.40**), **provided** they do not contain added flavouring or colouring matter (see Explanatory Note to heading 21.06).

In addition to the syrups referred to in Part (A) above (i.e., glucose (starch) syrup, fructose syrup, syrup of malto-dextrins, inverted sugar syrup as well as sucrose syrup), this heading includes:

(1) **Simple syrups** obtained by dissolving sugars of this Chapter in water.

(2) **Juices and syrups** obtained during the extraction of sugars from sugar beet, sugar cane, etc. These may contain pectin, albuminoidal substances, mineral salts, etc., as impurities.

(3) **Golden syrup**, a table or culinary syrup containing sucrose and invert sugar. Golden syrup is made from the syrup remaining during sugar refining after crystallisation and separation of refined sugar, or from cane or beet sugar, by inverting part of the sucrose or by the addition of invert sugar.

(C) **ARTIFICIAL HONEY**

The term “artificial honey” applies to mixtures based on sucrose, glucose or invert sugar, generally flavoured or coloured and prepared to imitate natural honey. Mixtures of natural and artificial honey are also included in this heading.

(D) **CARAMEL**

Caramel is a brown non-crystallisable substance with an aromatic odour. It may be in the form either of a more or less syrupy liquid or of a solid, usually a powder.

It is obtained by more or less prolonged pyrogenation, at a temperature of 120 - 180 °C, from sugars (usually glucose or sucrose) or from molasses.

Depending on the manufacturing process, a whole series of products is obtained ranging from **caramelised sugars** (or molasses) proper with a sugar content, calculated on the dry product, which is usually high (of the order of 90 %), to “**colouring” caramels**, with a very low sugar content.

Caramelised sugars or molasses are used for flavouring, particularly in making sweetened desserts, ice cream or pastry-cooks’ products. Colouring caramels, because of a fairly high degree of conversion of the sugars into melanoidin (a colorant), are used as colouring substances in, for example, biscuit-making, brewing and the manufacture of certain non-alcoholic beverages.

1702.1

- Lactose and lactose syrup:

1702.11

-- Containing by weight 99 % or more lactose, expressed as anhydrous lactose, calculated on the dry matter

1702.19

-- Other

1702.20

- Maple sugar and maple syrup

1702.30

- Glucose and glucose syrup, not containing fructose or containing in the dry state less than 20 % by weight of fructose

1702.40

- Glucose and glucose syrup, containing in the dry state at least 20 % but less than 50 % by weight of fructose, excluding invert sugar

1702.50

- Chemically pure fructose

1702.60

- Other fructose and fructose syrup, containing in the dry state more than 50 % by weight of fructose, excluding invert sugar

1702.90

- Other, including invert sugar and other sugar and sugar syrup blends containing in the dry state 50 % by weight of fructose

CLASSIFICATION OPINIONS

1. "**High-test molasses**" obtained by hydrolising and evaporating raw sugar cane juice and used mainly as a culture medium for micro-organisms in the manufacture of antibiotics and for the manufacture of ethyl alcohol.
Adoption: 1964

Heading 1703

Molasses resulting from the extraction or refining of sugar.

EXPLANATORY NOTES

17.03 - Molasses resulting from the extraction or refining of sugar (+).

1703.10 - Cane molasses

1703.90 - Other

Molasses of this heading is obtained only as a result of the extraction or refining of sugar. It is most commonly obtained as a normal by-product resulting from the extraction or refining of beet or cane sugar or from the production of fructose from maize (corn). It is a brown or blackish viscous substance containing an appreciable amount of sugar which cannot readily be crystallised. However, it may be powdered.

Beet sugar molasses is not normally eaten as such, but certain refined forms of sugar cane molasses and corn molasses are suitable for human consumption and are sold as treacle or as table syrups. The main uses of molasses are as the raw material from which alcohols and alcoholic beverages are distilled (e.g., rum from sugar cane molasses), in the preparation of cattle foods and coffee substitutes. It is also sometimes used for the extraction of sugar.

Molasses of this heading may be decolourised, coloured or flavoured.

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Subheading Explanatory Note.

Subheading 1703.10

Cane molasses can be distinguished from the other molasses of heading 17.03 on the basis of odour and chemical composition.

1703.10

- Cane molasses

1703.90

- Other

Heading 1704

Sugar confectionery (including white chocolate), not containing cocoa.

EXPLANATORY NOTES

17.04 - Sugar confectionery (including white chocolate), not containing cocoa.

1704.10 - Chewing gum, whether or not sugar-coated

1704.90 - Other

This heading covers most of the sugar preparations which are marketed in a solid or semi-solid form, generally suitable for immediate consumption and collectively referred to as **sweetmeats**, **confectionery** or **candies**.

It includes, *inter alia:*

(1) Gums containing sugar (including sweetened chewing gum and the like).

(2) Boiled sweets (including those containing malt extract).

(3) Caramels, cachous, candies, nougat, fondants, sugared almonds, Turkish delight.

(4) Marzipan.

(5) Preparations put up as throat pastilles or cough drops, consisting essentially of sugars (whether or not with other foodstuffs such as gelatin, starch or flour) and flavouring agents (including substances having medicinal properties, such as benzyl alcohol, menthol, eucalyptol and tolu balsam). However, throat pastilles or cough drops which contain substances having medicinal properties, other than flavouring agents, fall in **Chapter 30**, **provided** that the proportion of those substances in each pastille or drop is such that they are thereby given therapeutic or prophylactic uses.

(6) White chocolate composed of sugar, cocoa butter, milk powder and flavouring agents, but not containing more than mere traces of cocoa (cocoa butter is not regarded as cocoa).

(7) Liquorice extract (cakes, blocks, sticks, pastilles, etc.) containing more than 10 % by weight of sucrose. When put up (i.e., prepared) as confectionery, however, (flavoured or not), liquorice extract falls in the heading irrespective of the proportion of sugar.

(8) Fruit jellies and fruit pastes put up in the form of sugar confectionery.

(9) Pastes based on sugar and containing little or no added fat and suitable for transformation directly into sugar confectionery of this heading, but also used as a filling for products of this or other headings, for example :

(a) Fondant pastes prepared from sucrose, sucrose or glucose syrup or invert sugar syrup with or without flavouring, used for making fondants, as a filling for sweets or chocolates, etc.

(b) Nougat pastes, being aerated mixtures of sugar, water and colloidal materials (e.g., egg white) and sometimes with a small quantity of added fat, with or without the addition of nuts, fruits or other suitable vegetable products, used for making nougat, as filling for chocolates, etc.

(c) Almond pastes, prepared mainly from almonds and sugar, used essentially for making marzipan.

(10) Preparations based on natural honey put up in the form of sugar confectionery (e.g., "halva").

The heading **excludes**:

(a) Liquorice extract (not put up as confectionery) containing 10 % or less by weight of sucrose (**heading 13.02**).

(b) Sugar preparations containing cocoa (**heading 18.06**). (For this purpose cocoa butter is not regarded as cocoa.)

(c) Sweetened food preparations such as vegetables, fruit, fruit peel, etc., preserved by sugar (**heading 20.06**) and jams, fruit jellies, etc. (**heading 20.07**).

(d) Sweets, gums and the like (for diabetics, in particular) containing synthetic sweetening agents (e.g., sorbitol) instead of sugar; pastes based on sugar, containing added fat in a relatively large proportion and, sometimes, milk or nuts, not suitable for transformation directly into sugar confectionery (**heading 21.06**).

(e) Medicaments of **Chapter 30**.

1704.10

- Chewing gum, whether or not sugar-coated

1704.90

- Other

CLASSIFICATION OPINIONS

1. Ginseng tablets, in the form of rectangular caramels (side length about 22 mm, thickness about 7 mm), containing standardized highly-concentrated ginseng extract (approximately 50 mg per tablet), sucrose (47 % by weight) vegetable oil, gelatin, emulsifying agent (gum arabic), citric acid, ascorbic acid, essential oil of orange and colouring agent. *See also Opinions 2106.90/7 and 2205.10/2. Adoption: 1987*

2. Sugar confectionery presented in a set consisting of two small packets of confectionery and a reusable plastic dispenser, put up for retail sale in a polyethylene bag. *Adoption: 1993*

3. Throat pastilles or cough drops consisting essentially of sugars and flavouring agents, e.g., menthol, eucalyptol or peppermint oil, (without other active ingredients). *Adoption: 1993*

4. **Sugar confectionery (caramel)** containing sugar, glucose, butter, vegetable fat, milk powder, salt, soya lecithin, malt extract and flavourings. Minute quantities of cocoa powder, stated to be present by the manufacturer, could not be confirmed by analysis.
Adoption: 1999

5. **Sugar confectionery (candy)** containing sugar, glucose, citric acid, pectin, apple pulp, concentrated cocoa flavouring and other flavourings. Minute quantities of cocoa powder, stated to be present by the manufacturer, could not be confirmed by analysis.
Adoption: 1999

6. **Sugar confectionery (candy)** containing sugar, glucose, lactic acid, and menthol and peppermint oil. Minute quantities of cocoa powder, stated to be present by the manufacturer, could not be confirmed by analysis.
Adoption: 1999

7. **Sugar confectionery (candy)** containing sugar, glucose and flavourings. Minute quantities of cocoa powder, stated to be present by the manufacturer, could not be confirmed by analysis.
Adoption: 1999

8. **Sugar confectionery (candy)** containing sugar, glucose, lactic acid and flavourings. Minute quantities of cocoa powder, stated to be present by the manufacturer, could not be confirmed by analysis.
Adoption: 1999

9. **Halva sesame snack with honey,** a sugar confectionery in the form of a paste, put up for retail sale, obtained by mixing ground sesame seeds (52 %) with natural honey (48 %).
Application of GIRs 1 and 6.
Adoption: 2012

10. **Cough and throat tablets** consisting essentially of sugars (43.5 %), liquorice extract (13.5 %), other food stuffs, e.g., starch and cellulose (17.6 %), minerals, e.g., calcium carbonate and talc (10.4 %) and flavouring agents (e.g., menthol, peppermint oil, anise oil, eucalyptus oil, creosote and capsicum).
The product is put up in packings for retail sale.
Application of GIRs 1 and 6.
Adoption: 2017

11. **Cough tablets** consisting essentially of sugars (approximately 1.9 g / tablet), glycyrrhiza (liquorice) extract (35 mg / tablet), other food stuffs (e.g., starch and gelatine) and flavouring agents (e.g., menthol, peppermint oil, anise oil, eucalyptus oil, pine pumilio oil and capsicum).
The product is put up in packings for retail sale.
Application of GIRs 1 and 6.
Adoption: 2019

12. **Herbal cough tablets** composed predominantly of sugar with small amounts of *Glycyrrhiza glabra* (liquorice), *Zingiber officinale* (ginger), *Emblica officinalis* (Indian gooseberry), and menthol. This product is used for the symptomatic treatment of various types of cough, hoarseness and sore throat.
Application of GIRs 1 and 6.
Adoption: 2022

Chapter 18

Cocoa and cocoa preparations

LEGAL NOTES

Notes.

1. - This Chapter does not cover:

(a) Food preparations containing more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof (Chapter 16);

(b) Preparations of headings 04.03, 19.01, 19.02, 19.04, 19.05, 21.05, 22.02, 22.08, 30.03 or 30.04.

2. - Heading 18.06 includes sugar confectionery containing cocoa and, subject to Note 1 to this Chapter, other food preparations containing cocoa.

EXPLANATORY NOTES

Chapter 18

Cocoa and cocoa preparations

Notes.

1. - This Chapter does not cover:

(a) Food preparations containing more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof (Chapter 16);

(b) Preparations of headings 04.03, 19.01, 19.02, 19.04, 19.05, 21.05, 22.02, 22.08, 30.03 or 30.04.

2. - Heading 18.06 includes sugar confectionery containing cocoa and, subject to Note 1 to this Chapter, other food preparations containing cocoa.

GENERAL

This Chapter covers cocoa (including cocoa beans) in all forms, cocoa butter, fat and oil and preparations containing cocoa (in any proportion), **except**:

(a) Yogurt and other products of **heading 04.03**.

(b) White chocolate (**heading 17.04**).

(c) Food preparations of flour, groats, meal, starch or malt extract, containing less than 40 % by weight of cocoa calculated on a totally defatted basis, and food preparations of goods of headings 04.01

to 04.04 containing less than 5 % by weight of cocoa calculated on a totally defatted basis, of **heading 19.01**.

(d) Swelled or roasted cereals containing not more than 6 % by weight of cocoa calculated on a totally defatted basis (**heading 19.04**).

(e) Pastry, cakes, biscuits and other bakers' wares, containing cocoa (**heading 19.05**).

(f) Ice cream and other edible ice, containing cocoa in any proportion (**heading 21.05**).

(g) Beverages, non-alcoholic or alcoholic (e.g., "*crème de cacao*"), containing cocoa and ready for consumption (**Chapter 22**).

(h) Medicaments (**heading 30.03** or **30.04**).

The Chapter also **excludes** theobromine, an alkaloid extracted from cocoa (**heading 29.39**).

Heading 1801

Cocoa beans, whole or broken, raw or roasted.

EXPLANATORY NOTES

18.01 - Cocoa beans, whole or broken, raw or roasted.

Cocoa beans are the seeds, contained in large numbers (25 to 80), in the fruit (cocoa-pod) of the cacao-tree (*Theobroma cacao*). They are of flat ovoid form, generally violet or reddish in colour. They consist of a tough, brittle shell, and a very thin whitish inner husk or skin covering the kernel and dividing it into several sections.

In order to reduce their slightly bitter taste, to develop the aroma and to facilitate shelling, the beans are fermented; they may alternatively be steam treated and dried. They are roasted to facilitate removal of the shells, to render the kernels more friable, to concentrate the product and improve the flavour and aroma. They are then passed through corrugated rollers which break up the beans and detach the germs; subsequent processes separate the shells, husks and germs from the broken pieces of kernels (cocoa nibs).

The heading covers raw or roasted beans, whole (whether or not separated from their shells, husks, skins or germs) or broken.

The heading **does not include:**

(a) Shells, husks, skins and other cocoa waste (**heading 18.02**).

(b) Cocoa beans ground to paste (**heading 18.03**).

1801.00

Cocoa beans, whole or broken, raw or roasted.

Heading 1802

Cocoa shells, husks, skins and other cocoa waste.

EXPLANATORY NOTES

18.02 - Cocoa shells, husks, skins and other cocoa waste.

This heading covers the waste left from the manufacture of cocoa powder or cocoa butter. Some of these residues may be used for the further extraction of cocoa butter, and they may all be used for the extraction of theobromine. They may also be added, in relatively small proportions, to animal feeding stuffs. When ground, they are sometimes used instead of cocoa powder which they resemble in odour but not in flavour.

The heading includes:

(1) **Shells, husks and skins** separated during the process of roasting and crushing the beans. They contain small fragments of the kernels (which remain attached to the shell, husk or skin and cannot readily be separated from them), from which a proportion of cocoa butter may be extracted.

(2) **Cocoa germs**, resulting from the cocoa beans being passed through so-called de-germing machines. These contain practically no fat.

(3) **Cocoa dust**, resulting from the cleaning of the shells in the sorting machines; normally, its fat content is sufficiently high for extraction to be economically justified.

(4) **Cocoa cakes** (resulting from the extraction of the cocoa butter from shell, husk or skin waste containing fragments of kernel, or from the whole bean). These cakes contain particles of the shells, husks and skins and are therefore unsuitable for the manufacture of cocoa powder or chocolate.

The heading **excludes** cocoa cake free from shells, husks and skins, resulting from the extraction of cocoa butter from cocoa paste (**heading 18.03**).

1802.00

Cocoa shells, husks, skins and other cocoa waste.

Heading 1803

Cocoa paste, whether or not defatted.

EXPLANATORY NOTES

18.03 - Cocoa paste, whether or not defatted.

1803.10 - Not defatted

1803.20 - wholly or partly defatted

Cocoa paste is obtained by grinding roasted cocoa beans (cleaned of their shells, husks, skins and germs) between heated grindstones or disc crushers; the resulting product is solidified in tablets, lumps or blocks. The paste can be used in this state by confectioners but it is generally used for the manufacture of cocoa butter, cocoa powder and chocolate.

The heading also covers paste which has been wholly or partly defatted (cocoa cake); this is used for the manufacture of cocoa powder or chocolate, or in some cases for the manufacture of theobromine.

The heading **excludes** cocoa paste containing added sugar or other sweetening matter (**heading 18.06**).

1803.10

- Not defatted

1803.20

- Wholly or partly defatted

Heading 1804

Cocoa butter, fat and oil.

EXPLANATORY NOTES

18.04 - Cocoa butter, fat and oil.

Cocoa butter, the fatty matter contained in cocoa beans, is generally obtained by hot-pressing either cocoa paste or the whole bean. An inferior quality, often referred to as cocoa fat, can also be obtained from spoiled cocoa beans or from various kinds of cocoa waste (shells, husks, dust, etc.) either by pressure or by extraction with suitable solvents.

Cocoa butter is generally solid at room temperature, slightly oily and yellowish-white in colour; it has an odour similar to that of cocoa and an agreeable flavour. It is generally presented in slabs, and is used in chocolate-making (to enrich cocoa pastes), in confectionery (for the preparation of certain sweets), in perfumery (for extracting perfumes by the enfleurage process), in the manufacture of cosmetics and in pharmacy (for the preparation of ointments, suppositories, etc.).

1804.00

Cocoa butter, fat and oil.

Heading 1805

Cocoa powder, not containing added sugar or other sweetening matter.

EXPLANATORY NOTES

18.05 - Cocoa powder, not containing added sugar or other sweetening matter.

Cocoa powder is obtained by pulverising the partly defatted cocoa paste referred to in heading 18.03.

This heading covers only cocoa powder not containing added sugar or other sweetening matter. The heading includes, *inter alia*, cocoa powder obtained after treating the nibs, paste or powder with alkaline substances (carbonate of sodium or potassium, etc.) to increase its solubility (soluble cocoa).

Cocoa powder containing added sugar or other sweetening matter and cocoa powder to which milk powder or peptones have been added fall in **heading 18.06**. However, medicaments in which cocoa powder serves merely as a support or vehicle for the medicinal substance fall in **heading 30.03** or **30.04**.

1805.00

Cocoa powder, not containing added sugar or other sweetening matter.

Heading 1806

Chocolate and other food preparations containing cocoa.

EXPLANATORY NOTES

18.06 - Chocolate and other food preparations containing cocoa (+).

1806.10 - Cocoa powder, containing added sugar or other sweetening matter

1806.20 - Other preparations in blocks, slabs or bars weighing more than 2 kg or in liquid, paste, powder, granular or other bulk form in containers or immediate packings, of a content exceeding 2 kg

- Other, in blocks, slabs or bars:

1806.31 - - Filled

1806.32 - - Not filled

1806.90 - Other

Chocolate is composed essentially of cocoa paste and sugar or other sweetening matter, usually with the addition of flavouring and cocoa butter; in some cases, cocoa powder and vegetable oil may be substituted for cocoa paste. Milk, coffee, hazelnuts, almonds, orange-peel, etc., are sometimes also added.

Chocolate and chocolate goods may be put up either as blocks, slabs, tablets, bars, pastilles, croquettes, granules or powder, or in the form of chocolate products filled with creams, fruits, liqueurs, etc.

The heading also includes all sugar confectionery containing cocoa in any proportion (including chocolate nougat), sweetened cocoa powder, chocolate powder, chocolate spreads, and, in general, all food preparations containing cocoa (**other than** those **excluded** in the General Explanatory Note to this Chapter).

Chocolate enriched with vitamins is also classified in this heading.

The heading **does not include**:

(a) White chocolate (composed of cocoa butter, sugar and powdered milk) (**heading 17.04**).

(b) Biscuits and other bakers' wares covered with chocolate (**heading 19.05**).

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Subheading Explanatory Note.

Subheading 1806.20

Goods presented in “other bulk forms” are covered by subheading 1806.20 if they take the form of pellets, beans, rounds, drops, balls, chips, flakes, sprinkles, shavings and similar. Goods under this subheading are usually intended for the manufacture of chocolate products, bakery products, confectionery, ice creams, etc., or for decoration.

Subheading 1806.31

For the purpose of this subheading, the term “filled” covers blocks, slabs or bars consisting of a centre composed of, e.g., cream, crusted sugar, desiccated coconut, fruit, fruit paste, liqueurs, marzipan, nuts, nougat, caramel or combinations of these products, enrobed with chocolate. Solid blocks, slabs or bars of chocolate containing, for example, cereal, fruit or nuts (whether or not in pieces), embedded throughout the chocolate, are **not** regarded as “filled”.

1806.10

- Cocoa powder, containing added sugar or other sweetening matter

1806.20

- Other preparations in blocks, slabs or bars weighing more than 2 kg or in liquid, paste, powder, granular or other bulk form in containers or immediate packings, of a content exceeding 2 kg

1806.3

- Other, in blocks, slabs or bars:

1806.31

-- Filled

CLASSIFICATION OPINIONS

1. Sugar confectionery containing cocoa, mixed, in various proportions, with confectionery not containing cocoa, presented in boxes for sale as mixed.
Adoption: 1970

1806.32

-- Not filled

CLASSIFICATION OPINIONS

1. Sugar confectionery containing cocoa, mixed, in various proportions, with confectionery not containing cocoa, presented in boxes for sale as mixed.
Adoption: 1970

2. Chocolate-based food preparation, presented in the form of milk chocolate tablets, embedded with ten biscuits visible on both sides of the tablet. The product contains by weight 63 % milk chocolate, 25 % cocoa biscuits and 12 % vanilla flavoured milk cream. **Application of GIRs 1 and 6.**
Adoption: 2021



1806.90

- Other

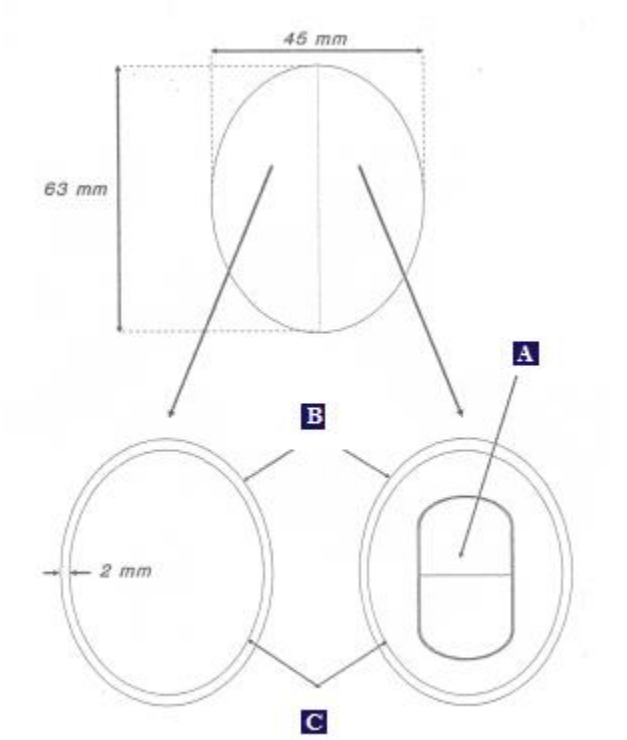
CLASSIFICATION OPINIONS

1. Chocolate-coated product, dome-shaped, about 3.5 cm in diameter, consisting of a thin wafer (approximately 1 to 2 mm thick), with a filling containing small dried strawberry flakes, the whole being covered with milk chocolate.
Adoption: 1995

2. Chocolate-based composite product consisting of an egg-shaped shell, with an outer layer of chocolate and an inner layer based on sugar, milk products and vegetable fats, containing a plastic

capsule which itself contains a toy (as a surprise) (e.g., a plastic helicopter, unassembled). **Application of GIR 3 (b).** *Adoption: 1995*

A Plastic capsule which houses a toy (as a surprise) **B** Milk chocolate**C** White chocolate



3. Chocolate confectionery (milk chocolate in a sugar shell), put up in two packets, each with a net weight of 45 g, presented in a plastic container, as composite goods for retail sale. The container has a lid with a reusable plastic dispenser attached to it. The dispenser – shaped as one of the confectionery brand's characters – is filled with confectioneries which are dispensed when the character's hand is pressed. **Application of GIRs 1, 3 (b) and 6.** *See also Opinions 1806.90/4 and 9503.00/10 Adoption: 2017*



4. Chocolate confectionery, containing peanuts (23 %) covered in milk chocolate (48 %) and coated in sugar, presented in a cardboard box with a net content of 140 g. The plastic lid is topped with a toy character of the confectionery brand attached to a spring. The toy can be removed from the spring.

Application of GIRs 1, 5 (b) and 6. *See also Opinions 1806.90/3 and 9503.00/10 Adoption: 2017*



5. Product, which contains cocoa, known as "Cookies & Cream" is a flavoured protein powder. It has the following ingredients:

- soy protein isolate 41 %
- fructose powder 17 %
- cookie crumbs 10 %
- oat fibre 8 %
- inulin 6 %
- polydextrose powder 5 %
- mineral 2.5 %
- flavours, additives, vitamins and other ingredients 10.5 %

The cookie crumbs contain wheat flour, sugar, canola oil, cocoa 5-10 % (processed with alkali), salt, baking soda.

Application of GIRs 1 and 6.

Adoption: 2021

Chapter 19

Preparations of cereals, flour, starch or milk; pastrycooks' products

LEGAL NOTES

Notes.

1. - This Chapter does not cover:

(a) Except in the case of stuffed products of heading 19.02, food preparations containing more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates , or any combination thereof (Chapter 16);

(b) Biscuits or other articles made from flour or from starch, specially prepared for use in animal feeding (heading 23.09); or

(c) Medicaments or other products of Chapter 30.

2. - For the purposes of heading 19.01:

(a) The term “groats” means cereal groats of Chapter 11;

(b) The terms “flour” and “meal” mean:

(1) Cereal flour and meal of Chapter 11, and

(2) Flour, meal and powder of vegetable origin of any Chapter, other than flour, meal or powder of dried vegetables (heading 07.12), of potatoes (heading 11.05) or of dried leguminous vegetables (heading 11.06).

3.- Heading 19.04 does not cover preparations containing more than 6 % by weight of cocoa calculated on a totally defatted basis or completely coated with chocolate or other food preparations containing cocoa of heading 18.06 (heading 18.06).

4. - For the purposes of heading 19.04, the expression “otherwise prepared” means prepared or processed to an extent beyond that provided for in the headings of or Notes to Chapter 10 or 11.

EXPLANATORY NOTES

Chapter 19

Preparations of cereals, flour, starch or milk;

pastrycooks' products

Notes.

1. - This Chapter does not cover:

(a) Except in the case of stuffed products of heading 19.02, food preparations containing more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates , or any combination thereof (Chapter 16);

(b) Biscuits or other articles made from flour or from starch, specially prepared for use in animal feeding (heading 23.09); or

(c) Medicaments or other products of Chapter 30.

2. - For the purposes of heading 19.01:

(a) The term “groats” means cereal groats of Chapter 11;

(b) The terms “flour” and “meal” mean:

(1) Cereal flour and meal of Chapter 11, and

(2) Flour, meal and powder of vegetable origin of any Chapter, other than flour, meal or powder of dried vegetables (heading 07.12), of potatoes (heading 11.05) or of dried leguminous vegetables (heading 11.06).

3.- Heading 19.04 does not cover preparations containing more than 6 % by weight of cocoa calculated on a totally defatted basis or completely coated with chocolate or other food preparations containing cocoa of heading 18.06 (heading 18.06).

4. - For the purposes of heading 19.04, the expression “otherwise prepared” means prepared or processed to an extent beyond that provided for in the headings of or Notes to Chapter 10 or 11.

GENERAL

This Chapter covers a number of preparations, generally used for food, which are made either directly from the cereals of Chapter 10, from the products of Chapter 11 or from food flour, meal and powder of vegetable origin of other Chapters (cereal flour, groats and meal, starch, fruit or vegetable flour, meal and powder) or from the goods of headings 04.01 to 04.04. The Chapter also covers pastrycooks' products and biscuits, even when not containing flour, starch or other cereal products.

For the purposes of Note 3 to this Chapter and heading 19.01, the cocoa content of a product can normally be calculated by multiplying the combined theobromine and caffeine content by a factor of 31. It should be noted that the term “cocoa” covers cocoa in all forms, including paste and solid.

The Chapter **excludes**:

(a) Food preparations (other than stuffed products of **heading 19.02**) containing more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof (**Chapter 16**).

(b) Food preparations of flour, groats, meal, starch or malt extract containing 40 % or more by weight of cocoa calculated on a totally defatted basis and food preparations of goods of headings 04.01 to 04.04 containing 5 % or more by weight of cocoa calculated on a totally defatted basis (**heading 18.06**).

(c) Roasted coffee substitutes containing coffee in any proportion (**heading 09.01**) and other roasted coffee substitutes (e.g., roasted barley) (**heading 21.01**).

(d) Powders for the manufacture of custards, desserts, ice cream or similar preparations but not being preparations based on flour, meal, starch, malt extract or goods of headings 04.01 to 04.04 (generally **heading 21.06**).

(e) Products made from flour or from starch, specially prepared for use in animal feeding (e.g., dog biscuits) (**heading 23.09**).

(f) Medicaments and other products of **Chapter 30**.

Heading 1901

Malt extract; food preparations of flour, groats, meal, starch or malt extract, not containing cocoa or containing less than 40 % by weight of cocoa calculated on a totally defatted basis, not elsewhere specified or included; food preparations of goods of headings 04.01 to 04.04, not containing cocoa or containing less than 5 % by weight of cocoa calculated on a totally defatted basis, not elsewhere specified or included.

EXPLANATORY NOTES

19.01 - Malt extract; food preparations of flour, groats, meal, starch or malt extract, not containing cocoa or containing less than 40 % by weight of cocoa calculated on a totally defatted basis, not elsewhere specified or included; food preparations of goods of headings 04.01 to 04.04, not containing cocoa or containing less than 5 % by weight of cocoa calculated on a totally defatted basis, not elsewhere specified or included.

1901.10 - Preparations suitable for infants or young children, put up for retail sale

1901.20 - Mixes and doughs for the preparation of bakers' wares of heading 19.05

1901.90 - Other

(I) **Malt extract.**

Malt extracts are made by concentrating the solution obtained on macerating malt in water.

They remain classified in this heading whether in block or powder form, or as more or less viscous liquids.

Malt extracts with added lecithin, vitamins, salts, etc., remain in this heading **provided** they do not constitute medicaments of **Chapter 30**.

Malt extracts are mainly employed for the preparation of products of a kind used as food suitable for infants or young children or for dietetic or culinary purposes, or for the manufacture of pharmaceutical products. The viscous forms may also be used without further preparation in the baking and textile industries.

This heading **does not cover**:

(a) Sugar confectionery, containing malt extract, of **heading 17.04**.

(b) Beers and other beverages (e.g., malton) with a basis of malt (**Chapter 22**).

(c) Malt enzymes (**heading 35.07**).

(II) **Food preparations of flour, groats, meal, starch or malt extract, not containing cocoa or containing less than 40 % by weight of cocoa calculated on a totally defatted basis, not elsewhere specified or included.**

This heading covers a number of food preparations with a basis of flour, groats or meal, of starch or of malt extract, which derive their essential character from such materials whether or not these ingredients predominate by weight or volume.

Other substances may be added to these main ingredients, such as milk, sugar, eggs, casein, albumin, fat, oil, flavouring, gluten, colouring, vitamins, fruit or other substances to improve their dietetic value, or cocoa, in the latter case, in any proportion less than 40 % by weight of cocoa calculated on a totally defatted basis (see the General Explanatory Note to this Chapter).

It should be noted however that preparations containing more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof are **excluded** (**Chapter 16**).

For the purposes of this heading:

(A) The terms "**flour**" and "**meal**" mean not only the cereal flour or meal of Chapter 11 but also food flour, meal and powder of vegetable origin of any Chapter, such as soyabean flour. However, these terms **do not cover** flour, meal or powder of dried vegetables (**heading 07.12**), of potatoes (**heading 11.05**) or of dried leguminous vegetables (**heading 11.06**).

(B) The term "**starch**" covers both untransformed starches and starches which have been pregelatinised or solubilised, **but not** more evolved starch products such as dextrimaltose.

The preparations of this heading may be liquid or in the form of powders, granules, doughs or other solid forms such as strips or discs.

These preparations are often used for making beverages, gruels, as food suitable for infants or young children, dietetic foods, etc., by simply mixing with, or boiling in, milk or water, or for making cakes, puddings, custards or similar culinary preparations.

They may also constitute intermediate preparations for the food industry.

The heading includes, *inter alia*, preparations such as:

(1) Flours obtained by evaporating a mixture of milk with sugar and flour.

(2) Preparations consisting of a mixture of egg powder, milk powder, malt extract and cocoa powder.

(3) Racahout, a food preparation composed of rice flour, various starches, and flour of sweet acorns, sugar and cocoa powder, flavoured with vanilla.

(4) Preparations composed of mixtures of cereal flour with fruit flours, generally containing added cocoa powder, or of fruit flours with added cocoa powder.

(5) Malted milk and similar preparations composed of powdered milk and malt extract with or without added sugar.

(6) "Knödel", "Klösse", "Nockerln", with ingredients such as semolina, cereal flour, breadcrumbs, fat, sugar, eggs, spices, yeast, jam or fruit. However, such products based on potato flour are classified in **Chapter 20**.

(7) Ready-mixed doughs, consisting essentially of cereal flour with sugar, fat, eggs or fruit (including those put up in moulds or formed into final shape).

(8) Uncooked pizza consisting of a pizza base (dough) covered with various other ingredients such as cheese, tomato, oil, meat, anchovies. However, pizza that is pre-cooked or cooked is classified in **heading 19.05**.

Apart fromthe preparations excluded by the General Explanatory Note to this Chapter, this heading also **excludes**:

(a) Self-raising flours and "swelling" (pregelatinised) flours of **heading 11.01** or **11.02**.

(b) Mixed cereal flours (**heading 11.01** or **11.02**), mixed flours and meals of leguminous vegetables and mixed fruit flours, meals or powders (heading 11.06), not otherwise prepared.

(c) Pasta and couscous of **heading 19.02**.

(d) Tapioca and substitutes therefor (**heading 19.03**).

(e) Fully or partially cooked bakers' wares, the latter requiring further cooking before consumption (**heading 19.05**).

(f) Sauces and preparations therefor (**heading 21.03**).

(g) Soups and broths and preparations therefor and homogenised composite food preparations (**heading 21.04**).

(h) Textured vegetable protein products (**heading 21.06**).

(ij) Beverages of **Chapter 22**.

(III) **Food preparations of goods of headings 04.01 to 04.04, not containing cocoa or containing less than 5 % by weight of cocoa calculated on a totally defatted basis, not elsewhere specified or included.**

The preparations of this heading may be distinguished from the products of headings 04.01 to 04.04 in that they contain, in addition to natural milk constituents, other ingredients not permitted in the products of those earlier headings. Thus heading 19.01 includes, for example:

(1) Preparations in powder or liquid form used as food suitable for infants or young children or for dietetic purposes and consisting of milk to which secondary ingredients (e.g., cereal groats, yeast) have been added.

(2) Milk preparations obtained by replacing one or more constituents of milk (e.g., butyric fats) by another substance (e.g., oleic fats).

The products of this heading may be sweetened and may contain cocoa. However, the heading **excludes** products having the character of sugar confectionery (**heading 17.04**) and products containing 5 % or more by weight of cocoa calculated on a totally defatted basis (see the General Explanatory Note to this Chapter) (**heading 18.06**) and beverages (**Chapter 22**).

The heading also covers mixes and bases (e.g., powders) for making ice cream but it **excludes** ice cream and other edible ice based on milk constituents (**heading 21.05**).

1901.10

- Preparations suitable for infants or young children, put up for retail sale

CLASSIFICATION OPINIONS

1. Follow-up formula in the form of a powder, consisting of demineralised whey powder, skimmed milk powder, mixture of vegetable oils, lactose, galacto-oligosaccaride syrup, whey protein concentrate, fish oil, vitamins, minerals and food additives, put up for retail sale, in a container with

a net content of 700 g. The product is marketed to be consumed, after mixing with water, by infants 6 months and older, and young children.
Application of GIRs 1 and 6.
Adoption: 2010

2. Follow-up formula in the form of a powder, consisting of skimmed milk powder, maltodextrin, milk fat, galacto-oligosaccaride powder, sucrose, demineralised whey powder, corn oil, whey protein concentrate, fish oil, vitamins, minerals and food additives, put up for retail sale, in a container with a net content of 900 g. The product is marketed to be consumed, after mixing with water, by young children from 1 to 3 years old, but is also suitable for infants 6 months and older.
Application of GIRs 1 and 6.
Adoption: 2010

1901.20

- Mixes and doughs for the preparation of bakers' wares of heading 19.05

CLASSIFICATION OPINIONS

1. Uncooked pizza consisting of a pizza base (dough) and a topping. The pizza, having a net weight of 580 g, is put up in a retail packing. The ingredients are wheat flour, water, cheese, margarine cheese, white mushrooms, beef (4.7 % by weight), onions, tomato purée, vegetable (olive) oil, yeast, and salt, sugar, leavening agent, malt extract, partly hydrogenated vegetable oil, modified starch, garlic and spices. Before consumption the pizza has to be cooked for 15 to 20 minutes (pre-heated oven) or 20 to 25 minutes (cold oven).
Application of GIRs 1 and 6.
Adoption: 2001

1901.90

- Other

CLASSIFICATION OPINIONS

1. Preparation consisting of potato starch (88. 5 %), maltodextrin (8.5 %), monosodium glutamate (2 %) and salt (1 %), used in the manufacture of food products.
Adoption: 1999

2. Whipped cream put up in an aerosol can, exhibiting the smell and taste of vanilla, containing cream made from cows' milk, invert sugar syrup, condensed milk, concentrated milk, glucose, natural flavour (vanilla) and stabilising agent (E 407).
Application of GIRs 1 and 6.
Adoption: 2004

3. Preparation intended to be consumed as cheese substitute, consisting of skimmed milk (81.8 %), vegetable oils (15.65 %), and small quantities of salt, milk (whey) protein, rennet, acidifying culture, colouring matter and vitamin D, obtained by mixing skimmed milk with vegetable oils and subsequent treatment by a bacterial culture and enzyme, coagulation, separation of casein, heating, pressing, forming, cutting, salting, and subsequent ripening for 7 to 10 weeks. This preparation is sometimes referred to as “cheese analogue”.
Application of GIRs 1 and 6.
Adoption: 2013

Heading 1902

Pasta, whether or not cooked or stuffed (with meat or other substances) or otherwise prepared, such as spaghetti, macaroni, noodles, lasagne, gnocchi, ravioli, cannelloni; couscous, whether or not prepared.

EXPLANATORY NOTES

19.02 - Pasta, whether or not cooked or stuffed (with meat or other substances) or otherwise prepared, such as spaghetti, macaroni, noodles, lasagne, gnocchi, ravioli, cannelloni; couscous, whether or not prepared.

- Uncooked pasta, not stuffed or otherwise prepared :

1902.11 - - Containing eggs

1902.19 - - Other

1902.20 - Stuffed pasta, whether or not cooked or otherwise prepared

1902.30 - Other pasta

1902.40 - Couscous

The pasta of this heading are unfermented products made from semolinas or flours of wheat, maize, rice, potatoes, etc.

These semolinas or flours (or intermixtures thereof) are first mixed with water and kneaded into a dough which may also incorporate other ingredients (e.g., very finely chopped vegetables, vegetable juice or purées, eggs, milk, gluten, diastases, vitamins, colouring matter, flavouring).

The doughs are then formed (e.g., by extrusion and cutting, by rolling and cutting, by pressing, by moulding or by agglomeration in rotating drums) into specific predetermined shapes (such as tubes, strips, filaments, cockleshells, beads, granules, stars, elbow-bends, letters). In this process a small quantity of oil is sometimes added. These forms often give rise to the names of the finished products (e.g., macaroni, tagliatelle, spaghetti, noodles).

The products are usually dried before marketing to facilitate transport, storage and conservation; in this dried form, they are brittle. The heading also covers undried (i.e., moist or fresh) and frozen products, for example, fresh gnocchi and frozen ravioli.

The pasta of this heading may be cooked, stuffed with meat, fish, cheese or other substances in any proportion or otherwise prepared (e.g., as prepared dishes containing other ingredients such as vegetables, sauce, meat). Cooking serves to soften the pasta without changing its basic original form.

Stuffed pasta may be fully closed (for example, ravioli), open at the ends (for example, cannelloni) or layered, such as lasagne.

The heading also covers couscous which is a heat-treated semolina. Couscous of this heading may be cooked or otherwise prepared (e.g., put up with meat, vegetables and other ingredients as the complete dish which bears the same name).

The heading **does not cover** :

(a) Food preparations (other than stuffed products of **heading 19.02**) containing more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof (**Chapter 16**).

(b) Soups and broths and preparations therefor, containing pasta (**heading 21.04**).

1902.1

- Uncooked pasta, not stuffed or otherwise prepared :

1902.11

-- Containing eggs

1902.19

-- Other

1902.20

- Stuffed pasta, whether or not cooked or otherwise prepared

CLASSIFICATION OPINIONS

1. **Preparation** consisting of pasta stuffed with shrimps (wontons) and soup concentrate. The preparation is frozen and put up in a plastic bowl for retail sale. Before consumption, after adding water, it has to be re-heated in a microwave oven. **Application of GIRs 1 and 6.** *Adoption : 2012*





2. **Set** consisting of pasta stuffed with shrimps (wontons) and a sachet of soup in powder form. The set is frozen and put up in a paper container for retail sale. Before consumption, after mixing the soup powder with water, the wontons have to be cooked in the soup before serving. **Application of GIRs 1, 2 (b), 3 (b) and 6.** *Adoption : 2012*





1902.30

- Other pasta

CLASSIFICATION OPINIONS

1. Preparation containing, by weight, on the basis of the content of visible pieces, 22.9 % meatballs, 20.5 % pasta and 1.28 % vegetables. The meatballs themselves contain 63.8 % meat, bringing the total meat content in the preparation to 14.6 %. The preparation is put up in a glass container with a net content of 190 g for retail sale and is designed to be consumed by young children (one year and older) after having been warmed before serving. **Application of GIRs 1 and 6.** *Adoption : 2014*



1902.40

- Couscous

Heading 1903

Tapioca and substitutes therefor prepared from starch, in the form of flakes, grains, pearls, siftings or in similar forms.

EXPLANATORY NOTES

19.03 - Tapioca and substitutes therefor prepared from starch, in the form of flakes, grains, pearls, siftings or in similar forms.

This heading covers edible products prepared from manioc starch (tapioca), sago starch (sago), potato starch (farinoca, potato tapioca, potato sago) or from similar starches (arrow-root, salep, yucca, etc.).

The starch is mixed with water to form a thick paste, which is put into a strainer or perforated pan from which it falls in drops on to a metallic plate heated to a temperature of 120 °C to 150 °C. The drops form small pellets or flakes which are sometimes crushed or granulated. In another method, the starch paste is agglomerated in a steam heated vessel.

The products are marketed in the form of flakes, grains, pearls, siftings, seeds or similar forms. They are used for the preparation of soups, puddings or dietetic foods.

1903.00

Tapioca and substitutes therefor prepared from starch, in the form of flakes, grains, pearls, siftings or in similar forms.

Heading 1904

Prepared foods obtained by the swelling or roasting of cereals or cereal products (for example, corn flakes); cereals (other than maize (corn)) in grain form or in the form of flakes or other worked grains (except flour, groats and meal), pre-cooked, or otherwise prepared, not elsewhere specified or included.

EXPLANATORY NOTES

19.04 - Prepared foods obtained by the swelling or roasting of cereals or cereal products (for example, corn flakes); cereals (other than maize (corn)) in grain form or in the form of flakes or other worked grains (except flour, groats and meal), pre-cooked, or otherwise prepared, not elsewhere specified or included.

1904.10 - Prepared foods obtained by the swelling or roasting of cereals or cereal products

1904.20 - Prepared foods obtained from unroasted cereal flakes or from mixtures of unroasted cereal flakes and roasted cereal flakes or swelled cereals

1904.30 - Bulgur wheat

1904.90 - Other

(A) **Prepared foods obtained by the swelling or roasting of cereals or cereal products (for example, corn flakes).**

This group covers a range of food preparations made from cereal grains (maize, wheat, rice, barley, etc.) which have been made crisp by swelling or roasting. They are mainly used, with or without milk, as breakfast foods. Salt, sugar, molasses, malt extract, fruit or cocoa (see Note 3 and the General Explanatory Note to this Chapter), etc., may have been added during or after their manufacture.

The group also includes similar foodstuffs obtained, by swelling or roasting, from flour or bran.

Corn flakes are made from grains of maize by removing the pericarp and the germ, adding sugar, salt and malt extract, softening with steam and then rolling into flakes and roasting in a rotary oven. The same process may be applied to wheat or other cereal grains.

“Puffed” rice and wheat also fall in this group. These products are prepared by subjecting the grains to pressure in a moist, heated chamber. Sudden removal of the pressure and ejection into a cold atmosphere causes the grain to expand to several times its original volume.

This group further includes crisp savoury food products, obtained by submitting moistened cereal grains (whole or in pieces) to a heating process which makes the grains swell, these being subsequently sprayed with a flavouring consisting of a mixture of vegetable oil, cheese, yeast extract, salt and monosodium glutamate. Similar products made from a dough and fried in vegetable oil are **excluded** (**heading 19.05**).

(B) **Prepared foods obtained from unroasted cereal flakes or from mixtures of unroasted cereal flakes and roasted cereal flakes or swelled cereals.**

This group includes prepared foods obtained from unroasted cereal flakes or from mixtures of unroasted cereal flakes and roasted cereal flakes or swelled cereals. These products (often called “Müsli”) may contain dried fruit, nuts, sugar, honey, etc. They are generally put up as breakfast foods.

(C) **Bulgur wheat.**

This group includes bulgur wheat, in the form of worked grains, obtained by cooking hard wheat grains which are then dried, are husked or peeled and then broken, kibbled or milled and finally sieved into large and small size bulgur wheat. Bulgur wheat may also be in the form of whole grains.

(D) **Other cereals, other than maize (corn), pre-cooked or otherwise prepared.**

This group includes pre-cooked or otherwise prepared cereals in grain form (including broken grains). Thus, the group covers, for example, rice which has been pre-cooked either fully or partially and then dehydrated, with a consequential modification of the grain structure. Fully pre-cooked rice needs only to be soaked in water and brought to the boil before consumption while partially pre-cooked rice must be boiled for 5 to 12 minutes prior to consumption. Similarly, the group covers, for example, products consisting of pre-cooked rice to which other ingredients such as vegetables or seasonings have been added, **provided** that these other ingredients do not alter the character of the products as rice preparations.

The heading **does not cover** cereal grains merely worked or treated by the processes specified in **Chapter 10** or **Chapter 11**.

*

* *

The heading also **excludes** :

(a) Prepared cereals coated or otherwise containing sugar in a proportion which gives them the character of sugar confectionery (**heading 17.04**).

(b) Preparations containing more than 6 % by weight of cocoa calculated on a totally defatted basis or completely coated with chocolate or other food preparations containing cocoa of heading 18.06 (**heading 18.06**).

(c) Prepared edible maize (corn) cobs and grains (**Chapter 20**).

1904.10

- Prepared foods obtained by the swelling or roasting of cereals or cereal products

CLASSIFICATION OPINIONS

1. Crisp snack product in the form of extruded curls, consisting mainly of maize (corn) groats with added sunflower oil and cheese powder. The cheese powder also contains buttermilk powder, colouring matter (paprika extract) and salt.
The maize (corn) groats, initially having a moisture content of 12 to 13 %, are further moistened by adding 2 to 6 % water to achieve the optimal friction in the extruder under the required pressure and high temperature. After extrusion, the maize (corn) curls are dried and then the cheese powder and sunflower oil are added to the product in a flavouring drum.
Application of GIRs 1 and 6.
Adoption : 2015



1904.20

- Prepared foods obtained from unroasted cereal flakes or from mixtures of unroasted cereal flakes and roasted cereal flakes or swelled cereals

CLASSIFICATION OPINIONS

1. "Müsli" type breakfast cereals, containing unroasted cereal flakes (about 70 %), dried fruit, nuts, sugar, honey, etc., put up for retail sale.
Adoption : 1991 + 1994

1904.30

- Bulgur wheat

CLASSIFICATION OPINIONS

1. Pre-cooked bulgur wheat in the form of worked grains - obtained by cooking hard I wheat grains which are then dried to a moisture content of about 14 %, are husked or peeled and then broken, kibbled or milled and finally sieved into large and small size bulgur wheat.
Adoption : 1994

1904.90

- Other

CLASSIFICATION OPINIONS

1. **Nasi Nua (Indonesian deep-frozen rice dish)** consisting of pre-cooked rice (40 %), beef strips (10 %), several kinds of vegetables and spices.
Adoption : 1989

2. **Chow Ju Fan (Chinese deep-frozen rice dish)** consisting of pre-cooked rice (37 %), minced pork (10 %), several kinds of vegetables, fruit and spices.
Adoption : 1989

3. **Risotto (Italian deep-frozen rice dish)** consisting of pre-cooked rice (50 %), diced smoked ham (10 %), several kinds of vegetables and spices.
Adoption : 1989

4. **Biryani (Indian deep-frozen rice dish)** consisting of pre-cooked rice (40 %), chicken meat (10 %), several kinds of vegetables, fruit and spices.
Adoption : 1989

5. **Prepared food**, frozen and put up as a set in two cardboard boxes (Box 1 and Box 2). Jasmine rice is filled directly into Box 1 without any further packing. Box 2 sits on top of the portion of rice inside Box 1. Box 2 contains slices of chicken meat (approx. 39.1 %), vegetables (approx. 7.9 %) and a red curry sauce (approx. 53 %). Before consumption, the meal must be reheated – still in the cardboard boxes – in a microwave oven.
The total net weight of the meal is 350 grams, with the contents of Box 1 accounting for 49.1 % of this total, and the contents of Box 2 – 50.9 %. After mixing, the meal contains 49.1 % jasmine rice, 27 % Thai red curry (coconut milk, water and red curry paste), 19.9 % chicken meat and 4 % vegetables (carrots, French beans and red capsicum).
Application of GIRs 1, 3 (b) and 6.
Adoption : 2018

Heading 1905

Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice paper and similar products.

EXPLANATORY NOTES

19.05 - Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice paper and similar products.

1905.10 - Crispbread

1905.20 - Gingerbread and the like

- Sweet biscuits; waffles and wafers :

1905.31 - - Sweet biscuits

1905.32 - - Waffles and wafers

1905.40 - Rusks, toasted bread and similar toasted products

1905.90 - Other

(A) **Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa.**

This heading covers all bakers' wares. The most common ingredients of such wares are cereal flours, leavens and salt but they may also contain other ingredients such as : gluten, starch, flour of leguminous vegetables, malt extract or milk, seeds such as poppy, caraway or anise, sugar, honey, eggs, fats, cheese, fruit, cocoa in any proportion, meat, fish, bakery "improvers", etc. Bakery "improvers" serve mainly to facilitate the working of the dough, hasten fermentation, improve the characteristics and appearance of the products and give them better keeping qualities. The products of this heading may also be obtained from a dough based on flour, meal or powder of potatoes.

The heading includes the following products :

(1) **Ordinary bread**, often containing only cereal flours, leavens and salt.

(2) **Gluten bread** for diabetics.

(3) **Unleavened bread** or *matzos*.

(4) **Crispbread (also known as knäckebrot)**, which is a dry crisp bread usually in thin rectangular or round pricked pieces. Crispbread is made from a dough of flour, meal, groats or wholemeal of rye, oats, barley or wheat and leavened by means of yeast, sour dough or other leavening agents or by compressed air. The water content does not exceed 10 % by weight.

(5) **Rusks, toasted bread and similar toasted products**, whether or not sliced or ground, with or without the addition of butter or other fats, sugar, eggs or other nutritive substances.

(6) **Gingerbread and the like**, which are products of a spongy, often elastic consistency, made from rye or wheat flour, sweetening (for example, honey, glucose, invert sugar, refined molasses) and flavouring or spices, whether or not also containing egg yolk or fruit. Certain types of gingerbread are covered with chocolate or icing made from preparations of fat and cocoa. Other types may contain or may be covered with sugar.

(7) **"Pretzels"**, i.e., brittle, glazed and salted crackers made of cylindrical length of dough often twisted into a form resembling the letter "B".

(8) **Biscuits**. These are usually made from flour and fat to which may have been added sugar or certain of the substances mentioned in Item (10) below. They are baked for a long time to improve the keeping qualities and are generally put up in closed packages. There are various types of biscuits including :

(a) **Plain biscuits** containing little or no sweetening matter but a relatively high proportion of fat; this type includes cream crackers and water biscuits.

(b) **Sweet biscuits**, which are fine bakers' wares with long-keeping qualities and a base of flour, sugar or other sweetening matter and fat (these ingredients constituting at least 50 % of the product by weight), whether or not containing added salt, almonds, hazelnuts, flavouring, chocolate, coffee, etc. The water content of the finished product must be 12 % or less by weight and the maximum fat content 35 % by weight (fillings and coatings are not to be taken into consideration in determining these contents). Commercial biscuits are not usually filled, but they may sometimes contain a solid or other filling (sugar, vegetable fat, chocolate, etc.). They are almost always industrially manufactured products.

(c) **Savoury and salted biscuits**, which usually have a low sucrose content.

(9) **Waffles and wafers**, which are light fine bakers' wares baked between patterned metal plates. This category also includes thin waffle products, which may be rolled, waffles consisting of a tasty filling sandwiched between two or more layers of thin waffle pastry, and products made by extruding waffle dough through a special machine (ice cream cornets, for example). Waffles may also be chocolatecovered. Wafers are products similar to waffles.

(10) **Pastries and cakes**, containing ingredients such as flour, starches, butter or other fats, sugar, milk, cream, eggs, cocoa, chocolate, coffee, honey, fruit, liqueurs, brandy, albumen, cheese, meat, fish, flavourings, yeast or other leavening agents.

(11) **Certain bakery products made without flour** (e.g., meringues made of white of egg and sugar).

(12) **Crêpes and pancakes**.

(13) **Quiche**, consisting of a pastry shell and a filling made from various ingredients, e.g., cheese, eggs, cream, butter, salt, pepper, nutmeg and, in the case of "quiche lorraine", bacon or ham.

(14) **Pizza** (pre-cooked or cooked), consisting of a pizza base (dough) covered with various other ingredients such as cheese, tomato, oil, meat, anchovies. However, uncooked pizza is classified in **heading 19.01**.

(15) **Crisp savoury food products**, for example, those made from a dough based on flour, meal or powder of potatoes, or maize (corn) meal with the addition of a flavouring consisting of a mixture of cheese, monosodium glutamate and salt, fried in vegetable oil, ready for consumption.

The heading **excludes** :

(a) Products containing more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof (e.g., pies consisting of meat enclosed in pastry) (**Chapter 16**).

(b) Products of heading **20.05.**

(B) **Communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice paper and similar products.**

This heading covers a number of products made from flour or starch pastes, generally baked in the form of discs or sheets. They are used for various purposes.

Communion wafers are thin discs made by cooking very pure wheat flour paste between iron plates.

Empty cachets of a kind suitable for pharmaceutical use are small, shallow cups made from flour or starch paste. They are made to fit together in pairs to form a container.

Sealing wafers are cut out of thin sheets of baked, dried and sometimes coloured paste. They may also contain adhesive substances.

Rice paper consists of thin sheets of baked and dried flour or starch paste. It is used for coating certain confectionery articles, particularly nougat. It should not be confused with the so-called “rice paper” made by slicing the pith of certain palms (see Explanatory Note to **heading 14.04**).

_____

1905.10

- Crispbread

1905.20

- Gingerbread and the like

1905.3

- Sweet biscuits; waffles and wafers :

1905.31

-- Sweet biscuits

1905.32

-- Waffles and wafers

CLASSIFICATION OPINIONS

1. **Chocolate-coated wafer product** in the form of a rectangular bar 9 cm long, 1.8 cm wide and 0.8 cm thick, consisting of a baked wafer (approximately 5 to 6 mm thick) covered with milk chocolate. **Application of RGI 3 (b).** *Adoption : 1995*

2. **Bakers' wares** (waffles), made from water, wheat flour, eggs, leavening agents, sugar, whey powder and fat (typically soya-bean oil). After the ingredients are blended into a batter, the batter is poured into a patterned waffle iron. After the product is fully baked, it is frozen. The average moisture content is 48 % by weight after baking and 45 % by weight after being frozen. **Application of GIRs 1 and 6.** *Adoption : 2003*

1905.40

- Rusks, toasted bread and similar toasted products

1905.90

- Other

CLASSIFICATION OPINIONS

1. **Fresh cheese cake (frozen)** consisting of a cake mixture (90 % by weight) mainly composed of cream, cream cheese, milk and sugar, placed on a baked cake base (10 % by weight) made from butter, flour, sugar and eggs. *Adoption : 1996*

2. **Crisp bacon-flavoured snacks** in the form of light-brown, rectangular, slightly wrinkled flakes with three dark stripes to give the appearance of bacon, put up for retail sale, composed of wheat flour (about 55 %), potato powder (about 28 %), potato starch (about 10 %), manioc starch (about 6 %), salt, carotene and flavouring, fried in oil and ready for consumption. *Adoption : 1999*

3. **Crisp savoury food products, made from a dough based on potato powder**, in the shape of bears and put up for retail sale, composed of potato powder (about 31 %), vegetable oil, starch, modified starch, salt, sugar, emulsifier (lecithin), yeast extract and spices, fried in oil and ready for consumption.
Adoption : 1999

Chapter 20

Preparations of vegetables, fruit, nuts or other parts of plants

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Vegetables, fruit or nuts, prepared or preserved by the processes specified in Chapter 7, 8 or 11;

(b) Vegetable fats and oils (Chapter 15);

(c) Food preparations containing more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof (Chapter 16);

(d) Bakers' wares and other products of heading 19.05; or

(e) Homogenised composite food preparations of heading 21.04.

2.- Headings 20.07 and 20.08 do not apply to fruit jellies, fruit pastes, sugar-coated almonds or the like in the form of sugar confectionery (heading 17.04) or chocolate confectionery (heading 18.06).

3.- Headings 20.01, 20.04 and 20.05 cover, as the case may be, only those products of Chapter 7 or of heading 11.05 or 11.06 (other than flour, meal and powder of the products of Chapter 8) which have been prepared or preserved by processes other than those referred to in Note 1 (a).

4.- Tomato juice the dry weight content of which is 7 % or more is to be classified in heading 20.02.

5.- For the purposes of heading 20.07, the expression "obtained by cooking" means obtained by heat treatment at atmospheric pressure or under reduced pressure to increase the viscosity of a product through reduction of water content or other means.

6.- For the purposes of heading 20.09, the expression "juices, unfermented and not containing added spirit" means juices of an alcoholic strength by volume (see Note 2 to Chapter 22) not exceeding 0.5 % vol.

Subheading Notes.

1.- For the purposes of subheading 2005.10, the expression "homogenised vegetables" means preparations of vegetables, finely homogenised, put up for retail sale as food suitable for infants or young children or for dietetic purposes, in containers of a net weight content not exceeding 250 g. For the application of this definition no account is to be taken of small quantities of any ingredients which may have been added to the preparation for seasoning, preservation or other purposes. These preparations may contain a small quantity of visible pieces of vegetables. Subheading 2005.10 takes precedence over all other subheadings of heading 20.05.

2.- For the purposes of subheading 2007.10, the expression “homogenised preparations” means preparations of fruit, finely homogenised, put up for retail sale as food suitable for infants or young children or for dietetic purposes, in containers of a net weight content not exceeding 250 g. For the application of this definition no account is to be taken of small quantities of any ingredients which may have been added to the preparation for seasoning, preservation or other purposes. These preparations may contain a small quantity of visible pieces of fruit. Subheading 2007.10 takes precedence over all other subheadings of heading 20.07.

3. - For the purposes of subheadings 2009.12, 2009.21, 2009.31, 2009.41, 2009.61 and 2009.71, the expression “Brix value” means the direct reading of degrees Brix obtained from a Brix hydrometer or of refractive index expressed in terms of percentage sucrose content obtained from a refractometer, at a temperature of 20 °C or corrected for 20 °C if the reading is made at a different temperature.

EXPLANATORY NOTES

Chapter 20

Preparations of vegetables, fruit, nuts or other parts of plants

Notes.

1.- This Chapter does not cover :

(a) Vegetables, fruit or nuts, prepared or preserved by the processes specified in Chapter 7, 8 or 11;

(b) Vegetable fats and oils (Chapter 15);

(c) Food preparations containing more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof (Chapter 16);

(d) Bakers’ wares and other products of heading 19.05; or

(e) Homogenised composite food preparations of heading 21.04.

2.- Headings 20.07 and 20.08 do not apply to fruit jellies, fruit pastes, sugar-coated almonds or the like in the form of sugar confectionery (heading 17.04) or chocolate confectionery (heading 18.06).

3.- Headings 20.01, 20.04 and 20.05 cover, as the case may be, only those products of Chapter 7 or of heading 11.05 or 11.06 (other than flour, meal and powder of the products of Chapter 8) which have been prepared or preserved by processes other than those referred to in Note 1 (a).

4.- Tomato juice the dry weight content of which is 7 % or more is to be classified in heading 20.02.

5.- For the purposes of heading 20.07, the expression “obtained by cooking” means obtained by heat treatment at atmospheric pressure or under reduced pressure to increase the viscosity of a product through reduction of water content or other means.

6.- For the purposes of heading 20.09, the expression “juices, unfermented and not containing added spirit” means juices of an alcoholic strength by volume (see Note 2 to Chapter 22) not exceeding 0.5 % vol.

Subheading Notes.

1.- For the purposes of subheading 2005.10, the expression “homogenised vegetables” means preparations of vegetables, finely homogenised, put up for retail sale as food suitable for infants or young children or for dietetic purposes, in containers of a net weight content not exceeding 250 g. For the application of this definition no account is to be taken of small quantities of any ingredients which may have been added to the preparation for seasoning, preservation or other purposes. These preparations may contain a small quantity of visible pieces of vegetables. Subheading 2005.10 takes precedence over all other subheadings of heading 20.05.

2.- For the purposes of subheading 2007.10, the expression “homogenised preparations” means preparations of fruit, finely homogenised, put up for retail sale as food suitable for infants or young children or for dietetic purposes, in containers of a net weight content not exceeding 250 g. For the application of this definition no account is to be taken of small quantities of any ingredients which may have been added to the preparation for seasoning, preservation or other purposes. These preparations may contain a small quantity of visible pieces of fruit. Subheading 2007.10 takes precedence over all other subheadings of heading 20.07.

3.- For the purposes of subheadings 2009.12, 2009.21, 2009.31, 2009.41, 2009.61 and 2009.71, the expression “Brix value” means the direct reading of degrees Brix obtained from a Brix hydrometer or of refractive index expressed in terms of percentage sucrose content obtained from a refractometer, at a temperature of 20 °C or corrected for 20 °C if the reading is made at a different temperature.

GENERAL

This Chapter includes :

(1) Vegetables, fruit, nuts and other edible parts of plants prepared or preserved by vinegar or acetic acid.

(2) Vegetables, fruit, nuts, fruit-peel and other parts of plants preserved by sugar.

(3) Jams, fruit jellies, marmalades, fruit or nut purées, fruit or nut pastes, obtained by cooking.

(4) Homogenised prepared or preserved vegetables and fruit.

(5) Fruit or vegetable juices, neither fermented nor containing added alcohol, or of an alcoholic strength by volume not exceeding 0.5 % vol.

(6) Vegetables, fruit, nuts and other edible parts of plants prepared or preserved by other processes not provided for in Chapter 7, 8 or 11 or elsewhere in the Nomenclature.

(7) Products of heading 07.14, 11.05 or 11.06 (**other than** flour, meal and powder of the products of **Chapter 8**), which have been prepared or preserved by processes other than those specified in Chapter 7 or 11.

(8) Fruit preserved by osmotic dehydration.

These products may be whole, in pieces or crushed.

The Chapter **does not cover** :

(a) Food preparations containing more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof (**Chapter 16**).

(b) Products such as fruit tarts, prepared with pastry (**heading 19.05**).

(c) Soups and broths and preparations therefor and homogenised composite food preparations of **heading 21.04**.

(d) Fruit or vegetable juices of an alcoholic strength by volume exceeding 0.5 % vol (**Chapter 22**).

Heading 2001

Vegetables, fruit, nuts and other edible parts of plants, prepared or preserved by vinegar or acetic acid.

EXPLANATORY NOTES

20.01 - Vegetables, fruit, nuts and other edible parts of plants, prepared or preserved by vinegar or acetic acid.

2001.10 - Cucumbers and gherkins

2001.90 - Other

This heading covers vegetables (see Note 3 to this Chapter), fruit, nuts and other edible parts of plants prepared or preserved by means of vinegar or acetic acid, whether or not containing salt, spices, mustard, sugar or other sweetening matter. These products may also contain oil or other additives. They may be in bulk (in casks, drums, etc.) or in jars, bottles, tins or airtight containers ready for retail sale. The heading includes certain preparations known as pickles, mustard pickles, etc.

The goods covered by this heading differ from sauces of **heading 21.03** in that the latter are mainly liquids, emulsions or suspensions, which are not intended to be eaten by themselves but are used as an accompaniment to food or in the preparation of certain food dishes.

The principal products preserved by the methods described in this heading are cucumbers, gherkins, onions, shallots, tomatoes, cauliflowers, olives, capers, sweet corn, artichoke hearts, palm hearts, yams, walnuts and mangoes.

2001.10

- Cucumbers and gherkins

2001.90

- Other

Heading 2002

Tomatoes prepared or preserved otherwise than by vinegar or acetic acid.

EXPLANATORY NOTES

20.02 - Tomatoes prepared or preserved otherwise than by vinegar or acetic acid.

2002.10 - Tomatoes, whole or in pieces

2002.90 - Other

This heading covers tomatoes, whether whole or in pieces, **other than** tomatoes prepared or preserved by vinegar or acetic acid (**heading 20.01**) and tomatoes presented in the states specified in **Chapter 7**. Tomatoes are classified in this heading irrespective of the type of container in which they are put up.

The heading also includes homogenised prepared or preserved tomatoes (e.g., tomato purée, paste or concentrate) and tomato juice of which the dry weight content is 7 % or more. However, the heading **excludes** tomato ketchup and other tomato sauces (**heading 21.03**) and tomato soup and preparations therefor (**heading 21.04**).

2002.10

- Tomatoes, whole or in pieces

2002.90

- Other

Heading 2003

Mushrooms and truffles, prepared or preserved otherwise than by vinegar or acetic acid.

EXPLANATORY NOTES

20.03 - Mushrooms and truffles, prepared or preserved otherwise than by vinegar or acetic acid.

2003.10 - Mushrooms of the genus *Agaricus*

2003.90 - Other

This heading covers all mushrooms (including stems) and truffles **except** those prepared or preserved by vinegar or acetic acid (**heading 20.01**) and those presented in the states specified in **Chapter 7**. The products of this heading may be whole, in pieces (e.g., sliced) or homogenised.

2003.10

- Mushrooms of the genus Agaricus

2003.90

- Other

Heading 2004

Other vegetables prepared or preserved otherwise than by vinegar or acetic acid, frozen, other than products of heading 20.06.

EXPLANATORY NOTES

20.04 - Other vegetables prepared or preserved otherwise than by vinegar or acetic acid, frozen, other than products of heading 20.06.

2004.10 - Potatoes

2004.90 - Other vegetables and mixtures of vegetables

The frozen vegetables of this heading are those which fall in **heading 20.05** when not frozen (see the Explanatory Note to that heading). The term "frozen" is defined in the General Explanatory Note to Chapter 7.

Examples of commonly traded products which fall in the heading are :

(1) **Potatoes (chips or French fries)**, cooked or partly cooked in oil and then frozen.

(2) **Frozen sweet corn, on the cob or in grains, carrots, peas, etc.**, whether or not pre-cooked, put up with butter or other sauce in an airtight container (e.g., in a plastic bag).

(3) **"Knödel", "Klösse", "Nockerln"**, based on potato flour, frozen.

2004.10

- Potatoes

2004.90

- Other vegetables and mixtures of vegetables

Heading 2005

Other vegetables prepared or preserved otherwise than by vinegar or acetic acid, not frozen, other than products of heading 20.06.

EXPLANATORY NOTES

20.05 - Other vegetables prepared or preserved otherwise than by vinegar or acetic acid, not frozen, other than products of heading 20.06.

2005.10 - Homogenised vegetables

2005.20 - Potatoes

2005.40 - Peas *(Pisum sativum)*

- Beans *(Vigna spp., Phaseolus spp.)* :

2005.51 - - Beans, shelled

2005.59 - - Other

2005.60 - Asparagus

2005.70 - Olives

2005.80 - Sweet corn *(Zea mays var. saccharata)*

- Other vegetables and mixtures of vegetables :

2005.91 - - Bamboo shoots

2005.99 - - Other

The term “vegetables” in this heading is limited to the products referred to in Note 3 to this Chapter. These products (**other than** vegetables prepared or preserved by vinegar or acetic acid of **heading 20.01**, frozen vegetables of **heading 20.04** and vegetables preserved by sugar of **heading 20.06**) are classified in the heading when they have been prepared or preserved by processes not provided for in Chapter 7 or 11.

Such products fall in the heading irrespective of the type of container in which they are put up (often in cans or other airtight containers).

These products, whole, in pieces or crushed, may be preserved in water, in tomato sauce or with other ingredients ready for immediate consumption. They may also be homogenised or mixed together (salads).

Examples of preparations which fall in the heading are :

(1) **Olives**, rendered edible by special treatment with soda solution or prolonged maceration in brine. (Olives merely preserved provisionally in brine remain classified in **heading 07.11** - see the Explanatory Note to that heading.)

(2) **Sauerkraut**, prepared by partial fermentation of shredded and salted cabbage.

(3) **Sweet corn, on the cob or in grains, carrots, peas, etc.**, pre-cooked or put up with butter or other sauce.

(4) **Products in the form of thin rectangular tablets made from potato flour**, salt and small quantities of sodium glutamate, and partly dextrinised by successive humidification and dessication. These products are intended for consumption as “chips” after deep frying for a few seconds.

The heading also **excludes** :

(a) Crisp savoury food products of **heading 19.05**.

(b) Vegetable juices of **heading 20.09**.

(c) Vegetable juices of an alcoholic strength by volume exceeding 0.5 % vol (**Chapter 22**).

2005.10

- Homogenised vegetables

2005.20

- Potatoes

2005.40

- Peas (Pisum sativum)

2005.5

- Beans (Vigna spp., Phaseolus spp.) :

2005.51

-- Beans, shelled

2005.59

-- Other

2005.60

- Asparagus

2005.70

- Olives

2005.80

- Sweet corn (Zea mays var. saccharata)

CLASSIFICATION OPINIONS

1. Sweet corn flour, in the form of a fine yellow powder, obtained by dehydration of sweet corn grain (to a water content of less than 10 %), and subsequent milling and heat treatment (at a temperature of 70 °C for 4 to 5 hours). The product has an ash content of 2.69 % and a starch content of 16.28 %. It is intended to be used for the preparation of ice-cream. **Application of GIRs 1 and 6.** *Adoption : 2014*

2. Baby corn cobs originating from sweet corn (Zea mays var. saccharata) prepared or preserved with salt water and ascorbic acid - with a length of 5 to 12 cm and a diameter of 10 mm or more, but not more than 20 mm (according to the characteristics for baby corn indicated in the Codex Alimentarius Standard 188 -1993).

Baby corn cobs are harvested at an early stage as immature corn cobs (before fertilisation), they contain only immature/undeveloped maize grain.

Application of GIRs 1 and 6. *See also opinions 0710.40/1, 0710.80/1, and 2005.99/2* *Adoption : 2021*

2005.9

- Other vegetables and mixtures of vegetables :

2005.91

-- Bamboo shoots

2005.99

-- Other

CLASSIFICATION OPINIONS

1. **Pieces of red and green pepper fruits filled with cheese** (feta cheese and fresh cheese), submerged in a liquid consisting of sunflower oil, garlic and spices. The product has the following composition, by weight: sunflower oil 40 %, cheese 35 % (17.5 % feta cheese and 17.5 % fresh cheese), pepper fruits (*capsicum frutescens*) 24 %, garlic and spices. the product is packaged in transparent containers of plastics with a net weight of 200 g. **Application of GIRs 1 and 6.** *Adoption : 2017*



2. **Baby corn cobs originating from cereal maize other than sweetcorn)** prepared or preserved with salt water and ascorbic acid - with a length of 5 to 12 cm and a diameter of 10 mm or more, but not more than 20 mm (according to the characteristics for baby corn indicated in the Codex Alimentarius Standard 188 -1993).

   Baby corn cobs are harvested at an early stage as immature corn cobs (before fertilisation), they contain only immature/undeveloped maize grain.

   Application of GIRs 1 and 6. *See also opinions 0710.40/1, 0710.80/1 and 2005.80/2* *Adoption : 2021*

Heading 2006

Vegetables, fruit, nuts, fruit-peel and other parts of plants, preserved by sugar (drained, glacé or crystallised).

EXPLANATORY NOTES

20.06 - Vegetables, fruit, nuts, fruit-peel and other parts of plants, preserved by sugar (drained, glacé or crystallised).

The products of this heading are prepared first by treating the vegetables, fruit, nuts, fruit-peel or other parts of plants with boiling water (which softens the material and facilitates penetration of the sugar), and then by repeated heating to boiling point and storage in syrups of progressively increasing sugar concentration until they are sufficiently impregnated with sugar to ensure their preservation.

The principal products preserved by sugar are whole fruit or nuts (cherries, apricots, pears, plums, chestnuts (*marrons glacés*), walnuts, etc.), sections or pieces of fruit (oranges, lemons, pineapples, etc.), fruit-peel (citron, lemon, orange, melon, etc.), other parts of plants (angelica, ginger, yams, sweet potatoes, etc.) and flowers (violets, mimosa, etc.).

Drained products are prepared by using a syrup (e.g., a mixture of invert sugar or glucose with a proportion of sucrose) which does not crystallise on exposure to the air. After impregnation the excess syrup is drained off leaving the product sticky to the touch.

Glacé products are obtained by dipping the drained product in a sucrose syrup which dries as a thin, shiny coating.

Crystallised products are prepared by allowing the sucrose syrup to penetrate into the product so that, on drying, it forms crystals on the surface or throughout the product.

Those goods preserved by sugar and put up in syrup, whatever the packing, are **excluded** from this heading (**heading 20.02**, **20.03** or **20.05**, in the case of vegetables, or **heading 20.08**, in the case of fruit, nuts, fruit-peel and other edible parts of plants, e.g., *marrons glacés* or ginger).

Dried fruits (e.g., dates and prunes) remain classified in **Chapter 8** even if small quantities of sugar have been added, or if the exterior is covered with a deposit of dried **natural** sugar which may give the fruit an appearance somewhat similar to that of crystallised fruit of this heading.

2006.00

Vegetables, fruit, nuts, fruit-peel and other parts of plants, preserved by sugar (drained, glacé or crystallised).

Heading 2007

Jams, fruit jellies, marmalades, fruit or nut purée and fruit or nut pastes, obtained by cooking, whether or not containing added sugar or other sweetening matter.

EXPLANATORY NOTES

20.07 - Jams, fruit jellies, marmalades, fruit or nut purée and fruit or nut pastes, obtained by cooking, whether or not containing added sugar or other sweetening matter.

2007.10 - Homogenised preparations

- Other :

2007.91 - - Citrus fruit

2007.99 - - Other

Jams are made by cooking whole fruit or fruit pulp or certain vegetables (e.g., marrows, aubergines) or other products (e.g., ginger, rose petals) with sugar in approximately equal proportions. When cool they are of moderately firm consistency and contain pieces of the fruit.

Marmalades are a variety of jam generally prepared from citrus fruit.

Fruit jellies are prepared by cooking fruit juices (expressed from raw or cooked fruit) with sugar until the product sets on cooling. They are of firm consistency, clear and free from pieces of fruit.

Fruit or nut purées are prepared by cooking sieved fruit pulp or powdered nuts with or without the addition of sugar, to a thickish consistency. Fruit purées differ from jams in having a higher proportion of fruit and a smoother consistency.

Fruit or nut pastes (apple, quince, pear, apricot, almond, etc.) are evaporated purées of a solid or almost solid consistency.

Products of this heading which are normally prepared with sugar may be sweetened with synthetic agents (e.g., sorbitol) instead of sugar.

This heading also includes homogenised preparations.

The heading **excludes** :

(a) Jellies and pastes in the form of sugar confectionery or chocolate confectionery (**heading 17.04** or **18.06** respectively).

(b) Table jellies prepared from gelatin, sugar and fruit juice or artificial fruit essences (**heading 21.06**).

2007.10

- Homogenised preparations

2007.9

- Other :

2007.91

-- Citrus fruit

2007.99

-- Other

CLASSIFICATION OPINIONS

1. **Peach purée** obtained from fresh peaches which have beencrushed and then passed through a sieve with an aperture of0.4 to 0.8 mm. The product thus obtained is then heattreated by steam under reduced pressure (vacuum) at atemperature of 50 to 60 °C for 50 to 60 minutes, to reducethe water content in the product and increase its viscosity.The product is presented in 160 kg or 235 kg drums.
Application of GIRs 1 (Note 5 to Chapter 20) and 6.
Adoption : 2015

2. **Fruit spread** obtained by a vacuum concentration cooking at 70 °C for 45 minutes, then a pasteurisation at 97 °C, composed of mango, pineapple, liquid fruit sugars, concentrated lemon juice and fruit pectin, packaged for retail sale in glass jars.
Application of GIRs 1 (Note 5 to Chapter 20) and 6.
Adoption : 2022

Heading 2008

Fruit, nuts and other edible parts of plants, otherwise prepared or preserved, whether or not containing added sugar or other sweetening matter or spirit, not elsewhere specified or included.

EXPLANATORY NOTES

20.08 - Fruit, nuts and other edible parts of plants, otherwise prepared or preserved, whether or not containing added sugar or other sweetening matter or spirit, not elsewhere specified or included.

- Nuts, ground-nuts and other seeds, whether or not mixed together :

2008.11 - - Ground-nuts

2008.19 - - Other, including mixtures

2008.20 - Pineapples

2008.30 - Citrus fruit

2008.40 - Pears

2008.50 - Apricots

2008.60 - Cherries

2008.70 - Peaches, including nectarines

2008.80 - Strawberries

- Other, including mixtures other than those of subheading 2008.19 :

2008.91 - - Palm hearts

2008.93 - - Cranberries (*Vaccinium macrocarpon, Vaccinium oxycoccos*); lingonberries (*Vaccinium vitis-idaea*)

2008.97 - - Mixtures

2008.99 - - Other

This heading covers fruit, nuts and other edible parts of plants, whether whole, in pieces or crushed, including mixtures thereof, prepared or preserved otherwise than by any of the processes specified in other Chapters or in the preceding headings of this Chapter.

It includes, *inter alia* :

(1) Almonds, ground-nuts, areca (or betel) nuts and other nuts, dry-roasted, oil-roasted or fat-roasted, whether or not containing or coated with vegetable oil, salt, flavours, spices or other additives.

(2) "Peanut butter", consisting of a paste made by grinding roasted ground-nuts, whether or not containing added salt or oil.

(3) Fruit (including fruit-peel and seeds) preserved in water, in syrup, in chemicals or in alcohol.

(4) Fruit pulp, sterilised, whether or not cooked.

(5) Whole fruits, such as peaches (including nectarines), apricots, oranges (whether or not peeled or with the stones or pips removed) crushed and sterilised, whether or not containing added water or sugar syrup but in a proportion insufficient to render them ready for direct consumption as beverages. When rendered ready for direct consumption as beverages by addition of a sufficient quantity of water or of sugar syrup, these products fall in **heading 22.02**.

(6) Cooked fruit. However, fruit cooked by steaming or boiling in water and frozen remains in **heading 08.11**.

(7) Stems, roots and other edible parts of plants (e.g., ginger, angelica, yams, sweet potatoes, hop shoots, vine leaves, palm hearts) conserved in syrup or otherwise prepared or preserved.

(8) Tamarind pods in sugar syrup.

(9) Fruit, nuts, fruit-peel and other edible parts of plants (other than vegetables), preserved by sugar and put up in syrup (e.g., *marrons glacés* or ginger), whatever the packing.

(10) Fruit preserved by osmotic dehydration. The expression "osmotic dehydration" refers to a process whereby pieces of fruit are subjected to prolonged soaking in a concentrated sugar syrup so that much of the water and the natural sugar of the fruit is replaced by sugar from the syrup. The fruit may subsequently be air-dried to further reduce the moisture content.

The products of this heading may be sweetened with synthetic sweetening agents (e.g., sorbitol) instead of sugar. Other substances (e.g., starch) may be added to the products of this heading, provided that they do not alter the essential character of fruit, nuts or other edible parts of plants.

The products of this heading are generally put up in cans, jars or airtight containers, or in casks, barrels or similar containers.

The heading also **excludes** products consisting of a mixture of plants or parts of plants (including seeds or fruits) of different species or consisting of plants or parts of plants (including seeds or fruits) of a single or of different species mixed with other substances such as one or more plant extracts, which are not consumed as such, but which are of a kind used for making herbal infusions or herbal "teas" (e.g., **heading 08.13**, **09.09** or **21.06**).

The heading **does not cover** fruit, nuts or other edible parts of plants transformed into sugar confectionery (including those based on natural honey), of **heading 17.04**.

The heading further **excludes** mixtures of plants, parts of plants, seeds or fruit (whole, cut, crushed, ground or powdered) of species falling in different Chapters (e.g., Chapters 7, 9, 11, 12), not consumed as such, but of a kind used either directly for flavouring beverages or for preparing extracts for the manufacture of beverages (**Chapter 9** or **heading 21.06**).

2008.1

- Nuts, ground-nuts and other seeds, whether or not mixed together :

2008.11

-- Ground-nuts

2008.19

-- Other, including mixtures

2008.20

- Pineapples

CLASSIFICATION OPINIONS

1. Dried pineapples in the form of cubes, slices or irregular pieces, obtained, after blanching, by osmotic dehydration in a sugar syrup, followed by air dehydration.
Adoption : 1999

2008.30

- Citrus fruit

2008.40

- Pears

2008.50

- Apricots

CLASSIFICATION OPINIONS

1. "Improved" dried apricots obtained from fresh fruits, cut in halves, blanched by steam, immersed in a sugar syrup containing sulphur dioxide, dried on trays and then to a predetermined moisture content in a dehydrator (to about 20 %); sugar content about 71 % (i.e., 90 % of the dry matter).
Adoption : 1966

2008.60

- Cherries

CLASSIFICATION OPINIONS

1. Fruit in alcohol, consisting of four morello cherries in a liquid composed of armagnac, sugar syrup and natural fruit extracts, put up in a 4-cl drinking glass covered by a plastic lid.
Adoption : 1995

2008.70

- Peaches, including nectarines

2008.80

- Strawberries

2008.9

- Other, including mixtures other than those of subheading 2008.19 :

2008.91

-- Palm hearts

2008.93

-- Cranberries (Vaccinium macrocarpon, Vaccinium oxycoccos); lingonberries (Vaccinium vitis-idaea)

2008.97

-- Mixtures

2008.99

-- Other

CLASSIFICATION OPINIONS

1. **Fruit in alcohol,** consisting of one prune in a liquid composed of armagnac, sugar syrup and natural fruit extracts, put up in a 4-cl drinking glass covered by a plastic lid. *Adoption : 1995*

2. **Dried papayas** in the form of cubes, slices or irregular pieces, obtained, after blanching, by osmotic dehydration in a sugar syrup, followed by air dehydration. *Adoption : 1999*

3. **Roasted seaweed** – It is produced from dried seaweed (100 %) which is inspected using a metal detector and an impurities detector, before being roasted and then packed. **Application of GIRs 1 and 6.** *Adoption : 2018*

4. **Seasoned laver** – laver (90 %), corn oil (6 %), sesame oil (3 %) and salt (1 %). The laver is roasted at a temperature of 180 °C – 200 °C for 5 seconds and seasoned by adding salt, sesame oil and corn oil (during this stage of the process, green tea powder, kimchi powder or olive oil may be added to enhance the flavour). Finally, the laver is reroasted for 5 seconds at a temperature of 330 °C.
Application of GIRs 1 and 6. *Adoption : 2018*

Heading 2009

Fruit or nut juices (including grape must and coconut water) and vegetable juices, unfermented and not containing added spirit, whether or not containing added sugar or other sweetening matter.

EXPLANATORY NOTES

20.09 - Fruit or nut juices (including grape must and coconut water) and vegetable juices, unfermented and not containing added spirit, whether or not containing added sugar or other sweetening matter (+).

- Orange juice :

2009.11 - - Frozen

2009.12 - - Not frozen, of a Brix value not exceeding 20

2009.19 - - Other

- Grapefruit juice; pomelo juice :

2009.21 - - Of a Brix value not exceeding 20

2009.29 - - Other

- Juice of any other single citrus fruit :

2009.31 - - Of a Brix value not exceeding 20

2009.39 - - Other

- Pineapple juice :

2009.41 - - Of a Brix value not exceeding 20

2009.49 - - Other

2009.50 - Tomato juice

- Grape juice (including grape must) :

2009.61 - - Of a Brix value not exceeding 30

2009.69 - - Other

- Apple juice :

2009.71 - - Of a Brix value not exceeding 20

2009.79 - - Other

- Juice of any other single fruit, nut or vegetable :

2009.81 - - Cranberry (*Vaccinium macrocarpon, Vaccinium oxycoccos*) juice; lingonberry (*Vaccinium vitis-idaea*) juice

2009.89 - - Other

2009.90 - Mixtures of juices

As regards juices, unfermented and not containing added spirit, see Note 6 to this Chapter.

The fruit and vegetable juices of this heading are generally obtained by mechanically opening or pressing fresh, healthy and ripe fruit or vegetables. This may be done (as in the case of citrus fruits) by means of mechanical "extractors" operating on the same principle as the household lemon-squeezer, or by pressing which may or may not be preceded either by crushing or grinding (for apples in particular) or by treatment with cold or hot water or with steam (e.g., tomatoes, blackcurrants and certain vegetables such as carrots and celery). The juices of this heading also include coconut water.

The liquids thus obtained are then generally submitted to the following processes :

(a) **Clarification**, to separate the juice from most of the solids, by means of clarifying substances (gelatin, albumin, infusorial earth, etc.) or of enzymes, by centrifuging or by ultrafiltration, this last process being used also for the sterilization of products.

(b) **Filtration**, often by means of filter plates faced with kieselguhr, cellulose, etc.

(c) **De-aeration**, to eliminate oxygen which would spoil the colour and flavour.

(d) **Homogenisation**, in the case of certain juices obtained from very fleshy fruits (tomatoes, peaches, etc.).

(e) **Sterilisation**, to prevent fermentation. Various methods may be employed, for example, pasteurisation (prolonged or "flash"), electric sterilisation in machines fitted with electrodes, sterilisation by filtration, preservation under pressure using carbon dioxide, refrigeration, chemical sterilisation (e.g., by means of sulphur dioxide, sodium benzoate), treatment with ultra-violet rays or ion exchangers.

As a result of these various treatments the fruit or vegetable juices may consist of clear, unfermented liquids. Certain juices, however (in particular those obtained from pulpy fruits such as apricots, peaches and tomatoes) still contain part of the pulp in finely divided form, either in suspension or as a deposit.

The heading also includes juices, relatively few in practice, obtained from dried fruits provided that they are of a kind which contain juice when fresh. One example is "prune juice", extracted from prunes by heating with water for several hours in diffusers. The heading **does not**, however, **cover** the more or less liquid products obtained by the heating in water of fresh or dried fruits (e.g., juniper berries, rose hips) which contain practically no juice; such products are generally classified in **heading 21.06**.

The juices of this heading may be **concentrated** (whether or not frozen) or in the form of **crystals or powder** provided, in the latter case, that they are entirely or almost entirely soluble in water. Such products are usually obtained by processes involving either heat (whether or not in a vacuum) or cold (lyophilisation).

Certain concentrated juices can be distinguished from their corresponding non-concentrated juices on the basis of their Brix value (see Subheading Note 3 to this Chapter).

Provided they retain their original character, the fruit, nut or vegetable juices of this heading may contain substances of the kinds listed below, whether these result from the manufacturing process or have been added separately :

(1) Sugar.

(2) Other sweetening agents, natural or synthetic, provided that the quantity added does not exceed that necessary for normal sweetening purposes and that the juices otherwise qualify for this heading, in particular as regards the balance of the different constituents (see Item (4) below).

(3) Products added to preserve the juice or to prevent fermentation (e.g., sulphur dioxide, carbon dioxide, enzymes).

(4) Standardising agents (e.g., citric acid, tartaric acid) and products added to restore constituents destroyed or damaged during the manufacturing process (e.g., vitamins, colouring matter), or to “fix” the flavour (e.g., sorbitol added to powdered or crystalline citrus fruit juices). However, the heading **excludes** fruit juices in which one of the constituents (citric acid, essential oil extracted from the fruit, etc.) has been added in such quantity that the balance of the different constituents as found in the natural juice is clearly upset; in such case the product has lost its original character.

The vegetable juices of this heading may also contain added salt (sodium chloride), spices or flavouring substances.

Similarly, intermixtures of the juices of fruits, nuts or vegetables of the same or different types remain classified in this heading, as do reconstituted juices (i.e., products obtained by the addition, to the concentrated juice, of a quantity of water not exceeding that contained in similar non-concentrated juices of normal composition).

However, the addition of water to a normal fruit, nut or vegetable juice, or the addition to a concentrated juice of a greater quantity of water than is necessary to reconstitute the original natural juice, results in diluted products which have the character of beverages of **heading 22.02**. Fruit, nut or vegetable juices containing a greater quantity of carbon dioxide than is normally present in juices treated with that product (aerated fruit or nut juices), and also lemonades and aerated water flavoured with fruit or nut juice are also **excluded** (**heading 22.02**).

The heading also covers grape must for any use, provided it is unfermented. As it has been submitted to much the same processes as other fruit juices, grape must is very similar to ordinary grape juice. It may be presented in the form of a concentrate or even of crystals (in the latter form, it is known in the trade as “grape sugar” or “grape honey” and is used in fine bakery or confectionery for making gingerbread, sweetmeats, etc.).

Grape must partially fermented, whether or not fermentation has been arrested, as well as unfermented grape must, with alcohol added, both having an alcoholic strength by volume exceeding 0.5 % vol., falls in **heading 22.04**.

The heading further **excludes** :

(a) Tomato juice, the dry weight content of which is 7 % or more (**heading 20.02**).

(b) Fruit, nut or vegetable juices of an alcoholic strength by volume exceeding 0.5 % vol (**Chapter 22**).

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° °

Subheading Explanatory Note.

Subheading 2009.11

The term “frozen orange juice” also covers concentrated orange juice which, although subjected to and maintained at a temperature around -18 °C, is not frozen solid throughout.

2009.1

- Orange juice :

2009.11

-- Frozen

2009.12

-- Not frozen, of a Brix value not exceeding 20

2009.19

-- Other

2009.2

- Grapefruit juice; pomelo juice :

2009.21

-- Of a Brix value not exceeding 20

2009.29

-- Other

2009.3

- Juice of any other single citrus fruit :

2009.31

-- Of a Brix value not exceeding 20

2009.39

-- Other

2009.4

- Pineapple juice :

2009.41

-- Of a Brix value not exceeding 20

2009.49

-- Other

2009.50

- Tomato juice

2009.6

- Grape juice (including grape must) :

2009.61

-- Of a Brix value not exceeding 30

2009.69

-- Other

2009.7

- Apple juice :

2009.71

-- Of a Brix value not exceeding 20

2009.79

-- Other

2009.8

- Juice of any other single fruit, nut or vegetable :

2009.81

-- Cranberry (Vaccinium macrocarpon, Vaccinium oxycoccos) juice; lingonberry (Vaccinium vitis-idaea) juice

2009.89

-- Other

CLASSIFICATION OPINIONS

1. Coconut water (coconut juice) obtained from green coconuts (99.95 %) with added sugar (0.05 %). Sugar is added to control taste between different batches of coconuts. The product is put up for retail sale in glass bottles of 290 ml.
Application of GIRs 1 and 6.
Adoption : 2016

2009.90

- Mixtures of juices

CLASSIFICATION OPINIONS

1. Mixture of unfermented juices containing spices (ginger), consisting of juice of cucumber (30 %), juice of celery (20 %), juice of apple (20 %), juice of spinach (20 %), juice of parsley (4 %), juice of lemon (4 %) and ginger (2 %). The product is ready-to-drink and is put up in bottles for retail sale.
Application of GIRs 1 and 6.
Adoption : 2014

Chapter 21

Miscellaneous edible preparations

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Mixed vegetables of heading 07.12;

(b) Roasted coffee substitutes containing coffee in any proportion (heading 09.01);

(c) Flavoured tea (heading 09.02);

(d) Spices or other products of headings 09.04 to 09.10;

(e) Food preparations, other than the products described in heading 21.03 or 21.04, containing more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates , or any combination thereof (Chapter 16);

(f) Products of heading 24.04;

(g) Yeast put up as a medicament or other products of heading 30.03 or 30.04; or

(h) Prepared enzymes of heading 35.07.

2.- Extracts of the substitutes referred to in Note 1 (b) above are to be classified in heading 21.01.

3.- For the purposes of heading 21.04, the expression “homogenised composite food preparations” means preparations consisting of a finely homogenised mixture of two or more basic ingredients such as meat, fish, vegetables, fruit or nuts, put up for retail sale as food suitable for infants or young children or for dietetic purposes, in containers of a net weight content not exceeding 250 g. For the application of this definition, no account is to be taken of small quantities of any ingredients which may be added to the mixture for seasoning, preservation or other purposes. Such preparations may contain a small quantity of visible pieces of ingredients.

EXPLANATORY NOTES

Chapter 21

Miscellaneous edible preparations

Notes.

1.- This Chapter does not cover :

(a) Mixed vegetables of heading 07.12;

(b) Roasted coffee substitutes containing coffee in any proportion (heading 09.01);

(c) Flavoured tea (heading 09.02);

(d) Spices or other products of headings 09.04 to 09.10;

(e) Food preparations, other than the products described in heading 21.03 or 21.04, containing more than 20 % by weight of sausage, meat, meat offal, blood, insects, fish or crustaceans, molluscs or other aquatic invertebrates , or any combination thereof (Chapter 16);

(f) Products of heading 24.04;

(g) Yeast put up as a medicament or other products of heading 30.03 or 30.04; or

(h) Prepared enzymes of heading 35.07.

2.- Extracts of the substitutes referred to in Note 1 (b) above are to be classified in heading 21.01.

3.- For the purposes of heading 21.04, the expression “homogenised composite food preparations” means preparations consisting of a finely homogenised mixture of two or more basic ingredients such as meat, fish, vegetables, fruit or nuts, put up for retail sale as food suitable for infants or young children or for dietetic purposes, in containers of a net weight content not exceeding 250 g. For the application of this definition, no account is to be taken of small quantities of any ingredients which may be added to the mixture for seasoning, preservation or other purposes. Such preparations may contain a small quantity of visible pieces of ingredients.

Heading 2101

Extracts, essences and concentrates, of coffee, tea or maté and preparations with a basis of these products or with a basis of coffee, tea or maté; roasted chicory and other roasted coffee substitutes, and extracts, essences and concentrates thereof.

EXPLANATORY NOTES

21.01 - Extracts, essences and concentrates, of coffee, tea or maté and preparations with a basis of these products or with a basis of coffee, tea or maté; roasted chicory and other roasted coffee substitutes, and extracts, essences and concentrates thereof.

- Extracts, essences and concentrates of coffee, and preparations with a basis of these extracts, essences or concentrates or with a basis of coffee :

2101.11 - - Extracts, essences and concentrates

2101.12 - - Preparations with a basis of extracts, essences or concentrates or with a basis of coffee

2101.20 - Extracts, essences and concentrates, of tea or maté, and preparations with a basis of these extracts, essences or concentrates or with a basis of tea or maté

2101.30 - Roasted chicory and other roasted coffee substitutes, and extracts, essences and concentrates thereof

The heading covers :

(1) **Coffee extracts, essences and concentrates**. These may be made from real coffee (whether or not caffeine has been removed) or from a mixture of real coffee and coffee substitutes in **any** proportion. They may be in liquid or powder form, usually highly concentrated. This group includes products known as instant coffee. This is coffee which has been brewed and dehydrated or brewed and then frozen and dried by vacuum.

(2) **Tea or maté extracts, essences and concentrates**. These products correspond, *mutatis mutandis*, to those referred to in paragraph (1).

(3) **Preparations with a basis of the coffee, tea or maté extracts, essences or concentrates of paragraphs (1) and (2) above**. These are preparations based on extracts, essences or concentrates of coffee, tea or maté (and not on coffee, tea or maté themselves), and include extracts, etc., with added starches or other carbohydrates.

(4) **Preparations with a basis of coffee, tea or maté**. These preparations include, *inter alia* :

(a) "coffee pastes" consisting of mixtures of ground, roasted coffee with vegetable fats and sometimes other ingredients, and

(b) tea preparations consisting of a mixture of tea, milk powder and sugar.

(5) **Roasted chicory and other roasted coffee substitutes and extracts, essences and concentrates thereof**. These are all kinds of roasted products intended to replace or imitate

coffee when infused with hot water, or to be added to coffee. These products are sometimes described as “coffee”, prefixed by the name of the basic substance (e.g., barley “coffee”, malt “coffee”, acorn “coffee”).

Roasted chicory is obtained by roasting the chicory root (*Cichorium intybus var. sativum*) of heading 12.12. It is blackish-brown in colour and has a bitter flavour.

Other roasted coffee substitutes include those derived from sugar beet, carrots, figs, cereals (especially barley, wheat and rye), split peas, lupine seeds, edible acorns, soya beans, date stones, almonds, dandelion roots or chestnuts. The heading also includes roasted malt so put up that it is clearly intended for use as a coffee substitute.

These products may be presented in lump, granular or powder form, or as liquid or solid extracts. They may also be mixed either with one another or with other ingredients (e.g., salt or alkaline carbonates), and may be put up in various types of containers.

The heading **does not cover** :

(a) Roasted coffee substitutes containing coffee in any proportion (**heading 09.01**).

(b) Flavoured tea (**heading 09.02**).

(c) Caramel (caramelised molasses and caramelised sugars) (**heading 17.02**).

(d) Products of **Chapter 22**.

2101.1

- Extracts, essences and concentrates, of coffee, and preparations with a basis of these extracts, essences or concentrates or with a basis of coffee :

2101.11

-- Extracts, essences and concentrates

CLASSIFICATION OPINIONS

1. Soluble coffee (also known as "instant coffee") (200 g) in a glass jar, put up for retail sale in a paperboard box together with a ceramic cup and a ceramic saucer. The cup and saucer are classified separately in heading 69.12.
Application of GIRs 1 and 6.
See also Opinion 6912.00/1
Adoption : 1997



2101.12

-- Preparations with a basis of extracts, essences or concentrates or with a basis of coffee

CLASSIFICATION OPINIONS

1. Preparation based on coffee extract, consisting of 98.5 % soluble coffee (obtained by infusion of coffee followed by dehydration) and 1.5 % stevioside (a non-calorific sweetener).
Adoption : 1997

2101.20

- Extracts, essences and concentrates, of tea or maté, and preparations with a basis of these extracts, essences or concentrates or with a basis of tea or maté

CLASSIFICATION OPINIONS

1. Herbal tea concentrate consisting of maltodextrin, green tea extract, black tea extract, fructose powder, flavour (natural lemon peel), contains both added caffeine (roughly 52 mg (61 %)) and naturally occurring caffeine powder from the tea extracts (roughly 33 mg (39 %)), cardamom seed extract, hibiscus flower powder and *Malva sylvestris* extract. The amount (or source) of caffeine would not affect the classification because the product itself is based on tea extracts.
Application of GIRs 1 and 6.
Adoption : 2022

2101.30

- Roasted chicory and other roasted coffee substitutes, and extracts, essences and concentrates thereof

CLASSIFICATION OPINIONS

1. Coffee additive, consisting of a coarse brown powder with a bitter flavour, containing, by weight, 93 % caramel and 6 % mineral salts.
Adoption : 1960

Heading 2102

Yeasts (active or inactive); other single-cell micro-organisms, dead (but not including vaccines of heading 30.02); prepared baking powders.

EXPLANATORY NOTES

21.02 - Yeasts (active or inactive); other single-cell micro-organisms, dead (but not including vaccines of heading 30.02); prepared baking powders.

2102.10 - Active yeasts

2102.20 - Inactive yeasts; other single-cell micro-organisms, dead

2102.30 - Prepared baking powders

(A) **YEASTS**

The yeasts of this heading may be in the active or inactive state.

Active yeasts generally provoke fermentation. They consist essentially of certain micro-organisms (almost exclusively of the genus *Saccharomyces*), which multiply during alcoholic fermentation. Yeasts may also be produced by partial or total prevention of fermentation, according to the aeration process.

The active yeasts include :

(1) **Brewery yeast**. This forms in beer fermentation vats. It is presented as a yellowish-brown paste or solid generally with the bitter flavour of hops and the odour of beer.

(2) **Distillery yeast**. This is produced during the fermentation, of, e.g., grain, potatoes or fruit, in distilleries. It is a firm cream-coloured paste varying in odour according to the product used in the distillation.

(3) **Bakers' yeast**, produced by the propagation under special conditions of specially cultured strains of yeast in a carbohydrate medium such as molasses. It is generally marketed in the form of pressed yellowish-grey cakes (pressed yeast) which sometimes have an alcoholic odour. It is, however, also marketed in the dried form (usually in grains) or as liquid yeast.

(4) **Culture yeast**, a pure strain of yeast prepared under laboratory conditions. It may be suspended in distilled water or in gelatin or agar-agar. It is usually marketed in measured quantities put up in sealed containers to protect it from contamination.

(5) **Seed yeast**, produced from culture yeast by successive fermentation processes, is used to "seed" commercial yeast. It is usually marketed in the form of a moist pressed and plastic mass or in the form of a liquid suspension.

Inactive yeasts, obtained by drying, are generally brewery, distillery or bakers' yeasts which have become insufficiently active for further use in those industries. They are used for human consumption (source of vitamin B) or for feeding animals. It should, however, be noted that, owing to their growing importance, these dried yeasts are to an increasing extent being produced directly from specially prepared active yeasts.

The heading also covers other types of dried yeasts (e.g., *Candida lipolytica* or *tropicalis*, *Candida maltosa*) developed from the yeasts not belonging to *Saccharomyces*. They are obtained by drying the yeasts which have been cultivated on substrates containing hydrocarbons (such as gas-oils or

n-paraffins) or carbohydrates. These dried yeasts are particularly rich in protein and are used in animal feeding. They are commonly known as **petroproteins** or **yeast bioproteins**.

(B) **OTHER SINGLE-CELL MICRO-ORGANISMS, DEAD**

This category covers single-cell micro-organisms such as bacteria and unicellular algae, which are **not** alive. *Inter alia*, covered here are those which have been obtained by cultivation on substrates containing hydrocarbons or carbon dioxide. These products are particularly rich in protein and are generally used in animal feeding.

Certain products of this group may be put up as food supplements for human consumption or animal feeding (e.g., in powder or tablet form) and may contain small quantities of excipients, e.g., stabilising agents and anti-oxidants. Such products remain classified here **provided** that the addition of such ingredients does not alter their character as micro-organisms.

(C) **PREPARED BAKING POWDERS**

The "prepared baking powders" classified in this heading consist of mixtures of chemical products (e.g., sodium bicarbonate, tartaric acid, ammonium carbonate, phosphates), with or without added starch. Under suitable conditions they evolve carbon dioxide and are therefore used in baking for leavening dough. They are usually sold in retail packings (sachets, tins, etc.) under various names (baking powder, Alsatian leaven, etc.).

The heading **excludes**, *inter alia* :

(a) Self-raising cereal flour, e.g., flour to which baking powder has been added (**heading 11.01** or **11.02**).

(b) Autolysed yeast (**heading 21.06**).

(c) Cultures of micro-organisms (other than yeasts) and vaccines (**heading 30.02**).

(d) Medicaments of **heading 30.03** or **30.04**.

(e) Enzymes (amylases, pepsin, rennet, etc.) (**heading 35.07**).

2102.10

- Active yeasts

2102.20

- Inactive yeasts; other single-cell micro-organisms, dead

CLASSIFICATION OPINIONS

1. Tablets for human consumption consisting of dried dead unicellular micro-organisms (Spirulina platensis), as well as silicon dioxide, starch and magnesium stearate, which are used as carriers. **Application of GIRs 1 and 6.**
Adoption : 2005

2102.30

- Prepared baking powders

Heading 2103

Sauces and preparations therefor; mixed condiments and mixed seasonings; mustard flour and meal and prepared mustard.

EXPLANATORY NOTES

21.03 - Sauces and preparations therefor; mixed condiments and mixed seasonings; mustard flour and meal and prepared mustard.

2103.10 - Soya sauce

2103.20 - Tomato ketchup and other tomato sauces

2103.30 - Mustard flour and meal and prepared mustard

2103.90 - Other

(A) **SAUCES AND PREPARATIONS THEREFOR; MIXED CONDIMENTS AND MIXED SEASONINGS**

This heading covers preparations, generally of a highly spiced character, used to flavour certain dishes (meat, fish, salads, etc.), and made from various ingredients (eggs, vegetables, meat, fruit, flours, starches, oil, vinegar, sugar, spices, mustard, flavourings, etc.). Sauces are generally in liquid form and preparations for sauces are usually in the form of powders to which only milk, water, etc. need to be added to obtain a sauce.

Sauces are normally added to a food as it cooks or as it is served. Sauces provide flavour, moisture, and a contrast in texture and colour. They may also serve as a medium in which food is contained, for example, the velouté sauce of creamed chicken. Seasoning liquids (soy sauce, hot pepper sauce, fish sauce) are used both as ingredients in cooking and at table as condiments.

The heading also includes certain preparations, based on vegetables or fruit, which are mainly liquids, emulsions or suspensions, and sometimes contain visible pieces of vegetables or fruit. These preparations differ from prepared or preserved vegetables and fruit of Chapter 20 in that they are used as sauces, i.e., as an accompaniment to food or in the preparation of certain food dishes, but are not intended to be eaten by themselves.

Mixed condiments and mixed seasonings containing spices differ from the spices and mixed spices of headings 09.04 to 09.10 in that they also contain one or more flavouring or seasoning substances of Chapters other than Chapter 9, in such proportions that the mixture has no longer the essential character of a spice within the meaning of Chapter 9 (see the General Explanatory Note to that Chapter).

Examples of products covered by the heading are : mayonnaise, salad dressings, Béarnaise, bolognaise (consisting of chopped meat, tomato purée, spices, etc.), soya sauces, mushroom sauce, Worcester sauce (generally made with a base of thick soya sauce, an infusion of spices in vinegar, with added salt, sugar, caramel and mustard), tomato ketchup (a preparation made

from tomato purée, sugar, vinegar, salt and spices) and other tomato sauces, celery salt (a mixture of cooking salt and finely ground celery seeds), certain mixed seasonings for sausage making, and products of Chapter 22 (other than those of heading 22.09) prepared for culinary purposes and thereby rendered unsuitable for consumption as beverages (e.g., cooking wines and cooking Cognac). This heading also covers mixtures of plants or parts of plants of heading 12.11 of a kind used for seasoning sauces.

Besides the products of **Chapters 9** and **20** mentioned above, the heading **does not cover** :

(a) Extracts and juices of meat, fish or crustaceans, molluscs or other aquatic invertebrates (**heading 16.03**).

(b) Soups and broths and preparations therefor (**heading 21.04**).

(c) Protein hydrolysates, consisting mainly of a mixture of amino-acids and sodium chloride, used as additives in food preparations (**heading 21.06**).

(d) Autolysed yeast (**heading 21.06**).

(B) **MUSTARD FLOUR AND MEAL AND PREPARED MUSTARD**

Mustard flour and meal are obtained by grinding and sifting mustard seed of heading 12.07. They may be made from white or black mustard seeds or from a mixture of the two varieties. They remain in the heading whether or not the seeds were defatted or the seed coats removed before grinding, and irrespective of their intended use.

The heading also covers prepared mustard consisting of mustard flour mixed with small quantities of other ingredients (cereal flour, turmeric, cinnamon, pepper, etc.), or of a paste composed of a mixture of mustard flour with vinegar, grape must or wine, to which salt, sugar, spices or other condiments may be added.

This heading **excludes**, *inter alia* :

(a) Mustard seeds (**heading 12.07**).

(b) Fixed mustard oil (**heading 15.14**).

(c) Mustard-seed oilcake, i.e., the product remaining after the fixed oil has been extracted from mustard seeds (**heading 23.06**).

(d) Essential oil of mustard (**heading 33.01**).

2103.10

- Soya sauce

2103.20

- Tomato ketchup and other tomato sauces

2103.30

- Mustard flour and meal and prepared mustard

2103.90

- Other

CLASSIFICATION OPINIONS

1. **"Trasi" or "Blachan", used exclusively for seasoning certain oriental dishes**, obtained from fish and crustaceans (singly or intermixed), put up as a paste which, because of the degree of decomposition which occurs during manufacture, has lost the character of products of headings 16.04 and 16.05.
Adoption : 1960

2. **Composite flavourings**, being mixtures, standardized to a constant flavouring power, of :

(i) a total extract of a spice of Ch. 9 or of another aromatic vegetable substance (e.g., of heading 07.12 or Ch. 12), and

(ii) a base appropriate to the end use (salt, glucose, cereal flour, powdered rusk, etc.) used, like spices or condiments, to enhance the taste of food preparations.

Adoption : 1968

3. **Mint sauce**, in the form of a dark green thick suspension containing a substantial amount of finely chopped mint leaves, composed of reconstituted mint, vinegar, sugar, salt, stabiliser (xanthan gum), copper chlorophyllin, riboflavin (colouring) and water. It is put up in glass containers and is recommended to be served with lamb or vegetables, as presented or after dilution with the addition of vinegar and sugar.
Adoption : 1999

4. **Oriental sweet and sour sauce**, in the form of a reddish suspension containing visible pieces (1 to 2 cm in length and 0.5 to 1 cm in width) of vegetables (about 26 % : red peppers, onion, carrots and green peppers) and fruit (about 7 % : pineapple), sugar, vinegar, tomato purée, modified starch, white wine, salt, herbs and spices (including garlic and ginger), stabiliser (xanthan gum), soy sauce and water. It is put up in glass containers (e.g., 525 g) and is recommended to be added to strips of cooked chicken and heated together with the chicken. **Application of GIR 1.**
Adoption : 2000

5. **A composite good consisting of a selection of spices, seeds, herbs, fruit, salt and seasonings**, put up in hourglass-shaped glass bottles, each containing two different products. The bottles are presented in a specially designed frame of metal. Each of the products making up the contents of a glass bottle is layered so that the bottom product cannot be accessed without first removing the top product and does not combine with the other product, either due to the hourglass shape of the bottles, which prevents the products from mixing, or because of the size of the particles of some products, such as whole bay leaves or cinnamon bundles. The products presented in each separate bottle are respectively composed of the following :

- rosemary and a seasoning composed of dry herb resembling parsley, sesame seeds and crushed chilli pepper;

- black pepper corns and crushed chilli pepper;

- sliced dried apples and bundles of cinnamon;

- whole bay leaves and a seasoning composed of sesame seeds, mustard seeds and crushed chilli pepper;

- sea salt (in large grains) and a seasoning composed of ground black pepper and salt (in regular crystals);

- dry broken onion and cumin seeds;

- whole chilli pepper and coriander seeds;

- anise seeds and a seasoning composed of ground paprika with salt.

Application of GIRs 1, 2 (b), 3 (b) and 6.
Adoption : 2007



6. **Preparation ("Crab Flavour")** used in the manufacture of a seasoning in the form of a free-flowing yellow-orange powder, consisting of various odoriferous, seasoning and flavouring substances (natural aromatics, aromatics identical to natural, technological aromatics, aromatic preparations, spices, herbs, salt, etc.), carriers, food additives, dyes and fats. The preparation is subsequently further processed into a finished seasoning which is then utilised in the manufacture of snacks (crisps, crackers). The product is presented in polyethylene containers of 25 kg.
Application of GIRs 1 and 6.
Adoption : 2018

Heading 2104

Soups and broths and preparations therefor; homogenised composite food preparations.

EXPLANATORY NOTES

21.04 - Soups and broths and preparations therefor; homogenised composite food preparations.

2104.10 - Soups and broths and preparations therefor

2104.20 - Homogenised composite food preparations

(A) SOUPS AND BROTHS AND PREPARATIONS THEREFOR

This category includes :

(1) Preparations for soups or broths requiring only the addition of water, milk, etc.

(2) Soups and broths ready for consumption after heating.

These products are generally based on vegetable products (vegetables, flour, starches, tapioca, pasta, rice, plant extracts, etc.), meat, meat extracts, fat, fish, crustaceans, molluscs or other aquatic invertebrates, peptones, amino-acids or yeast extract. They may also contain a considerable proportion of salt.

They are generally put up as tablets, cakes, cubes, or in powder or liquid form.

(B) HOMOGENISED COMPOSITE FOOD PREPARATIONS

In accordance with Note 3 to this Chapter, the homogenised composite food preparations of this heading are those which consist of a finely homogenised mixture of two or more basic ingredients such as meat, fish, vegetables or fruit, put up for retail sale as food suitable for infants or young children or for dietetic purposes, in containers of a net weight content not exceeding 250 g. Besides the basic ingredients, these preparations may contain small quantities of substances such as cheese, egg yolk, starch, dextrin, salt or vitamins, which are added either for dietetic purposes (balanced diet), or for seasoning, preservation or for other purposes. They may also contain visible pieces of ingredients, **provided** that such pieces are present only in small quantities, i.e., that they do not alter the character of the products as homogenised preparations.

Homogenised composite food preparations are generally used as food suitable for infants or young children and take the form of a smooth paste, of varying consistency, suitable for consumption either directly or after re-heating. They are usually put up in airtight jars or cans in a quantity generally corresponding to one whole meal.

The heading **excludes** homogenised composite food preparations which are put up otherwise than for retail sale as food suitable for infants or young children or for dietetic purposes, or in containers of a net weight content exceeding 250 g. It also **excludes** preparations of this kind which consist of one basic ingredient such as meat, meat offal, fish, vegetable or fruit (generally **Chapter 16** or **20**), whether or not containing small quantities of any ingredients added for seasoning, preservation or for other purposes.

The heading also **excludes** :

(a) Mixtures of dried vegetables (*julienne*), whether or not in powder form (**heading 07.12**).

(b) Flour, meal and powder of dried leguminous vegetables (**heading 11.06**).

(c) Extracts and juices of meat, fish, etc. and other products of **Chapter 16**.

(d) Food preparations containing cocoa (generally **heading 18.06** or **19.01**).

(e) Preserved vegetables of **heading 20.04** or **20.05**, including mixtures of vegetables (*julienne*, salads, etc.), even if sometimes used for the preparation of soups.

(f) Autolysed yeast (**heading 21.06**).

2104.10

- Soups and broths and preparations therefor

2104.20

- Homogenised composite food preparations

Heading 2105

Ice cream and other edible ice, whether or not containing cocoa.

EXPLANATORY NOTES

21.05 - Ice cream and other edible ice, whether or not containing cocoa.

This heading covers ice cream, which is usually prepared with a basis of milk or cream, and other edible ice (e.g., sherbet, iced lollipops), whether or not containing cocoa in any proportion. However, the heading **excludes** mixes and bases for ice cream which are classified according to their essential constituents (e.g., **heading 18.06**, **19.01** or **21.06**).

2105.00

Ice cream and other edible ice, whether or not containing cocoa.

Heading 2106

Food preparations not elsewhere specified or included.

EXPLANATORY NOTES

21.06 - Food preparations not elsewhere specified or included.

2106.10 - Protein concentrates and textured protein substances

2106.90 - Other

Provided that they are not covered by any other heading of the Nomenclature, this heading covers :

(A) Preparations for use, either directly or after processing (such as cooking, dissolving or boiling in water, milk, etc.), for human consumption.

(B) Preparations consisting wholly or partly of foodstuffs, used in the making of beverages or food preparations for human consumption. The heading includes preparations consisting of mixtures of chemicals (organic acids, calcium salts, etc.) with foodstuffs (flour, sugar, milk powder, etc.), for incorporation in food preparations either as ingredients or to improve some of their characteristics (appearance, keeping qualities, etc.) (see the General Explanatory Note to Chapter 38).

However, the heading **does not cover** enzymatic preparations containing foodstuffs (e.g., meat tenderisers consisting of a proteolytic enzyme with added dextrose or other foodstuffs). Such preparations fall in **heading 35.07 provided** that they are not covered by a more specific heading in the Nomenclature.

The heading includes, *inter alia* :

(1) Powders for table creams, jellies, ice creams or similar preparations, whether or not sweetened.

Powders based on flour, meal, starch, malt extract or goods of headings 04.01 to 04.04, whether or not containing added cocoa, fall in **heading 18.06** or **19.01** according to their cocoa content (see the General Explanatory Note to Chapter 19). The other powders are classified in **heading 18.06** if they contain cocoa. Powders which have the character of flavoured or coloured sugars used as sweetener fall in **heading 17.01** or **17.02** as the case may be.

(2) Flavouring powders for making beverages, whether or not sweetened, with a basis of sodium bicarbonate and glycyrrhizin or liquorice extract (sold as “Cocoa-powder”).

(3) Preparations based on butter or other fats or oils derived from milk and used, e.g., in bakers’ wares.

(4) Pastes based on sugar, containing added fat in a relatively large proportion and, sometimes, milk or nuts, not suitable for transformation directly into sugar confectionery but used as fillings, etc., for chocolates, fancy biscuits, pies, cakes, etc.

(5) Natural honey enriched with bees’ royal jelly.

(6) Protein hydrolysates consisting mainly of a mixture of amino-acids and sodium chloride, used in food preparations (e.g., for flavouring); protein concentrates obtained by the elimination of certain constituents of defatted soya-bean flour, used for protein-enrichment of food preparations; soya-bean flour and other protein substances, textured. However, the heading **excludes** non-textured defatted soya-bean flour, whether or not fit for human consumption (**heading 23.04**) and protein isolates (**heading 35.04**).

(7) Non-alcoholic or alcoholic preparations (**not based** on odoriferous substances) of a kind used in the manufacture of various non-alcoholic or alcoholic beverages. These preparations can be obtained by compounding vegetable extracts of heading 13.02 with lactic acid, tartaric acid, citric acid, phosphoric acid, preserving agents, foaming agents, fruit juices, etc. The preparations contain (in whole or in part) the flavouring ingredients which characterize a particular beverage. As a result, the beverage in question can usually be obtained simply by diluting the preparation with water, wine or alcohol, with or without the addition, for example, of sugar or carbon dioxide gas. Some of these products are specially prepared for domestic use; they are also widely used in industry in order to avoid the unnecessary transport of large quantities of water, alcohol, etc. As presented, these preparations are not intended for consumption as beverages and thus can be distinguished from the beverages of Chapter 22.

The heading **excludes** preparations of a kind used for the manufacture of beverages, based on one or more odoriferous substances (**heading 33.02**).

(8) Edible tablets with a basis of natural or artificial perfumes (e.g., vanillin).

(9) Sweets, gums and the like (for diabetics, in particular) containing synthetic sweetening agents (e.g., sorbitol) instead of sugar.

(10) Preparations (e.g., tablets) consisting of saccharin and a foodstuff, such as lactose, used for sweetening purposes.

(11) Autolysed yeast and other yeast extracts, products obtained by the hydrolysis of yeast. These products cannot provoke fermentation and they have a high protein value. They are used mainly in the food industry (e.g., for the preparation of certain seasonings).

(12) Preparations for the manufacture of lemonades or other beverages, consisting, for example, of :

- flavoured or coloured syrups, being sugar solutions with natural or artificial substances added to give them the flavour of, for example, certain fruits or plants (raspberry, blackcurrant, lemon, mint, etc.), whether or not containing added citric acid and preservatives;

- syrup flavoured with an added compound preparation of this heading (see paragraph (7) above) containing, in particular, either cola essence and citric acid, coloured with caramelised sugar, or citric acid and essential oils of fruit (e.g., lemon or orange);

- syrup flavoured with fruit or nut juices which have been modified by the addition of constituents (citric acid, essential oil extracted from the fruit, etc.) in such quantities that the balance of the fruit or nut juice constituents as found in the natural juice is clearly upset;

- concentrated fruit juice with the addition of citric acid (in such a proportion that the total acid content is appreciably greater than that of the natural juice), essential oils of fruit, synthetic sweetening agents, etc.

Such preparations are intended to be consumed as beverages after simple dilution with water or after further treatment. Certain preparations of this kind are intended for adding to other food preparations.

(13) Mixtures of ginseng extract with other ingredients (e.g., lactose or glucose) used for the preparation of ginseng “tea” or beverage.

(14) Products consisting of a mixture of plants or parts of plants (including seeds or fruits) of different species or consisting of plants or parts of plants (including seeds or fruits) of a single or of different species mixed with other substances such as one or more plant extracts, which are not consumed as such, but which are of a kind used for making herbal infusions or herbal “teas”, (e.g., those having laxative, purgative, diuretic or carminative properties), including products which are claimed to offer relief from ailments or contribute to general health and well-being.

The heading **excludes** products where an infusion constitutes a therapeutic or prophylactic dose of an active ingredient specific to a particular ailment (**heading 30.03** or **30.04**).

The heading also **excludes** such products classifiable in **heading 08.13** or **Chapter 9**.

(15) Mixtures of plants, parts of plants, seeds or fruit (whole, cut, crushed, ground or powdered) of species falling in different Chapters (e.g., Chapters 7, 9, 11, 12) or of different species falling in heading 12.11, not consumed as such, but of a kind used either directly for flavouring beverages or for preparing extracts for the manufacture of beverages.

However, products of this type whose essential character is given by their content of species falling within Chapter 9 are **excluded** (**Chapter 9**).

(16) Preparations, often referred to as food supplements or dietary supplements, consisting of, or based on, one or more vitamins, minerals, amino acids, concentrates, extracts, isolates or the like of substances found within foods, or synthetic versions of such substances, put up as a supplement to the normal diet. It includes such products whether or not also containing sweeteners, colours, flavours, odoriferous substances, carriers, fillers, stabilisers or other technical aids. Such products are often put up in packaging with indications that they maintain general health or well-being, improve athletic performance, prevent possible nutritional deficiencies or correct sub-optimal levels of nutrients.

These preparations do not contain a sufficient quantity of active ingredients to provide therapeutic or prophylactic effect against diseases or ailments other than the relevant nutritional deficiencies. Other preparations with a sufficient quantity of active ingredient to provide a therapeutic or prophylactic effect against a specific disease or ailment are **excluded** (**heading 30.03 or 30.04**).

(17) Preparations in the form of granules or powders consisting of sugar, flavouring or colouring matter (e.g., plant extracts or certain fruits or plants such as orange, blackcurrant, etc.), antioxidants (e.g., ascorbic acid or citric acid or both), preserving agents, etc., of a kind used for making beverages. However, preparations which have the character of sugar fall in **heading 17.01** or **17.02**, as the case may be.

The heading further **excludes** :

(a) Preparations made from fruit, nuts or other edible parts of plants of heading 20.08, **provided** that the essential character of the preparations is given by such fruit, nuts or other edible parts of plants (**heading 20.08**).

(b) Micro-organisms of heading 21.02 put up as food supplements for human consumption (**heading 21.02**).

(c) Preparations containing cocoa, put up as food supplements for human consumption (**heading 18.06**).

(d) chewing gum containing nicotine (**heading 24.04**).

2106.10

- Protein concentrates and textured protein substances

CLASSIFICATION OPINIONS

1. Defatted soya-bean flour protein concentrate, with a protein content, on a dry matter basis, of **approximately 69 to 71 %**, obtained from defatted soya-bean flakes by the removal of fermentable sugars, the elimination of antigens, heat treatment, grinding and sifting. The concentrate is not textured and can be used either for human consumption or in animal feeds. *See also Opinion 2304.00/1.*
Adoption : 1991

2. Preparation in the form of a powder, consisting of soya protein isolate (75.05 %), whey protein 80 % concentrate (24.5 %), vanilla aroma (0.25 %) and silicon dioxide (0.20 %), put up for retail sale, in a container with a net content of 240 g. The total protein content of the product, by weight of the dry matter, is 85.9 % (±1.0 %). The product is intended to be consumed with other foodstuffs or beverages (5 grams, 1 to 4 times daily). The product exhibits the smell and taste of vanilla. **Application of GIRs 1 and 6.**
Adoption : 2009

3. Food preparation in powder form which contains soya protein isolate (93.425 %), whey protein concentrate (with lecithin) containing 80 % protein (6.125 %), flavour (vanilla cream) and silicon dioxide.
Application of GIRs 1 and 6.
Adoption : 2022

2106.90

- Other

CLASSIFICATION OPINIONS

1. Slimming (or anti-corpulence) food preparation, containing carbohydrates, guar flour, vitamins, citric acid and colouring matter.
Adoption : 1961

2. Additive for cereal flours, containing vitamin B1, nicotinic acid, iron (ferrum reductum) and wheat flour; the product is for addition, in very small proportions (about 0.24 parts per 1,000), to cereal

flours in order to improve their vitaminic properties.
Adoption : 1964

3. **Bakery additives** composed of sucrose, mono- and diglycerides and sometimes skimmed milk powder, intended to be added in various proportions (up to 15 to 20 % of the finished product) to flour or dough used in the manufacture of bakers' and pastrycooks' wares.
Adoption : 1967

4. **Preparations intended to be consumed as beverages, after mixing with milk**, in fine powder form, consisting essentially of sugars, fruit powder, milk powder, calcium phosphate and vitamins.
Adoption : 1975

6. **Food additive** containing calcium carbonate (about 50 %) and casein (about 43 %).
Adoption : 1986

7. **Ginseng capsules** (each capsule weighing about 650 mg), containing 100 mg of standardized highly-concentrated ginseng extract, vegetable oil, antioxidant (lecithin), emulsifying agent (glycerol), beeswax, colouring agent (iron oxides) and tincture of vanilla.
See also Opinions 1704.90/1 and 2205.10/2.
Adoption : 1987 + 1994

8. **Combined emulsifying and stabilising agent** in the form of a fine powder, consisting of gelatin, a mixture of mono-, di- and tri-, fatty acid esters of glycerol, glucose, sodium citrate and carrageenan, intended to be added in small proportions (approximately 2 %) in the manufacture of mousse and other dairy desserts to improve aeration and stability.
Adoption : 1987 + 1994

9. **Stabiliser** in the form of a fine powder, consisting of locust bean gum, carrageenan, pectin, gelatin, glucose and soya bean protein, intended to be added in small proportions (approximately 0.5 %) in the manufacture of fruit ice (sorbet and sherbet) to provide stable overrun.
Adoption : 1987

10. **Emulsifier** (starch complexing agent) in the form of a fine powder, consisting mainly of a mixture of mono-, di- and tri-, fatty acid esters of glycerol, malto-dextrin and sodium caseinates, intended to be added in small proportions (approximately 0.5 %) to starch based foods.
Adoption : 1987 + 1994

11. **A preparation known as "low-fat butter"** consisting of 38.5 % milkfat, 52.4 % water, 5 % sodium caseinate and small quantities of salt, emulsifiers and a thickening or gelling agent, used as a dairy spread.
Adoption : 1992

12. **Preparation** consisting of 51 % refined and hydrogenated coconut oil and 49 % skimmed milk powder, used for the manufacture of various food preparations (e.g., ice cream, biscuits and confectionery).
Adoption : 1995

13. **Preparation** consisting of 70 % butterfat, 15 % refined and hydrogenated coconut oil and 15 % fine sugar, used in the biscuit, chocolate and confectionery industries.
Adoption : 1995

14. **Preparation** consisting of 49 % butteroil, 44 % skimmed milk powder and 7 % coconut oil, used in the ice cream industry.
Adoption : 1995

15. **Cheese fondue**, a food preparation made from cheese mixed with white wine, water, starch, kirsch brandy and an emulsifying agent.
Adoption : 1996

16. **Preparations** in the form of granules, consisting of around 94 % by weight of sugar (saccharose and dextrose) and flavouring of plant extracts. They also contain ascorbic acid or citric acid or both. They are intended to be consumed as beverages ("teas") after mixing with water.
Adoption : 1996

17. **Mixture of sodium chloride and potassium chloride with a small amount of magnesium carbonate (anti-caking agent)**, put up for retail sale, in salt cellars with a net content of 350 g or in 1-gram sachets. This product is used, generally by individuals on low-salt diets, as a replacement for table salt.
Adoption : 1996

18. **Herbal "tea"**consisting of a mixture of parts of plants, spices, algae and potassium sodium tartrate, with laxative, diuretic and carminative properties, used for making herbal infusions.
Adoption : 1998

19. **Aloe vera tablets**, put up for retail sale in a container of plastics (e.g., 60 tablets), consisting of 3 % aloe vera powder (containing 0.11 % aloin) and excipients : calcium hydrogen phosphate, purified talc, magnesium stearate, hypromellose and propylene glycol. Used as a nutritional supplement, it is claimed in the product packaging or literature to help build resistance to the common cold and to give relief from stomach disorders such as constipation and indigestion.
Adoption : 1998

20. **Dry solid food preparation**consisting of 69 % sugar, 29 % milk powder and 2 % dextrin, used in the manufacture of food and beverage preparations.
Adoption : 1999

21. **Vitamin C preparation** (500 mg per tablet) put up for retail sale in a container holding 130 tablets, containing ascorbic acid, corn starch, cross-linked carboxymethyl cellulose sodium, cellulose, rose hips, stearic acid, lemon bioflavonoid complex, magnesium stearate and acerola. According to the label, the product is not intended to diagnose, treat, cure or prevent any disease. **Application of GIRs 1 and 6.**
Adoption : 2002

22. **Non-dairy creamer**, milk substitute for use in hot beverages, in the form of a powder consisting of 55 % glucose syrup, 22 % emulsified solid vegetable fat, 18 % skimmed milk powder, 3 % water and 2 % stabiliser (E340). **Application of GIRs 1 and 6.**
Adoption : 2002

23. **Cough-syrup** in the form of an aqueous solution of an alcoholic strength by volume of 1.8 % vol, put up in a container of 100 ml (130 g). The product consists of honey, plant tinctures, glucose syrup, invert sugar syrup, cherry aroma, rose oil, sodium benzoate and purified water. According to the label, the product is recommended to be used against respiratory catarrhal diseases and

difficulty of bronchial mucus secretion. The content of active medicinal ingredients is, however, not sufficient to provide a recognisable and clinically proven therapeutic or prophylactic effect. **Application of GIRs 1 (Note 1 (a) to Chapter 30) and 6.** *Adoption : 2005*

24. A preparation known as "coconut milk" consisting of coconut flesh extract (57 %) and water (43 %), used for culinary purposes. The product is put up for retail sale in cans. **Application of GIRs 1 and 6.** *Adoption : 2009*

25. Bakery additive presented in the form of a free-flowing white powder consisting of sorbic acid covered by a very thin layer of hydrogenated vegetable oil and mono-glycerides, manufactured by a process referred to as "microencapsulation"; a controlled release mechanism ensures that the sorbic acid is not released from its encapsulate until after the yeast has finished working, e.g., bread is baked past 60 °C.
It is specifically intended to be used as a preservative by being added in small proportions to long-life bakers' wares to prevent the growth of mould, yeast and fungi. **Application of GIRs 1 (Note 1 (b) to Chapter 38) and 6.** *Adoption : 2011*

26. Bakery additive presented in the form of a free-flowing white powder consisting of calcium propionate covered by a very thin layer of hydrogenated vegetable oil and mono-glycerides, manufactured by a process referred to as "microencapsulation"; a controlled release mechanism ensures that the calcium propionate is not released from its encapsulate until after the yeast has finished working, e.g. ,bread is baked past 60°°C.
It is specifically intended to be used as a preservative by being added in small proportions to long-life bakers' wares to prevent the growth of mould, yeast and fungi. **Application of GIRs 1 (Note 1 (b) to Chapter 38) and 6.** *Adoption : 2011*

27. Preparation in the form of a mixture of granules and powder, consisting of 92 % by weight of sugar, 6 % by weight of blackcurrant powder, anti-caking agent, citric acid and blackcurrant flavouring. The product is put up in small sachets containing 32 g which are packed in a small paperboard container holding 10 sachets. It is intended to be consumed as a beverage after mixing with hot water.
Application of GIRs 1 and 6. *Adoption : 2011*

28. Tablets containing salt, sugar, concentrate of lemon, black salt, cumin seeds, black pepper, dry ginger, long pepper and ammonium chloride, put up for retail sale in a container holding 120 tablets. The product is used to aid digestion, especially after a meal. **Application of GIRs 1 and 6.** *Adoption : 2014*

29. Preparation obtained by spray-drying green apple purée to which maltodextrin has been added as a carrier agent in a quantity such that it constitutes 57 % by weight of the final product. It is presented in powder form, is entirely soluble in water and is intended to be added to foodstuffs, e.g., milk powder. **Application of GIRs 1 and 6.** *Adoption : 2015*

30. **Preparation obtained by spray-drying spinach juice** to which potassium carbonate (an acidity regulator) and maltodextrin (a carrier agent) have been added. The quantity of maltodextrin constitutes 70 % by weight of the final product. It is presented in powder form, is entirely soluble in water and is intended to be added to foodstuffs, e.g., vegetable soups and sauces. **Application of GIRs 1 and 6.**
Adoption : 2015

31. **Food preparation** in the form of dried powdered alcohol, consisting of ethyl alcohol (30.5 % by weight) and dextrin (69.5 % by weight), and having a moisture content of 2.5 (±1.5) % by weight. It is obtained by spray-drying, and the dextrin is used as a carrier agent (an excipient) for the ethyl alcohol. It is easily soluble in water and is intended to be used in various food preparations. **Application of GIRs 1 and 6.**
Adoption : 2016

32. **Non-dairy cream** in liquid form consisting mainly of water, hardened vegetable oil and sugar, with a creamlike colour, used as decoration and filling for cakes, desserts, mousse, etc., as substitute for whipped cream. It is presented in a 1-litre packaging. **Application of GIRs 1 and 6.**
Adoption : 2016

33. **Rose hip juice** in the form of a brown viscous concentrated liquid, made of 100 % rose hips. The product is obtained by milling the fruits with added water, and subsequent heat treatment and pressing, filtration, pasteurization, concentration and sterilization. It is intended to be used as raw material for the manufacture of beverages and food stuffs. **Application of GIRs 1 and 6.**
Adoption : 2016

34. **Black mulberry leaves** cut into small pieces, produced by steaming, fermentation with fungi, drying and roasting. The leaf pieces are put up in small sachets (tea bags), containing 2 grams. The product is intended to be consumed as a beverage after infusing in hot water. **Application of GIRs 1 and 6.**
Adoption : 2017

35. **Black mulberry leaves** cut into small pieces, produced by steaming, fermentation with fungi, drying and roasting. The leaf pieces are presented in 30 kg bulk containers made of woven fabrics. The product is intended to be consumed as a beverage after infusing in hot water. **Application of GIRs 1 and 6.**
Adoption : 2017

36. **A product consisting of ethyl esters** of highly concentrated omega-3 fatty acids EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid) produced from raw anchovy oil. Vitamin E (tocopherol) has been added to the product as an antioxidant.
The raw anchovy oil has undergone the manufacturing steps of deacidification, ethyl esterification, distillation, filtration, bleaching and deodorization.
The product is presented in barrels and will be used in the manufacture of food supplements. **Application of GIRs 1 and 6.**
See also Opinion 1516.10/1.
Adoption : 2018

37. **Preparation in powder form** which contains 33.3 % of nicotinamide (niacinamide) finely dispersed in a matrix consisting of a mixture of mono- and diglycerides of edible fatty acids. The

matrix masks the characteristic bitter taste of the nicotinamide without affecting its biological availability. Silicon dioxide is added as a flow agent in a proportion of 1 %. The product is used for food applications and food supplements. **Application of GIRs 1 (Note 1 (f) to Chapter 29) and 6.** *Adoption : 2019*

38. **Aloe vera concentrate**, in liquid form consisting of purified aloe vera (whole leaf), purified water, anhydrous citric acid, sodium citrate dihydrate, flavour (lemon juice concentrate), camomile flower powdered extract (4:1), potassium sorbate, sodium benzoate. It must be diluted with water or other beverages before consumption. **Application of GIR 1 and 6.** *Adoption: 2021*

39. **Preparation in form of free flowing particles** (beadlets) which contains 0.25% vitamin D_3 in edible fats finely dispersed in a cornstarch-coated matrix of hydrolysed bovine gelatin and sucrose. DL -α-Tocopherol is added as an antioxidant. Silicon dioxide is used as a processing aid. The product is used for pharmaceutical preparations, dietary supplements and food preparations. **Application of GIRs 1 (Note 1 (f) to Chapter 29) and 6.** *Adoption: 2021*

40. **Preparation in form of free flowing particles (beadlets)** which contains 5% vitamin K_1 finely dispersed in a matrix of acacia and sugar. The product is used for dry food and pharmaceutical preparations, especially for the fortification of infant formulas. **Application of GIRs 1 (Note 1 (f) to Chapter 29) and 6.** *Adoption: 2021*

41. **Preparation in form of free flowing particles (beadlets)** which contains 325,000 IU vitamin A (97,500 µg retinol) per gram. The individual particles contain vitamin A acetate finely dispersed in a cornstarch-coated matrix of acacia and maltodextrin; DL-α- tocopherol is added as an antioxidant. The product is used for food preparations which are reconstituted with liquids.

Application of GIRs 1 (Note 1 (f) to Chapter 29) and 6. *Adoption : 2021*

Chapter 22

Beverages, spirits and vinegar

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Products of this Chapter (other than those of heading 22.09) prepared for culinary purposes and thereby rendered unsuitable for consumption as beverages (generally heading 21.03);

(b) Sea water (heading 25.01);

(c) Distilled or conductivity water or water of similar purity (heading 28.53);

(d) Acetic acid of a concentration exceeding 10 % by weight of acetic acid (heading 29.15);

(e) Medicaments of heading 30.03 or 30.04; or

(f) Perfumery or toilet preparations (Chapter 33).

2.- For the purposes of this Chapter and of Chapters 20 and 21, the “alcoholic strength by volume” shall be determined at a temperature of 20 °C.

3.- For the purposes of heading 22.02, the term “non-alcoholic beverages” means beverages of an alcoholic strength by volume not exceeding 0.5 % vol. Alcoholic beverages are classified in headings 22.03 to 22.06 or heading 22.08 as appropriate.

Subheading Note.

1.- For the purposes of subheading 2204.10, the expression “sparkling wine” means wine which, when kept at a temperature of 20 °C in closed containers, has an excess pressure of not less than 3 bars.

EXPLANATORY NOTES

Chapter 22

Beverages, spirits and vinegar

Notes.

1.- This Chapter does not cover :

(a) Products of this Chapter (other than those of heading 22.09) prepared for culinary purposes and thereby rendered unsuitable for consumption as beverages (generally heading 21.03);

(b) Sea water (heading 25.01);

(c) Distilled or conductivity water or water of similar purity (heading 28.53);

(d) Acetic acid of a concentration exceeding 10 % by weight of acetic acid (heading 29.15);

(e) Medicaments of heading 30.03 or 30.04; or

(f) Perfumery or toilet preparations (Chapter 33).

2.- For the purposes of this Chapter and of Chapters 20 and 21, the "alcoholic strength by volume" shall be determined at a temperature of 20 °C.

3.- For the purposes of heading 22.02, the term "non-alcoholic beverages" means beverages of an alcoholic strength by volume not exceeding 0.5 % vol. Alcoholic beverages are classified in headings 22.03 to 22.06 or heading 22.08 as appropriate.

Subheading Note.

1.- For the purposes of subheading 2204.10, the expression "sparkling wine" means wine which, when kept at a temperature of 20 °C in closed containers, has an excess pressure of not less than 3 bars.

GENERAL

The products of this Chapter constitute a group quite distinct from the foodstuffs covered by the preceding Chapters of the Nomenclature.

They fall into four main groups :

(A) Water and other non-alcoholic beverages and ice.

(B) Fermented alcoholic beverages (beer, wine, cider, etc.).

(C) Distilled alcoholic liquids and beverages (liqueurs, spirits, etc.) and ethyl alcohol.

(D) Vinegar and substitutes for vinegar.

This Chapter **does not cover** :

(a) Liquid dairy products of **Chapter 4**.

(b) Products of this Chapter (**other than** those of **heading 22.09**) prepared for culinary purposes and thereby rendered unsuitable for consumption as beverages (e.g., cooking wines and cooking Cognac) (generally **heading 21.03**).

(c) Medicaments of **heading 30.03** or **30.04**.

(d) Perfumery or toilet preparations (**Chapter 33**).

Heading 2201

Waters, including natural or artificial mineral waters and aerated waters, not containing added sugar or other sweetening matter nor flavoured; ice and snow.

EXPLANATORY NOTES

22.01 - Waters, including natural or artificial mineral waters and aerated waters, not containing added sugar or other sweetening matter nor flavoured; ice and snow.

2201.10 - Mineral waters and aerated waters

2201.90 - Other

This heading covers :

(A) **Ordinary natural water** of all kinds (**other than** sea water - see **heading 25.01**). Such waters remain in the heading, whether or not clarified or purified, **except** that distilled or conductivity water and water of similar purity are classified in **heading 28.53**.

The heading **excludes** sweetened or flavoured water (**heading 22.02**).

(B) **Mineral waters**, whether natural or artificial.

Natural mineral waters contain mineral salts or gases. The composition of these waters varies considerably and they are generally classified according to the chemical characteristics of their salts, e.g. :

(1) Alkaline waters.

(2) Sulphated waters.

(3) Halide waters.

(4) Sulphuretted waters.

(5) Arsenical waters.

(6) Ferruginous waters.

Such natural mineral waters may also contain natural or added carbon dioxide.

Artificial mineral waters are prepared from ordinary potable water by adding the active principles (mineral salts or gases) present in the corresponding natural waters so as to produce waters of the same properties.

The heading **excludes** sweetened or flavoured (orange, lemon, etc.) mineral waters (natural or artificial) (**heading 22.02**).

(C) **Aerated waters** (carbonated waters), i.e., ordinary potable waters charged with carbon dioxide gas under pressure. They are often called “soda waters” or “Seltzer” waters although true “Seltzer” water is a natural mineral water.

The heading **excludes** sweetened or flavoured aerated waters (**heading 22.02**).

(D) **Ice and snow**, i.e., natural snow and ice, and artificially frozen water.

The heading **excludes** edible ice of **heading 21.05** and “carbonic acid snow” or “dry ice” (i.e., solid carbon dioxide) (**heading 28.11**).

2201.10

- Mineral waters and aerated waters

2201.90

- Other

Heading 2202

Waters, including mineral waters and aerated waters, containing added sugar or other sweetening matter or flavoured, and other non-alcoholic beverages, not including fruit, nut or vegetable juices of heading 20.09.

EXPLANATORY NOTES

22.02 - Waters, including mineral waters and aerated waters, containing added sugar or other sweetening matter or flavoured, and other non-alcoholic beverages, not including fruit, nut or vegetable juices of heading 20.09.

2202.10 - Waters, including mineral waters and aerated waters, containing added sugar or other sweetening matter or flavoured

- Other :

2202.91 - - Non-alcoholic beer

2202.99 - - Other

This heading covers non-alcoholic beverages, as defined in Note 3 to this Chapter, not classified under other headings, particularly **heading 20.09** or **22.01**.

(A) **Waters, including mineral waters and aerated waters, containing added sugar or other sweetening matter or flavoured.**

This group includes, *inter alia* :

(1) **Sweetened or flavoured mineral waters** (natural or artificial).

(2) **Beverages such as lemonade, orangeade, cola**, consisting of ordinary drinking water, sweetened or not, flavoured with fruit or nut juices or essences, or compound extracts, to which citric acid or tartaric acid are sometimes added. They are often aerated with carbon dioxide gas, and are generally presented in bottles or other airtight containers.

(B) **Non-alcoholic beer.** This group includes :

(1) Beer made from malt, the alcoholic strength of which by volume has been reduced to 0.5 % vol. or less.

(2) Ginger beer and herb beer, having an alcoholic strength by volume not exceeding 0.5 % vol.

(3) Mixtures of beer and non-alcoholic beverages (e.g., lemonade), having an alcoholic strength by volume not exceeding 0.5 % vol.

(C) **Other non-alcoholic beverages, not including fruit or vegetable juices of heading 20.09.**

This group includes, *inter alia* :

(1) **Tamarind nectar rendered ready for consumption as a beverage** by the addition of water and sugar and straining.

(2) **Certain other beverages ready for consumption**, such as those with a basis of milk and cocoa.

This heading **does not include :**

(a) Liquid yogurt and other fermented or acidified milk and cream containing cocoa, fruit or flavourings (**heading 04.03**).

(b) Sugar syrups of **heading 17.02** and flavoured sugar syrups of **heading 21.06**.

(c) Fruit, nut or vegetable juices, whether or not used as beverages (**heading 20.09**).

(d) Medicaments of **heading 30.03** or **30.04**.

2202.10

- Waters, including mineral waters and aerated waters, containing added sugar or other sweetening matter or flavoured

2202.9

- Other :

2202.91

-- Non-alcoholic beer

2202.99

-- Other

CLASSIFICATION OPINIONS

1. Peach nectar and **apricot nectar** consisting of crushed and strained (homogenised) whole fruits (peeled and with the stone removed) and about the same volume of added sugar syrup, used directly as a beverage.
Adoption : 1965

2. Aloe vera gel in the form of a liquid, put up for retail sale in a container of plastics (e.g., 1 litre), based on aloe vera gel as the main ingredient and containing additives such as sorbitol, ascorbic acid, citric acid, potassium sorbate, sodium benzoate, papain, xanthan gum and tocopherol. It is used as a health drink (between 60 and 120 ml twice daily) and it is claimed in the product packaging or literature to have effect against cholesterol, asthma, ulcers, constipation, cold, indigestion, diarrhoea, etc.
Adoption : 1998

3. Aloe vera drinking gel - pure in the form of a liquid, put up for retail sale in a container of plastics (e.g., 1 litre), containing 99.7 % pure aloe vera gel and small amounts of sodium benzoate, potassium sorbate and citric acid. It is used as a health drink (25 to 50 ml daily) and helps to provide a wide range of vitamins, minerals, enzymes and amino acids; it is claimed in the product packaging or literature to help build resistance to the common cold and to give relief from stomach disorders such as constipation and indigestion.
Adoption : 1998

4. **Aqueous electrolyte solution**, put up for retail sale in a container of plastics (e.g., 250 ml), containing dextrose, fructose, fruit flavours, potassium citrate, sodium chloride, colouring matter and water, intended to be used in measured doses, without any further preparation or dilution, for babies and children to restore fluids and minerals lost during diarrhoea or vomiting. *Adoption : 1998*

5. **Non-alcoholic beverage (gripe "water")**, put up for retail sale in a bottle of 100 ml, containing sodium bicarbonate (50 mg per 5 ml) and terpeneless dill seed oil (2.15 mg per 5 ml). It is intended to be used in measured doses, without any further preparation or dilution, for babies and children for relief of gripe, excess acid and flatulence. The recommended dose, depending on the age of a child, varies between 2.5 ml and 15 ml up to eight times a day. **Application of GIRs 1 and 6.** *Adoption : 2007*

6. **Non-alcoholic beverage** consisting of coconut juice (coconutwater) (80 %), water, sugar, citric acid and potassium metabisulphite. The product is put up for retail sale in cans of 400 ml. **Application of GIRs 1 and 6.** Adoption : 2008

7. **Ready to drink high-calorific sip feed with energy chocolate flavour**, suitable as a sole source of nutrition, containing water, maltodextrin, milk proteins, sugar, vegetable oils, cocoa, flavouring, emulsifier, colourings, minerals, vitamins and other additives. The product is a brown, milky cloudy, watery liquid with a sweet taste and a flavour of milk chocolate, presented in 200 ml plastic bottles. The product can be used to supplement the normal diet (1-3 bottles per day) or as a sole source of nutrition (5-7 bottles per day).

   Application of GIRs 1 and 6. *Adoption : 2021*

8. **Ready to drink high-calorific sip feed with juicy blackcurrant flavour**, suitable as a sole source of nutrition, containing water, sugar, milk proteins, flavouring, colourings, minerals, vitamins, other additives. The product is a reddish-brown, clear, watery liquid with a sweet and sour taste and a flavour of blackcurrants, presented in 200 ml plastic bottles. The product can be used to supplement the normal diet (1-3 bottles per day).

   Application of GIRs 1 and 6. *Adoption : 2021*

9. **Ready to drink high-calorific sip feed with banana flavour**, suitable as a sole source of nutrition, containing water, glucose syrup, milk proteins, vegetable oils, flavouring, colourings, minerals, vitamins, additives. The product is a beige-coloured, milky-cloudy, watery liquid with a sweet, milky taste and a flavour of banana, presented in 200 ml plastic bottles. The product can be used to supplement the normal diet (1-3 bottles per day) or as a sole source of nutrition (5-7 bottles per day).

   Application of GIRs 1 and 6. *Adoption : 2021*

Heading 2203

Beer made from malt.

EXPLANATORY NOTES

22.03 - Beer made from malt.

Beer is an alcoholic beverage obtained by fermenting a liquor (wort) prepared from malted cereals (most commonly barley or wheat), water and (usually) hops. Certain quantities of non-malted cereals (e.g., maize (corn) or rice) may also be used for the preparation of the liquor (wort). The addition of hops imparts a bitter and aromatic flavour and improves the keeping qualities. Cherries or other flavouring substances are sometimes added during fermentation.

Sugar (particularly glucose), colouring matter, carbon dioxide and other substances may also be added.

According to the fermenting process employed, the products may be **bottom fermentation beer**, obtained at a low temperature with bottom yeasts, or **top fermentation beer**, obtained at a higher temperature with top yeasts.

Beer may be pale or dark, sweet or bitter, mild or strong. It may be put up in barrels, bottles or in airtight tins and may be marketed as ale, stout, etc.

This heading also covers concentrated beer prepared by vacuum-condensing beer of low alcoholic strength (but with a high content of malt extract) to between one fifth and one sixth of its original volume.

The heading **does not cover** :

(a) Certain beverages which, although they are sometimes described as beers, do not contain alcohol (e.g., beverages prepared from water and caramelised sugar) (**heading 22.02**).

(b) Beverages called non-alcoholic beer consisting of beer made from malt, the alcoholic strength of which by volume has been reduced to 0.5 % vol or less (**heading 22.02**).

(c) Medicaments of **heading 30.03** or **30.04**.

2203.00

Beer made from malt.

Heading 2204

Wine of fresh grapes, including fortified wines; grape must other than that of heading 20.09.
EXPLANATORY NOTES

22.04 - Wine of fresh grapes, including fortified wines; grape must other than that of heading 20.09.

2204.10 - Sparkling wine

- Other wine; grape must with fermentation prevented or arrested by the addition of alcohol :

2204.21 - - In containers holding 2 l or less

2204.22 - - In containers holding more than 2 l but not more than 10 l

2204.29 - - Other

2204.30 - Other grape must

(I) **Wine of fresh grapes**

The wine classified in this heading is the final product of the alcoholic fermentation of the must of fresh grapes.

The heading includes :

(1) **Ordinary wines** (red, white or *rosé*).

(2) **Wines fortified with alcohol**.

(3) **Sparkling wines**. These wines are charged with carbon dioxide, either by conducting the final fermentation in a closed vessel (sparkling wines proper), or by adding the gas artificially after bottling (aerated wines).

(4) **Dessert wines (sometimes called liqueur wines)**. These are rich in alcohol and are generally obtained from must with a high sugar content, only part of which is converted to alcohol by fermentation. In some cases they are fortified by the addition of alcohol, or of concentrated must with added alcohol. Dessert (or liqueur) wines include, *inter alia*, Canary, Cyprus, Lacryma Christi, Madeira, Malaga, Malmsey, Marsala, Port, Samos and Sherry.

The heading **does not cover** :

(a) Beverages with a basis of wine of **heading 22.05**.

(b) Medicaments of **heading 30.03** or **30.04**.

(II) **Grape must**

Grape must, obtained by pressing fresh grapes, is a greenish-yellow, cloudy liquid with a sweet flavour. It contains in solution a mixture of sugars (glucose and fructose), acids (tartaric, malic, etc.), albuminous, mineral and mucilaginous substances and the aromatic principles which give the wine its characteristic aroma and flavour.

Grape must, unless prevented, ferments spontaneously (the sugars being converted into alcohol); the end-product of this fermentation is wine.

The natural tendency of must to ferment can be inhibited by the process known as mutage which may either retard fermentation or arrest it completely.

Mutage may be effected in different ways :

(1) By the action of salicylic acid or other antiseptics.

(2) By impregnating the must with sulphur dioxide.

(3) By adding alcohol. This type of product is often consumed as a wine without further processing. Others, known as mistelles, are used in the manufacture of liqueur wines and aperitives, etc.

(4) By refrigeration.

It should be noted that this group covers grape must partially fermented, whether or not fermentation has been arrested, as well as unfermented grape must, with alcohol added, both having an alcoholic strength by volume exceeding 0.5 % vol.

The heading **excludes** grape juice and grape must, whether or not concentrated, unfermented or having an alcoholic strength by volume not exceeding 0.5 % vol (**heading 20.09**).

2204.10

- Sparkling wine

2204.2

- Other wine; grape must with fermentation prevented or arrested by the addition of alcohol :

2204.21

-- In containers holding 2 l or less

2204.22

-- In containers holding more than 2 l but not more than 10 l

2204.29

-- Other

2204.30

- Other grape must

Heading 2205

Vermouth and other wine of fresh grapes flavoured with plants or aromatic substances.

EXPLANATORY NOTES

22.05 - Vermouth and other wine of fresh grapes flavoured with plants or aromatic substances.

2205.10 - In containers holding 2 l or less

2205.90 - Other

This heading includes a variety of beverages (generally used as aperitives or tonics) made with wine of fresh grapes of heading 22.04, and flavoured with infusions of plant substances (leaves, roots, fruits, etc.) or aromatic substances.

It may also include the above types of beverages which contain added vitamins or iron compounds. These products which are sometimes referred to as “food supplements” are designed to maintain general health or well-being.

The heading **does not cover** :

(a) Wines obtained from dried grapes and prepared with aromatic plants or substances (**heading 22.06**).

(b) Medicaments of **heading 30.03** or **30.04**.

2205.10

- In containers holding 2 l or less

CLASSIFICATION OPINIONS

1. **Beverages** called **"Marsala all'uovo", "Marsala alla mandorla"** and **"Crema di Marsala all'uovo"**, with a basis of Marsala wine, flavoured with eggs (or almonds) and with aromatic materials.
   Adoption :1960

2. **Ginseng tonic**, in the form of a free-flowing brownish liquid of an alcoholic strength by volume of 11.5 % vol, containing standardized highly-concentrated ginseng extract (about 9 mg/ml), bitter-orange syrup, sorbitol and wine of fresh grapes, and packed in glass flasks each containing 250 ml.
   See also Opinions 1704.90/1 and 2106.90/7.
   Adoption : 1987

2205.90

- Other

CLASSIFICATION OPINIONS

1. **Beverages** called **"Marsala all'uovo", "Marsala alla mandorla"** and **"Crema di Marsala all'uovo"**, with a basis of Marsala wine, flavoured with eggs (or almonds) and with aromatic materials.
   Adoption :1960

2. Ginseng tonic, in the form of a free-flowing brownish liquid of an alcoholic strength by volume of 11.5 % vol, containing standardized highly-concentrated ginseng extract (about 9 mg/ml), bitter-orange syrup, sorbitol and wine of fresh grapes, and packed in glass flasks each containing 250 ml.
See also Opinions 1704.90/1 and 2106.90/7. Adoption : 1987

Heading 2206

Other fermented beverages (for example, cider, perry, mead, saké); mixtures of fermented beverages and mixtures of fermented beverages and non-alcoholic beverages, not elsewhere specified or included.

EXPLANATORY NOTES

22.06 - Other fermented beverages (for example, cider, perry, mead, saké); mixtures of fermented beverages and mixtures of fermented beverages and non-alcoholic beverages, not elsewhere specified or included.

This heading covers all fermented beverages **other than** those in **headings 22.03 to 22.05**.

It includes *inter alia* :

(1) **Cider**, an alcoholic beverage obtained by fermenting the juice of apples.

(2) **Perry**, a fermented beverage somewhat similar to cider made with the juice of pears.

(3) **Mead**, a beverage prepared by fermenting a solution of honey in water. (The heading includes *hydromel vineux* - mead containing added white wine, aromatics and other substances.)

(4) **Raisin wine**.

(5) **Wines obtained by the fermentation of fruit or nut juices**, other than juice of fresh grapes (fig, date or berry wines), or of vegetable juices, with an alcoholic strength by volume exceeding 0.5 % vol.

(6) **"Malton"**, a fermented beverage prepared from malt extract and wine lees.

(7) **Spruce**, a beverage made from leaves or small branches of the spruce fir or from spruce essence.

(8) **Saké or rice wine**.

(9) **Palm wine**, prepared from the sap of certain palm trees.

(10) **Ginger beer and herb beer**, prepared from sugar and water and ginger or herbs, fermented with yeast.

All these beverages may be either naturally sparkling or artificially charged with carbon dioxide. They remain classified in the heading when fortified with added alcohol or when the alcohol content has

been increased by further fermentation, provided that they retain the character of products falling in the heading.

This heading also covers mixtures of non-alcoholic beverages and fermented beverages and mixtures of fermented beverages of the foregoing headings of Chapter 22, e.g., mixtures of lemonade and beer or wine, mixtures of beer and wine, having an alcoholic strength by volume exceeding 0.5 % vol.

Some of these beverages may also contain added vitamins or iron compounds. These products which are sometimes referred to as “food supplements” are designed to maintain general health or well-being.

This heading **excludes** fruit or nut juices (apple, pear, etc.) and other beverages having an alcoholic strength by volume not exceeding 0.5 % vol (**headings 20.09** and **22.02** respectively).

2206.00

Other fermented beverages (for example, cider, perry, mead, saké); mixtures of fermented beverages and mixtures of fermented beverages and non-alcoholic beverages, not elsewhere specified or included.

Heading 2207

Undenatured ethyl alcohol of an alcoholic strength by volume of 80 % vol. or higher; ethyl alcohol and other spirits, denatured, of any strength.

EXPLANATORY NOTES

22.07 - Undenatured ethyl alcohol of an alcoholic strength by volume of 80 % vol or higher; ethyl alcohol and other spirits, denatured, of any strength.

2207.10 - Undenatured ethyl alcohol of an alcoholic strength by volume of 80 % vol or higher

2207.20 - Ethyl alcohol and other spirits, denatured, of any strength

Ethyl alcohol is not classified with the other acyclic alcohols of heading 29.05 but is excluded from Chapter 29 by Note 2 (b) to that Chapter.

The heading covers :

(1) Undenatured ethyl alcohol of an alcoholic strength by volume of 80 % vol or higher.

(2) Ethyl alcohol and other spirits, denatured, of any strength.

Fermented beverages and spirituous beverages contain ethyl alcohol obtained by the fermentation of certain kinds of sugar by means of yeast or other ferments. Undenatured ethyl alcohol of headings 22.07 or 22.08 is produced when a fermented product is treated by subsequent purification processes (e.g., distillation, filtration, etc.) such that its characteristics as a fermented product are lost, producing a clear, colourless, non-sparkling liquid exhibiting only the smell and taste of ethyl alcohol. Ethyl alcohol may also be produced synthetically.

Ethyl alcohol and other spirits, denatured, are spirits mixed with substances to render them unfit for drinking but not to prevent their use for industrial purposes. The denaturants used vary in different countries according to national legislation. They include wood naphtha, methanol, acetone, pyridine, aromatic hydrocarbons (benzene, etc.), colouring matter.

This heading also covers **neutral spirits**, i.e., ethyl alcohol containing water from which the secondary constituents (higher alcohols, esters, aldehydes, acids, etc.) present in the first distillate have been almost completely removed by purification processes (e.g., fractional distillation).

Ethyl alcohol is used for many industrial purposes, e.g., as a solvent in the manufacture of chemicals, varnishes, etc., for heating or lighting, for the preparation of spirituous beverages.

The heading **does not cover** :

(a) Undenatured ethyl alcohol of an alcoholic strength by volume of less than 80 % vol (**heading 22.08**).

(b) Other spirits (unless denatured) (**heading 22.08**).

(c) Solid or semi-solid fuels with a basis of alcohol (often sold as “solidified alcohol”) (**heading 36.06**).

2207.10

- Undenatured ethyl alcohol of an alcoholic strength by volume of 80 % vol. or higher

2207.20

- Ethyl alcohol and other spirits, denatured, of any strength

Heading 2208

Undenatured ethyl alcohol of an alcoholic strength by volume of less than 80 % vol.; spirits, liqueurs and other spirituous beverages.

EXPLANATORY NOTES

22.08 - Undenatured ethyl alcohol of an alcoholic strength by volume of less than 80 % vol; spirits, liqueurs and other spirituous beverages.

2208.20 - Spirits obtained by distilling grape wine or grape marc

2208.30 - Whiskies

2208.40 - Rum and other spirits obtained by distilling fermented sugar-cane products

2208.50 - Gin and Geneva

2208.60 - Vodka

2208.70 - Liqueurs and cordials

2208.90 - Other

The heading covers, **whatever their alcoholic strength** :

(A) **Spirits** produced by distilling wine, cider or other fermented beverages or fermented grain or other vegetable products, without adding flavouring; they retain, wholly or partly, the secondary constituents (esters, aldehydes, acids, higher alcohols, etc.) which give the spirits their peculiar individual flavours and aromas.

(B) **Liqueurs** and **cordials**, being spirituous beverages to which sugar, honey or other natural sweeteners and extracts or essences have been added (e.g., spirituous beverages produced by distilling, or by mixing, ethyl alcohol or distilled spirits, with one or more of the following : fruits, flowers or other parts of plants, extracts, essences, essential oils or juices, whether or not concentrated). These products also include liqueurs and cordials containing sugar crystals, Fruit, nut or vegetable juices, egg liqueurs, herb liqueurs, berry liqueurs, spice liqueurs, tea liqueurs, chocolate liqueurs, milk liqueurs and honey liqueurs.

(C) **All other spirituous beverages not falling** in any preceding heading of this Chapter.

Provided that **their alcoholic strength by volume is less than 80 % vol**, the heading also covers undenatured spirits (ethyl alcohol and neutral spirits) which, contrary to those at (A), (B) and (C) above, are characterised by the absence of secondary constituents giving a flavour or aroma. These spirits remain in the heading whether intended for human consumption or for industrial purposes.

In addition to undenatured ethyl alcohol of an alcoholic strength by volume of less than 80 % vol, the heading includes, *inter alia* :

(1) Spirits obtained by distilling grape wine or grape marc (Cognac, Armagnac, brandy, grappa, pisco, singani, etc.).

(2) Whiskies and other spirits obtained by distilling fermented mash of cereal grains (barley, oats, rye, wheat, corn, etc.).

(3) Spiritsobtained exclusively by distilling fermented products of the sugar cane (sugar-cane juice, sugar-cane syrup, sugar-cane molasses), e.g., rum, tafia, cachaça.

(4) Spirituous beverages known as gin or Geneva, containing the aromatic principles of juniper berries.

(5) Vodka obtained by distilling fermented mash of agricultural origin (e.g., cereals, potatoes) and sometimes further treated with activated charcoal or carbon.

(6) Spirituous beverages (generally known as liqueurs), such as anisette (obtained from green anise and badian), curaçao, (manufactured with the peel of the bitter orange), kummel (flavoured with caraway or cumin seeds).

(7) The liqueurs known as “crèmes”, because of their consistency or colour. They are generally of relatively low alcoholic content and very sweet (for example, creams of cocoa, bananas, vanilla, coffee). The heading also covers spirits consisting of emulsions of spirit with products such as egg yolk or cream.

(8) Ratafias. These are kinds of liqueurs obtained from fruit juice; they often contain a small quantity of added aromatic substances (ratafias of cherries, of black currants, of raspberries, of apricots, etc.).

(9) Aquavit and other spirituous beverages obtained by distilling alcohol with fruits or other parts of plants or herbs.

(10) Spirits obtained from cider (calvados), from plums (mirabelle, quetsch), from cherries (kirsch) or other fruits.

(11) Arrack, spirits obtained from rice or palm wine.

(12) Spirits obtained by distillation of the fermented juice of locust beans.

(13) Alcoholic aperitives (absinth, bitters, etc.) **other than** those with a basis of wine of fresh grapes which fall in **heading 22.05**.

(14) Alcoholic lemonade (unmedicated).

(15) Fruit, nut or vegetable juices containing added alcohol and of an alcoholic strength by volume exceeding 0.5 % vol, **other than** products of **heading 22.04**.

(16) Spirituous beverages, sometimes referred to as “food supplements”, designed to maintain general health or well-being. They may, for example, be based on extracts from plants, fruit concentrates, lecithins, chemicals, etc., and contain added vitamins or iron compounds.

(17) Beverages formulated to simulate wine by mixing distilled spirits with fruit or nut juice and/or water, sugar, colouring, flavouring or other ingredients, **other than** products of **heading 22.04**.

(18) Spirits obtained by distilling fermented sugar beet molasses.

The heading **does not**, however, **include** :

(a) Vermouths, and other aperitives with a basis of wine of fresh grapes (**heading 22.05**).

(b) Ethyl alcohol and other spirits, denatured (of any strength), or undenatured ethyl alcohol of an alcoholic strength by volume of 80 % vol or higher (**heading 22.07**).

2208.20

- Spirits obtained by distilling grape wine or grape marc

2208.30

- Whiskies

CLASSIFICATION OPINIONS

1. Malt whiskies and **grain whiskies**, with an alcoholic strength by volume of approximately 60 % vol, used as the basic ingredient in the manufacture of bottled whisky; they are diluted with purified water to obtain the desired alcohol strength.
Adoption : 1995

2208.40

- Rum and other spirits obtained by distilling fermented sugar-cane products

2208.50

- Gin and Geneva

2208.60

- Vodka

2208.70

- Liqueurs and cordials

2208.90

- Other

CLASSIFICATION OPINIONS

2. Aqueous solutions of ethanol, put up as an assortment of 40 10-ml bottles, each labelled with a different name of a plant, flower, tree or combination thereof, of an alcoholic strength by volume of 20 to 27 %, containing a total of approximately 1 % by weight of sugars, fusel oil and other volatile matter, but having no detectable quantity of extracts of plants, flowers or trees. *Adoption : 1995*

3. Spirituous beverage of an alcoholic strength by volume of 30 % vol, containing by volume, 30 % of fermented apple juice (alcoholic strength by volume of 6 % vol), 29.4 % of ethyl alcohol (alcoholic strength by volume of 96 % vol), 2 % of ginger extract, and sugar (less than 0.90 %), caramel colouring and water. **Application of GIRs 1 and 6.** *Adoption : 2008*

4. Neutral alcoholic base, of a kind used for the preparation of beverages, of an alcoholic strength by volume of 14 % vol, in the form of a clear, colourless, non-sparkling liquid exhibiting the smell and taste of ethanol. The product is obtained by fermentation of beer mash and subsequent cleaning and filtration and has lost the characteristics of the original fermented product.

Application of GIRs 1 and 6.
Adoption : 2011

5. Neutral alcoholic base, of a kind used for the preparation of beverages, of an alcoholic strength by volume of 12 % vol, in the form of a clear, colourless liquid exhibiting the smell and taste of ethanol. The product is obtained by fermentation of fruit juices and subsequent clarification and filtration and has lost the characteristics of the original fermented product.
Application of GIRs 1 and 6.
Adoption : 2011

6. Neutral alcoholic base, of a kind used for the preparation of beverages, of an alcoholic strength by volume of 21.9 % vol, in the form of a clear, colourless liquid exhibiting the smell and taste of ethanol. The product is obtained by mixing a fruit wine with a spirit and subsequent cleaning and filtration and has lost the characteristics of the original fermented product.
Application of GIRs 1 and 6.
Adoption : 2011

Heading 2209

Vinegar and substitutes for vinegar obtained from acetic acid.

EXPLANATORY NOTES

22.09 - Vinegar and substitutes for vinegar obtained from acetic acid.

(I) **VINEGAR**

Vinegar is an acid liquid obtained by the acetic fermentation in the presence of air and at a constant temperature generally not exceeding 20 °C to 30 °C, of alcoholic liquids of any source or of various sugar or starch solutions having undergone alcoholic fermentation, under the action of vinegar bacteria *Mycoderma aceti* or acetobacter.

The heading includes the following varieties of vinegar, distinguished according to their origin :

(1) **Wine vinegar**. This is pale yellow to red in colour according to the type of wine from which it is prepared; it has a special *bouquet* due to the presence, e.g., of wine esters.

(2) **Beer or malt vinegar; cider, perry or other fermented fruit vinegars**. These are generally yellowish in colour.

(3) **Spirit vinegar**, colourless in its natural state.

(4) **Vinegar obtained from cereal grains, molasses, hydrolysed potatoes, lactoserum**, etc.

(II) **SUBSTITUTES FOR VINEGAR**

Substitutes for vinegar are obtained by diluting acetic acid with water. They are often coloured with caramel or other organic colouring substances (see also exclusion (a) below).

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* *

Vinegar and substitutes for vinegar which are used to flavour or pickle foodstuffs, may themselves be flavoured with vegetables such as tarragon or contain added spices.

The heading **does not include :**

(a) Aqueous solutions containing more than 10 % by weight of acetic acid (**heading 29.15**). However, the provisions of Note 1 (d) to Chapter 22 do not apply to such solutions, usually containing 10 to 15 % by weight of acetic acid, which have been flavoured or coloured for use with foodstuffs as substitutes for vinegar; these remain in this heading.

(b) Medicaments of **heading 30.03** or **30.04**.

(c) Toilet vinegars (**heading 33.04**).

2209.00

Vinegar and substitutes for vinegar obtained from acetic acid.

CLASSIFICATION OPINIONS

1. A selection of vegetable oil, vinegar and an oil and vinegar combination, each with added ingredients, in separate hourglass-shaped glass bottles, presented together on a specially designed frame of metal (a stand) and put up in a set for retail sale. Each bottle is a composite good and contains one of the following three product combinations :

- "Canola" oil (low erucic acid rape oil), chilli pepper and black pepper;

- "Canola" oil, balsamic vinegar, white vinegar and rosemary;

- white vinegar, chilli pepper, rosemary, apricots, salt, anti-oxidants and preservatives.

Application of GIRs 1 and 3 (c).
Adoption : 2007



Chapter 23

Residues and waste from the food industries; prepared animal fodder

LEGAL NOTES

Note.

1.- Heading 23.09 includes products of a kind used in animal feeding, not elsewhere specified or included, obtained by processing vegetable or animal materials to such an extent that they have lost the essential characteristics of the original material, other than vegetable waste, vegetable residues and by-products of such processing.

Subheading Note.

1.- For the purposes of subheading 2306.41, the expression “low erucic acid rape or colza seeds” means seeds as defined in Subheading Note 1 to Chapter 12.

EXPLANATORY NOTES

Chapter 23

Residues and waste from the food industries;

prepared animal fodder

Note.

1.- Heading 23.09 includes products of a kind used in animal feeding, not elsewhere specified or included, obtained by processing vegetable or animal materials to such an extent that they have lost the essential characteristics of the original material, other than vegetable waste, vegetable residues and by-products of such processing.

Subheading Note.

1.- For the purposes of subheading 2306.41, the expression “low erucic acid rape or colza seeds” means seeds as defined in Subheading Note 1 to Chapter 12.

GENERAL

This Chapter covers the various residues and wastes derived from vegetable materials used by food-preparing industries, and also certain products of animal origin. The main use of most of these products is as animal feeding stuffs, either alone or mixed with other materials, although some of them are fit for human consumption. Certain products (e.g., wine lees, argol, oil-cake) also have industrial uses.

References in this Chapter to “pellets” mean products which have been agglomerated either directly by compression or by the addition of a binder (molasses, starchy substances, etc.) in a proportion not exceeding 3 % by weight.

Heading 2301

Flours, meals and pellets, of meat or meat offal, of fish or of crustaceans, molluscs or other aquatic invertebrates, unfit for human consumption; greaves.

EXPLANATORY NOTES

23.01 - Flours, meals and pellets, of meat or meat offal, of fish or of crustaceans, molluscs or other aquatic invertebrates, unfit for human consumption; greaves.

2301.10 - Flours, meals and pellets, of meat or meat offal; greaves

2301.20 - Flours, meals and pellets, of fish or of crustaceans, molluscs or other aquatic invertebrates

This heading covers :

(1) **Flours and meals**, unfit for human consumption, obtained by processing either the whole animal (including poultry, marine mammals, fish or crustaceans, molluscs or other aquatic invertebrates) or animal products (such as meat or meat offal) **other than** bones, horns, shells, etc. These products (obtained mainly from slaughter houses, floating factories which process fishery products, canning or packing industries, etc.) are usually steam-heated and pressed or treated with a solvent to remove oil and fat. The resultant product is then dried and sterilised by prolonged heating, and finally ground.

The heading also covers the above products in the form of pellets (see the General Explanatory Note to this Chapter).

The flours, meals and pellets of this heading are used mainly in animal feeding, but may also be used for other purposes (e.g., as fertilisers).

This heading **excludes** flours and meals of insects, unfit for human consumption (**heading 05.11**).

(2) **Greaves**, the membraneous tissues remaining after pig or other animal fats have been rendered. They are used mainly in the preparation of animal foods (e.g., dog biscuits), but they remain in the heading even if suitable for human consumption.

2301.10

- Flours, meals and pellets, of meat or meat offal; greaves

2301.20

- Flours, meals and pellets, of fish or of crustaceans, molluscs or other aquatic invertebrates

Heading 2302

Bran, sharps and other residues, whether or not in the form of pellets, derived from the sifting, milling or other working of cereals or of leguminous plants.

EXPLANATORY NOTES

23.02 - Bran, sharps and other residues, whether or not in the form of pellets, derived from the sifting, milling or other working of cereals or of leguminous plants.

2302.10 - Of maize (corn)

2302.30 - Of wheat

2302.40 - Of other cereals

2302.50 - Of leguminous plants

This heading covers :

(A) **Bran, sharps and other residues from the milling of cereal grains**. This category essentially comprises by-products from the milling of wheat, rye, barley, oats, maize (corn), rice, grain sorghum or buckwheat, which do not comply with the requirements of Note 2 (A) to Chapter 11 as regards starch content and ash content.

These are, in particular :

(1) Bran consisting of the outer skins of cereal grains with a small proportion of the adhering endosperm and a little flour.

(2) Sharps (or middlings), obtained from ground cereals as a by-product in the manufacture of flour and consisting largely of the finer portions of the skins left after screening and sieving and of a little flour.

(B) **Residues from the sifting or other working of cereal grains**. Sifting residues, obtained during pre-milling operations, consist essentially of :

- grains of the basic cereal, smaller, mis-shapen, broken or crumbled;
- seeds of various stray plants mixed with the basic cereal;
- fragments of leaves, stalks, minerals, etc.

This category further includes :

(1) Residues from the cleaning of silos, ships' holds, etc., which have much the same composition as the above.

(2) The pericarp removed from the rice grain during the bleaching operation.

(3) Residues resulting from hulling, rolling, flaking, pearling, slicing or kibbling of cereal grain.

(C) **Residues and waste of a similar kind resulting from the grinding or other working of leguminous plants.**

The heading also covers the above products in the form of pellets (see the General Explanatory Note to this Chapter).

The heading also covers whole maize (corn) cobs ground with or without their husks, not fulfilling the criteria as to starch content and ash content provided for products from the milling of maize (corn) in Note 2 (A) to Chapter 11.

Cereal husks, obtained from the threshing of cereals, are classified in **heading 12.13**.

The heading **does not include** oil-cake or other solid residues resulting from the extraction of vegetable or microbial fats or oils (**headings 23.04 to 23.06**).

2302.10

- Of maize (corn)

2302.30

- Of wheat

2302.40

- Of other cereals

2302.50

- Of leguminous plants

Heading 2303

Residues of starch manufacture and similar residues, beet-pulp, bagasse and other waste of sugar manufacture, brewing or distilling dregs and waste, whether or not in the form of pellets.

EXPLANATORY NOTES

23.03 - Residues of starch manufacture and similar residues, beet-pulp, bagasse and other waste of sugar manufacture, brewing or distilling dregs and waste, whether or not in the form of pellets.

2303.10 - Residues of starch manufacture and similar residues

2303.20 - Beet-pulp, bagasse and other waste of sugar manufacture

2303.30 - Brewing or distilling dregs and waste

This heading covers, *inter alia* :

(A) **Residues of starch manufacture and similar residues** (from maize (corn), rice, potatoes, etc.) consist largely of fibrous and protein substances usually presented in the form of pellets or meal but occasionally as cake. They are used for animal fodder or as fertilisers; some of these residues (e.g., maize steeping liquors) are used in the production of cultures for the manufacture of antibiotics.

(B) **Beet-pulp** is the residue which remains after the sugar has been extracted from the root of the sugar beet. This pulp is classified in this heading whether wet or dried but, if with added molasses or otherwise prepared as animal food, it falls in **heading 23.09**.

(C) **Bagasse** is a residue consisting of the fibrous portion of the sugar cane after the juice has been extracted. It is used in the paper-making industry and in the preparation of animal food.

(D) **Other waste products of sugar manufacture** covered by this heading include defecation scum, filter press residues, etc.

(E) **Brewing or distilling dregs and waste** comprise in particular :

(1) **Dregs of cereals** (barley, rye, etc.), obtained in the manufacture of beer and consisting of the exhausted grains remaining after the wort has been drawn off.

(2) **Malt sprouts** separated from the malted grain during the kilning process.

(3) **Spent hops**.

(4) **Dregs** resulting from the distillation of spirits from grain, seeds, potatoes, etc.

(5) **Beet pulp wash** (residues from the distillation of beet molasses).

(All these products remain classified in the heading whether presented wet or dry.)

The heading also covers the above products in the form of pellets (see the General Explanatory Note to this Chapter).

This heading **does not include :**

(a) Molasses resulting from the extraction or refining of sugar (**heading 17.03**).

(b) Inactive or spent yeast (**heading 21.02**).

(c) Crude potassium salts obtained by burning and washing residues of beet molasses (**heading 26.21**).

(d) Bagasse pulp (**heading 47.06**).

2303.10

- Residues of starch manufacture and similar residues

2303.20

- Beet-pulp, bagasse and other waste of sugar manufacture

2303.30

- Brewing or distilling dregs and waste

Heading 2304

Oil-cake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of soyabean oil.

EXPLANATORY NOTES

23.04 - Oil-cake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of soyabean oil.

This heading covers **oil-cake and other solid residues** remaining after the extraction of oil from soya beans by solvents or in a press or rotary expeller. These residues constitute valuable animal foods.

The residues classified in this heading may be in the form of slabs (cakes), meal or pellets (see the General Explanatory Note to this Chapter).

This heading also includes non-textured defatted soya-bean flour fit for human consumption.

This heading **excludes** :

(a) Oil dregs (**heading 15.22**).

(b) Protein concentrates obtained by the elimination of certain constituents of defatted soya-bean flour (used as additives in food preparations) and textured soya-bean flour (**heading 21.06**).

2304.00

Oil-cake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of soyabean oil.

CLASSIFICATION OPINIONS

1. Defatted soy-bean flour, with a protein content, on a dry matter basis, of approximately 50 %, obtained by dehulling dried soya beans and subjecting them to steamheat treatment, solvent extraction and grinding. The flour is not textured and can be used either for human consumption or in animal feeds.
See also Opinion 2106.10/1.
Adoption : 1991

2. Soya-bean flakes, defatted, untoasted and non-textured.
Application of GIR 1.
Adoption : 2022

Heading 2305

Oil-cake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of ground-nut oil.

EXPLANATORY NOTES

23.05 - Oil-cake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of ground-nut oil.

The Explanatory Note to heading 23.04 applies, *mutatis mutandis*, to this heading.

2305.00

Oil-cake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of ground-nut oil.

Heading 2306

Oil-cake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of vegetable or microbial fats or oils, other than those of heading 23.04 or 23.05.

EXPLANATORY NOTES

23.06 - Oil-cake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of vegetable or microbial fats or oils, other than those of heading 23.04 or 23.05.

2306.10 - Of cotton seeds

2306.20 - Of linseed

2306.30 - Of sunflower seeds

- Of rape or colza seeds :

2306.41 - - Of low erucic acid rape or colza seeds

2306.49 - - Other

2306.50 - Of coconut or copra

2306.60 - Of palm nuts or kernels

2306.90 - Other

This heading covers **oil-cake and other solid residues other than** those of **heading 23.04** or **23.05**, remaining after the extraction of microbial oils or oil from oil seeds, oleaginous fruits and germ of cereals by solvents or in a press or rotary expeller.

This heading also includes de-oiled bran obtained as a residue after the extraction of oil from rice bran.

Certain oil-cakes and other solid residues (linseed, cotton seed, sesame, copra, etc.) constitute valuable animal foods; some (e.g., castor) are unsuitable for animal fodder and are used as fertilisers; others (e.g., bitter almond and mustard cake) are used for the extraction of essential oils.

The residues classified in this heading may be in the form of slabs (cakes), meal or pellets (see the General Explanatory Note to this Chapter).

This heading also includes non-textured defatted flour fit for human consumption.

The heading **excludes** oil dregs (**heading 15.22**).

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Subheading Explanatory Note.

Subheading 2306.41

As regards “low erucic acid rape or colza seeds”, see Subheading Note 1 to Chapter 12 and the Explanatory Note to heading 12.05.

2306.10

- Of cotton seeds

2306.20

- Of linseed

2306.30

- Of sunflower seeds

2306.4

- Of rape or colza seeds :

2306.41

-- Of low erucic acid rape or colza seeds

2306.49

-- Other

2306.50

- Of coconut or copra

CLASSIFICATION OPINIONS

1. Defatted virgin coconut powder, with a fat content of 12.4 % by weight, produced from matured coconuts (not copra). During its production each coconut is first husked, shelled, and the white kernels are separated from their outer brown skin. Subsequently, the kernels are washed, cut and dried for 45 min at max. 40°C. The oil extraction is done without a solvent, in just one step and under cold conditions.

The product is yellowish white coloured, fine sticky powder having a coconut like smell and creamy

taste. It is put up for retail sale in 500 g packages and used for food industry or domestic use for various gluten free and fibre rich baker's wares (for example breads, cakes and pies).

Application of GIRs 1 and 6.
Adoption : 2021

2306.60

- Of palm nuts or kernels

2306.90

- Other

Heading 2307

Wine lees; argol.

EXPLANATORY NOTES

23.07 - Wine lees; argol.

Wine leesoriginate as a muddy deposit during the fermentation and maturing of wine. When the deposit is filter-pressed, wine lees in the solid form are obtained. Dried wine lees may be in powder or granular form, or in the form of irregular fragments.

Argol is a concretion which forms in wine vats during the fermentation of grape must, or in casks in which wine is stored. It occurs in the form of powder or flakes or crystalline pieces of irregular shape; it varies in colour from grey to dark red. After a first washing, argol is in the form of greyish-yellow or reddish-brown crystals, the colour depending on the colour of the wine from which it was obtained. This washed argol is also classified in this heading.

Both wine lees and argol (including washed argol) are crude potassium hydrogen tartrates containing a fairly high proportion of calcium tartrate. They are used as a source of potassium bitartrate (cream of tartar) which occurs in the form of white crystals or as a crystalline powder, odourless, acid to taste and stable in air. Wine lees are used in the preparation of animal foods, while argol is used as a mordant in dyeing.

This heading **excludes** cream of tartar (**heading 29.18**) and calcium tartrate (**heading 29.18** or **38.24**, as the case may be).

2307.00

Wine lees; argol.

Heading 2308

Vegetable materials and vegetable waste, vegetable residues and by-products, whether or not in the form of pellets, of a kind used in animal feeding, not elsewhere specified or included.

EXPLANATORY NOTES

23.08 - Vegetable materials and vegetable waste, vegetable residues and by-products, whether or not in the form of pellets, of a kind used in animal feeding, not elsewhere specified or included.

Provided they are not included in any other more specific heading of the Nomenclature and are of a kind used in animal feeding, this heading covers vegetable products, vegetable waste, and residues and by-products from the industrial processing of vegetable materials in order to extract some of their constituents.

It covers, *inter alia* :

(1) Acorns and horse-chestnuts.

(2) Maize (corn) cobs after removal of the grain; maize (corn) stalks and leaves.

(3) Beet or carrot tops.

(4) Peelings of vegetables (pea or bean pods, etc.).

(5) Waste of fruit (peel and cores of apples, pears, etc.) and fruit pomace and marc (from the pressing of grapes, apples, pears, citrus fruit, etc.), even if they may also be used for the extraction of pectin.

(6) Bran obtained as a by-product from the crushing of mustard seed.

(7) Residues left after the preparation of coffee substitute (or extracts thereof) from cereal grains or other vegetable materials.

(8) By-products obtained by concentrating residual waters from citrus fruit juice manufacture, sometimes known as “citrus fruit molasses”.

(9) Residues from the hydrolysis of maize (corn) cobs to obtain 2-furaldehyde, known as “hydrolysed ground corn cobs”.

The products of this heading may be in the form of pellets (see the General Explanatory Note to this Chapter).

2308.00

Vegetable materials and vegetable waste, vegetable residues and by-products, whether or not in the form of pellets, of a kind used in animal feeding, not elsewhere specified or included.

CLASSIFICATION OPINIONS

1. **Waste ("pellet-waste") resulting from the cleaning of manioc roots before pelletisation**, consisting of particles of manioc and siliceous sand (about 44 %) detached during the washing and brushing of the roots.
Adoption : 1969

2. **Residue from the cleaning of colza seed prior to oil extraction**, containing colza (mainly broken seed) and also a high percentage (about 50 %) of stray plant seeds and various other impurities, **for use in animal feeding**.
Adoption : 1969

Heading 2309

Preparations of a kind used in animal feeding.
EXPLANATORY NOTES

23.09 - Preparations of a kind used in animal feeding.

2309.10 - Dog or cat food, put up for retail sale

2309.90 - Other

This heading covers sweetened forage and prepared animal feeding stuffs consisting of a mixture of several nutrients designed :

(1) to provide the animal with a rational and balanced daily diet (**complete feed**);

(2) to achieve a suitable daily diet by supplementing the basic farm-produced feed with organic or inorganic substances (**supplementary feed**); or

(3) for use in making complete or supplementary feeds.

The heading includes products of a kind used in animal feeding, obtained by processing vegetable or animal materials to such an extent that they have lost the essential characteristics of the original material, for example, in the case of products obtained from vegetable materials, those which have been treated to such an extent that the characteristic cellular structure of the original vegetable material is no longer recognisable under a microscope.

(I) **SWEETENED FORAGE**

Sweetened forage is a mixture of molasses or other similar sweetening substances (generally more than 10 % by weight) with one or more other nutrients. It is used mainly for feeding cattle, sheep, horses or pigs.

Besides being highly nutritive, molasses enhances the palatability of foodstuffs and thus extends the use of products of low nutritive value such as straw, cereal husks, linseed flakes and fruit pomace which the animals would otherwise be reluctant to accept.

As a rule, these sweetened preparations are fed directly to the animals. However, some of them combine molasses with highly nutritive foods, such as wheat bran, palm kernel or copra oil-cake, and are used to make **complete** feeds or **supplementary** feeds.

(II) **OTHER PREPARATIONS**

(A) **PREPARATIONS DESIGNED TO PROVIDE THE ANIMAL WITH ALL THE NUTRIENT ELEMENTS REQUIRED TO ENSURE A RATIONAL AND BALANCED DAILY DIET (COMPLETE FEEDS)**

The characteristic feature of these preparations is that they contain products from each of the three groups of nutrients described below :

(1) "Energy" nutrients, consisting of high-carbohydrate (high-calorie) substances such as starch, sugar, cellulose, and fats, which are "burned up" by the animal organism to produce the energy necessary for life and to attain the breeders' aims. Examples of such substances include cereals, half-sugar mangolds, tallow, straw.

(2) "Body-building" protein-rich nutrients or minerals. Unlike energy nutrients, these nutrients are not "burned up" by the animal organism but contribute to the formation of animal tissues and of the various animal products (milk, eggs, etc.). They consist mainly of proteins or minerals. Examples of the protein-rich substances used for this purpose are seeds of leguminous vegetables, brewing dregs, oil-cake, dairy by-products.

The minerals serve mainly for building up bones and, in the case of poultry, making egg-shells. The most commonly used contain calcium, phosphorus, chlorine, sodium, potassium, iron, iodine, etc.

(3) "Function" nutrients. These are substances which promote the assimilation of carbohydrates, proteins and minerals. They include vitamins, trace elements and antibiotics. Lack or deficiency of these nutrients usually causes disorders.

The above three groups of nutrients meet the full food requirements of animals. The mixing and proportions depend upon the animal production in view.

(B) **PREPARATIONS FOR SUPPLEMENTING (BALANCING) FARM-PRODUCED FEED (FEED SUPPLEMENTS)**

Farm-produced feed is usually rather low in proteins, minerals or vitamins. The preparations devised to compensate for these deficiencies, so as to ensure a well-balanced animal diet, consist of proteins, minerals or vitamins plus additional-energy feeds (carbohydrates) which serve as a carrier for the other ingredients.

Although, qualitatively, these preparations have much the same composition as those described in paragraph (A), they are distinguished by a relatively high content of one particular nutrient.

This group includes :

(1) Fish or marine mammal solubles in liquid or viscous solutions or in paste or dried form, made by concentrating and stabilising the residual water (containing water-soluble elements, viz. proteins, vitamins B, salts, etc.), and derived from the manufacture of fish or marine mammal meal or oil.

(2) Whole green leaf protein concentrate and green fraction leaf protein concentrate, obtained from alfalfa (lucerne) juice by heat treatment.

(C) **PREPARATIONS FOR USE IN MAKING THE COMPLETE FEEDS OR SUPPLEMENTARY FEEDS DESCRIBED IN (A) AND (B) ABOVE**

These preparations, known in trade as “premixes”, are, generally speaking, compound compositions consisting of a number of substances (sometimes called additives) the nature and proportions of which vary according to the animal production required. These substances are of three types :

(1) Those which improve digestion and, more generally, ensure that the animal makes good use of the feeds and safeguard its health : vitamins or provitamins, amino-acids, antibiotics, coccidiostats, trace elements, emulsifiers, flavourings and appetisers, etc.

(2) Those designed to preserve the feeding stuffs (particularly the fatty components) until consumption by the animal : stabilisers, anti-oxidants, etc.

(3) Those which serve as carriers and which may consist either of one or more organic nutritive substances (manioc or soya flour or meal, middlings, yeast, various residues of the food industries, etc.) or of inorganic substances (e.g., magnesite, chalk, kaolin, salt, phosphates).

The concentration of the substances described in (1) above and the nature of the carrier are determined so as to ensure, in particular, homogeneous dispersion and mixing of these substances in the compound feeds to which the preparations are added.

Providedthey are of a kind used in animal feeding, this group also includes :

(a) Preparations consisting of several mineral substances.

(b) Preparations consisting of an active substance of the type described in (1) above with a carrier, for example products of the antibiotics manufacturing process obtained by simply drying the mass, i.e. the entire contents of the fermentation vessel (essentially mycelium, the culture medium and the antibiotic). The resulting dry substance, whether or not standardised by adding organic or inorganic substances, has an antibiotic content ranging generally between 8 % and 16 % and is used as basic material in preparing, in particular, “premixes”.

The preparations of this group should not, however, be confused with certain preparations for veterinary uses. The latter are generally identifiable by the medicinal nature and much higher concentration of the active substance, and are often put up in a different way.

*

* *

The heading further includes :

(1) Preparations for cats, dogs, etc., consisting of a mixture of meat, meat offal and other ingredients, put up in airtight containers and containing approximately the quantity required for one feed.

(2) Biscuits for dogs or other animals, usually made with flour, starch or cereal products mixed with greaves or meat meal.

(3) Sweet preparations, whether or not containing cocoa, designed solely for consumption by dogs or other animals.

(4) Feeding preparations for birds (e.g., a preparation consisting of millet, canary seeds, shelled oats and linseed, used as a main or complete food for budgerigars) or fish.

The animal feeding preparations of this heading are often put up in the form of pellets (see the General Explanatory Note to this Chapter).

The heading **excludes** :

(a) Pellets made from a single material, or from a mixture of several materials which is classified as such in one specific heading, even with an added binder (molasses, starchy substances, etc.) in a proportion not exceeding 3 % by weight (**headings 07.14, 12.14, 23.01**, etc.).

(b) Simple mixtures of cereal grains (**Chapter 10**), of cereal flours or of flours of leguminous vegetables (**Chapter 11**).

(c) Preparations which, when account is taken, in particular, of the nature, purity and proportions of the ingredients, the hygiene requirements complied with during manufacture and, when appropriate, the indications given on the packaging or any other information concerning their use, can be used either for feeding animals or for human consumption (**headings 19.01** and **21.06**, in particular).

(d) Vegetable waste, residues and by-products of **heading 23.08**.

(e) Vitamins, whether or not chemically defined or intermixed, whether or not put up in any solvent or stabilisedby the addition of antioxidants or anticaking agents, by adsorption on a substrate or by applying a protective coating of, for example, gelatin, waxes, fats, etc., **provided that** the quantity of such additives, substrate or coating does not exceed that required for preservation or transport and provided that such additives, substrates or coating do not alter the character of the vitamins and do not render them particularly suitable for specific use rather than for general use **(heading 29.36**).

(f) Other products of **Chapter 29**.

(g) Medicaments of **heading 30.03** or **30.04**.

(h) Protein substances of **Chapter 35**.

(ij) Preparations in the nature of antimicrobial disinfectants used in the manufacture of animal feeds to control undesirable micro-organisms (**heading 38.08**).

(k) Intermediate products of the antibiotics manufacturing process obtained by filtering and first-stage extraction and the residues of this process, with an antibiotic content generally not exceeding 70 % (**heading 38.24**).

———————————

2309.10

- Dog or cat food, put up for retail sale

2309.90

- Other

CLASSIFICATION OPINIONS

1. **"Bread flour"**, composed of dried and ground waste bread, unfit for human consumption and intended for animal feeding.
Adoption : 1960

2. **Fodder supplements**, being a mixture in approximately equal proportions, of vitamins of heading 29.36 and bran, for use as fodder supplements.
Adoption : 1961

3. **Products used for making animal feeds**, containing disodium hydrogenorthophosphate, calcium hydrogenorthophosphate and magnesium hydrogenorthophosphate, obtained by treating lightly calcined dolomite with phosphoric acid and then with soda lye.
Adoption : 1969

4. **Forage additive**, consisting of cultured raw lactobacilli standardized to 1 x 10^9 bacilli per gram, with starch as an excipient, used to prevent animal intestinal diseases and to improve digestion.
Adoption : 1991

5. **Preparation, in powder form, containing choline chloride powder** (approximately 50 % by weight), for use in animal feeding.
Adoption : 1993

6. **Preparations for animal feeding** containing vitamin B12 (approximately 1 % by weight) or vitamin H (approximately 2 % by weight) in a carrier or diluent.
See also Opinions 2936.21/1, 2936.28/1 and 2936.90/1.
Adoption : 1997

7. **Preparation for animal feeding**, presented in the form of microgranules, containing hydrogenated palm oil (89.45 %), crude soya lecithin (10 %), silicon dioxide (0.5 %) and a flavour enhancer (0.05 %). The preparation is used as a feed supplement for pigs, and is put up in sacks with a net weight of 25 kg or 800 kg.
Application of GIRs 1 and 6.
Adoption : 2015

8. **Preparation in powder form** which contains 12.5 mg/g of vitamin D3 spray-dried and finely dispersed in a matrix of plant protein and maltodextrin. The vitamin D3 is stabilized with butylated hydroxytoluene (BHT). The product is used for animal nutrition in premixes, compound feeds, milk replacers and liquid diets.
Application of GIRs 1 (Note 1 (f) to Chapter 29) and 6.
Adoption : 2019

Chapter 24

Tobacco and manufactured tobacco substitutes; products, whether or not containing nicotine, intended for inhalation without combustion; other nicotine containing products intended for the intake of nicotine into the human body

LEGAL NOTES

Note.

1.- This Chapter does not cover medicinal cigarettes (Chapter 30).

2.- Any products classifiable in heading 24.04 and any other heading of the Chapter are to be classified in heading 24.04.

3.- For the purposes of heading 24.04, the expression “inhalation without combustion” means inhalation through heated delivery or other means, without combustion.

Subheading Note.

1.- For the purposes of subheading 2403.11, the expression “water pipe tobacco” means tobacco intended for smoking in a water pipe and which consists of a mixture of tobacco and glycerol, whether or not containing aromatic oils and extracts, molasses or sugar, and whether or not flavoured with fruit. However, tobacco-free products intended for smoking in a water pipe are excluded from this subheading.

EXPLANATORY NOTES

Chapter 24

Tobacco and manufactured tobacco substitutes; products, whether or not containing nicotine, intended for inhalation without combustion; other nicotine containing products intended for the intake of nicotine into the human body

Note.

1.- This Chapter does not cover medicinal cigarettes (Chapter 30).

2.- Any products classifiable in heading 24.04 and any other heading of the Chapter are to be classified in heading 24.04.

3.- For the purposes of heading 24.04, the expression “inhalation without combustion” means inhalation through heated delivery or other means, without combustion.

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whether or not containing aromatic oils and extracts, molasses or sugar, and whether or not flavoured with fruit. However, tobacco-free products intended for smoking in a water pipe are excluded from this subheading.

GENERAL

Tobacco is obtained from various cultivated varieties of the genus *Nicotiana* of the *Solanaceae* family. The size and shape of the leaves differ from one variety to another.

The harvesting method and curing process depend on the variety (type) of tobacco. The plant may be cut whole, at average maturity (stalk cutting), or the leaves may be picked separately, according to their state of maturity (priming). Thus, tobacco may be cured either as whole plants (on the stalk) or as separate leaves.

The various methods of curing are sun curing (in the open air), air curing (in closed sheds with free circulation of air), flue curing (in hot air flues), or fire curing (with open fires).

Before packing for shipment, the dried leaves are treated in order to ensure their preservation. This may be done by controlled natural fermentation (Java, Sumatra, Havana, Brazil, Orient, etc.) or by artificial re-drying. This treatment, and the curing, affect the flavour and aroma of tobacco, which undergoes spontaneous ageing after packing.

Tobacco so treated is packed in bundles, bales (of various shapes), in hogsheads or in crates. When so packed, the leaves are either aligned (Orient) or tied in hands (several leaves tied together with a band or with another tobacco leaf), or simply left as loose leaves. They are always tightly compressed in order to ensure preservation.

In some cases, in addition to (or instead of) fermentation, flavouring or moistening substances are added (casing) in order to improve the aroma or keeping qualities.

This Chapter covers not only unmanufactured and manufactured tobacco but also manufactured tobacco substitutes which do not contain tobacco.

Heading 2401

Unmanufactured tobacco; tobacco refuse.

EXPLANATORY NOTES

24.01 - Unmanufactured tobacco; tobacco refuse.

2401.10 - Tobacco, not stemmed/stripped

2401.20 - Tobacco, partly or wholly stemmed/stripped

2401.30 - Tobacco refuse

This heading covers :

(1) **Unmanufactured tobacco** in the form of whole plants or leaves in the natural state or as cured or fermented leaves, whole or stemmed/stripped, trimmed or untrimmed, broken or cut (including pieces cut to shape, but **not** tobacco ready for smoking).

Tobacco leaves, blended, stemmed/stripped and “cased” (“sauced” or “liquored”) with a liquid of appropriate composition mainly in order to prevent mould and drying and also to preserve the flavour are also covered in this heading.

(2) **Tobacco refuse**, e.g., waste resulting from the manipulation of tobacco leaves, or from the manufacture of tobacco products (stalks, stems, midribs, trimmings, dust, etc.).

2401.10

- Tobacco, not stemmed/stripped

2401.20

- Tobacco, partly or wholly stemmed/stripped

CLASSIFICATION OPINIONS

1. Tobacco mixture, consisting of (i) 75 % by weight of uncut stemmed leaves ("strip") of cured Virginia, Burley and, in some instances, Oriental tobacco, and (ii) 25 % by weight of reconstituted tobacco. The strip tobacco leaves and the reconstituted tobacco are mixed together by controlled layering in a silo.

Application of GIRs 2 (b) and 3 (b).

Adoption : 2001

2401.30

- Tobacco refuse

Heading 2402

Cigars, cheroots, cigarillos and cigarettes, of tobacco or of tobacco substitutes.

EXPLANATORY NOTES

24.02 - Cigars, cheroots, cigarillos and cigarettes, of tobacco or of tobacco substitutes.

2402.10 - Cigars, cheroots and cigarillos, containing tobacco

2402.20 - Cigarettes containing tobacco

2402.90 - Other

This heading is restricted to cigars (wrapped or not), cheroots, cigarillos and cigarettes, made of tobacco or of tobacco substitutes. Other smoking tobacco, whether or not containing tobacco substitutes in any proportion, is **excluded** (**heading 24.03**).

This heading covers :

(1) **Cigars, cheroots and cigarillos, containing tobacco.**

Such products may be made wholly of tobacco or of mixtures of tobacco and tobacco substitutes, regardless of the proportions of tobacco and tobacco substitutes present in the mixture.

(2) **Cigarettes containing tobacco.**

Apart from cigarettes containing only tobacco, this heading also includes those made from mixtures of tobacco and tobacco substitutes, regardless of the proportions of tobacco and tobacco substitutes in the mixture.

(3) **Cigars, cheroots, cigarillos and cigarettes of tobacco substitutes**, for example, “cigarettes” (“smokes”) made from specially processed leaves of a variety of lettuce, containing neither tobacco nor nicotine.

The heading **does not cover** medicinal cigarettes (**Chapter 30**). However, cigarettes containing certain types of products specifically formulated to discourage the habit of smoking but which do not possess medicinal properties remain classified in this heading.

The heading **excludes** products containing tobacco, reconstituted tobacco or tobacco substitutes, which are similar in form to those described above but are intended for inhalation without combustion (**heading 24.04**).

2402.10

- Cigars, cheroots and cigarillos, containing tobacco

2402.20

- Cigarettes containing tobacco

CLASSIFICATION OPINIONS

1. "Beedies", consisting of approximately 0.2 g of roughly cut, unblended tobacco wrapped in an ebony tree leaf used as a substitute for paper; presented in various lengths (about 6 to 8 cm),

slightly conical in shape, they are held together by a thin string and smoked as cigarettes.
Application of GIR 1.
Adoption : 1989

2402.90

- Other

Heading 2403

Other manufactured tobacco and manufactured tobacco substitutes; «homogenised» or «reconstituted» tobacco; tobacco extracts and essences.

EXPLANATORY NOTES

24.03 - Other manufactured tobacco and manufactured tobacco substitutes; "homogenised" or "reconstituted" tobacco; tobacco extracts and essences (+).

- Smoking tobacco, whether or not containing tobacco substitutes in any proportion :

2403.11 - - Water pipe tobacco specified in Subheading Note 1 to this Chapter

2403.19 - - Other

- Other :

2403.91 - - "Homogenised" or "reconstituted" tobacco

2403.99 - - Other

This heading covers :

(1) **Smoking tobacco, whether or not containing tobacco substitutes in any proportion**, for example, manufactured tobacco for use in pipes or for making cigarettes.

(2) **Chewing tobacco**, usually highly fermented and liquored.

(3) **Snuff**, more or less flavoured.

(4) **Tobacco compressed or liquored for making snuff**.

(5) **Manufactured tobacco substitutes**, for example, smoking mixtures not containing tobacco. However, products such as cannabis are **excluded** (**heading 12.11**).

(6) "**Homogenised**" or "**reconstituted**" **tobacco** made by agglomerating finely divided tobacco from tobacco leaves, tobacco refuse or dust, whether or not on a backing (e.g., sheet of cellulose from tobacco stems), generally put up in the form of rectangular sheets or strip. It can be either used in the sheet form (as a wrapper) or shredded/chopped (as a filler).

(7) **Tobacco extracts and essences**. These are liquids extracted from moist leaves by pressure, or prepared by boiling waste tobacco in water. They are used mainly for the manufacture of insecticides and parasiticides.

The heading **does not cover** :

(a) Nicotine (the toxic alkaloid extracted from tobacco) (**heading 29.39**).

(b) Insecticides of **heading 38.08**.

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Subheading Explanatory Note.

Subheading 2403.11

This subheading covers, *inter alia*, products consisting of a mixture of tobacco, molasses or sugar, flavoured with fruit, glycerol, aromatic oils and extracts (e.g., "Meassel" or "Massel"). It also covers products not containing molasses or sugar (e.g., "Tumbak" or "Ajami"). However, the subheading **excludes** tobacco-free products for water pipes (e.g., "Jurak") (**subheading 2403.99**).

A water pipe is also known by other names such as "narguile", "argila", "boury", "gouza", "hookah", "shisha" or "hubble-bubble".

2403.1

- Smoking tobacco, whether or not containing tobacco substitutes in any proportion :
2403.11

-- Water pipe tobacco specified in Subheading Note 1 to this Chapter
2403.19

-- Other
CLASSIFICATION OPINIONS

1. Non-aromatic cut tobacco consisting of fermented, stemmed and stripped tobacco leaves which have been cut into narrow (about 1 mm wide) strips of varying lengths (up to 4 cm).
Application of GIRs 1 and 6.
Adoption : 2001

2403.9

- Other :
2403.91

-- «Homogenised» or «reconstituted» tobacco
2403.99

-- Other
CLASSIFICATION OPINIONS

1. Cut rolled expanded stems (CRES). The tobacco stems are crushed and rolled, then cut to the desired width. They are subsequently moisture-adjusted and exposed to heat in order to expand the stems. The products thereby obtained cannot be smoked directly, and are used as

manufacturing inputs in the production of cut tobacco used to fill cigarettes (cut filler tobacco – CFT).
Application of GIRs 1 and 6.
Adoption : 2021

2. Expanded tobacco stems (ETS). The tobacco stems are cut and subsequently placed in a special vessel, where they are mixed with carbon dioxide and pressurized, causing the carbon dioxide to be converted into its solid state (dry ice). The tobacco stems and the carbon dioxide are then exposed to heat, and the carbon dioxide reverts to its gaseous state. When the carbon dioxide is released, the tobacco stems expand. The products thereby obtained cannot be smoked directly, and are used as manufacturing inputs in the production of cut tobacco used to fill cigarettes (cut filler tobacco – CFT).
Application of GIRs 1 and 6.
Adoption : 2021

1. Cut rolled expanded stems (CRES). The tobacco stems are crushed and rolled, then cut to the desired width. They are subsequently moisture-adjusted and exposed to heat in order to expand the stems. The products thereby obtained cannot be smoked directly, and are used as manufacturing inputs in the production of cut tobacco used to fill cigarettes (cut filler tobacco – CFT).
Application of GIRs 1 and 6.
Adoption : 2021

2. Expanded tobacco stems (ETS). The tobacco stems are cut and subsequently placed in a special vessel, where they are mixed with carbon dioxide and pressurized, causing the carbon dioxide to be converted into its solid state (dry ice). The tobacco stems and the carbon dioxide are then exposed to heat, and the carbon dioxide reverts to its gaseous state. When the carbon dioxide is released, the tobacco stems expand. The products thereby obtained cannot be smoked directly, and are used as manufacturing inputs in the production of cut tobacco used to fill cigarettes (cut filler tobacco – CFT).
Application of GIRs 1 and 6.
Adoption : 2021

3. Single-use oral nicotine pouches, containing tobacco, pharmaceutical-grade nicotine, water, and other food-grade ingredients, including eucalyptus and pine tree fibres, flavouring and sweeteners. Users place the pouch between gum and upper lip. During use, nicotine and flavours are released and only the nicotine is absorbed through the oral mucosa in the gum. They are for recreational use and not intended to assist tobacco use cessation.
Application of GIRs 1 and 6.
Adoption : 2022



4. Nasal Snuff. The product is made from ground tobacco leaves and various other flavourings such as menthol, citrus and eucalyptus. It is sniffed into the nasal cavity to deliver nicotine and flavourings.
Application of GIRs 1 and 6.
Adoption : 2022



Heading 2404

Products containing tobacco, reconstituted tobacco, nicotine, or tobacco or nicotine substitutes, intended for inhalation without combustion; other nicotine containing products intended for the intake of nicotine into the human body.

EXPLANATORY NOTES

24.04 - Products containing tobacco, reconstituted tobacco, nicotine, or tobacco or nicotine substitutes, intended for inhalation without combustion; other nicotine containing products intended for the intake of nicotine into the human body

- Products intended for inhalation without combustion :

2404.11 - - Containing tobacco or reconstituted tobacco

2404.12 - - Other, containing nicotine

2404.19 - - Other

- Other :

2404.91 - - For oral application

2404.92 - - For transdermal application

2404.99 - - Other

This heading covers :

(A) Products containing tobacco, reconstituted tobacco, nicotine, or tobacco or nicotine substitutes, intended for inhalation without combustion as defined in Note 3 to this Chapter.

These products include, *inter alia* :

(1) Nicotine containing solutions intended for use in electronic cigarettes or similar personal electric vaporising devices;

(2) Products containing tobacco or reconstituted tobacco, in different forms (e.g., strips or granules), intended for use in tobacco heating systems in which the heating is performed by electrical devices (electrically heated tobacco systems (EHTS)), by chemical reactions, by use of carbon heat source (carbon heated tobacco products (CHTP)), or by other means;

(3) Products containing tobacco or nicotine substitutes, but not containing tobacco, reconstituted tobacco or nicotine, intended for use in electronic cigarettes or similar personal electric vaporising devices;

(4) Similar products intended for use in devices which produce an aerosol for inhaling otherwise than by heating, e.g., by means of a chemical process or by ultrasonic evaporation.

(5) Disposable electronic cigarettes (disposable e-cigarettes) and similar disposable personal electric vaporising devices, that incorporate both the product intended for inhalation without combustion (e.g., e-liquid, gels) and the delivery mechanism in an integrated housing, that are designed for disposal after the incorporated product is exhausted or the battery runs out (not designed for refilling or recharging).

(B) Other products containing nicotine, but not containing tobacco or reconstituted tobacco, intended for the intake of nicotine into the human body by chewing, dissolving, sniffing, transdermal absorption or by any other means except inhaling.

This group includes nicotine containing products for recreational use, as well as nicotine replacement therapy (NRT) products intended to assist tobacco use cessation, which are taken as part of a nicotine intake reduction programme in order to lessen the human body's dependence on this substance.

The heading **excludes** :

(a) Products containing tobacco, reconstituted tobacco or tobacco substitutes, intended to be inhaled following combustion (**headings 24.02 and 24.03**), as well as chewing tobacco and snuff (**heading 24.03**);

(b) Nicotine, (the toxic alkaloid extracted from tobacco as well as this alkaloid obtained by synthesis) (**heading 29.39**).

2404.1

- Products intended for inhalation without combustion :

2404.11

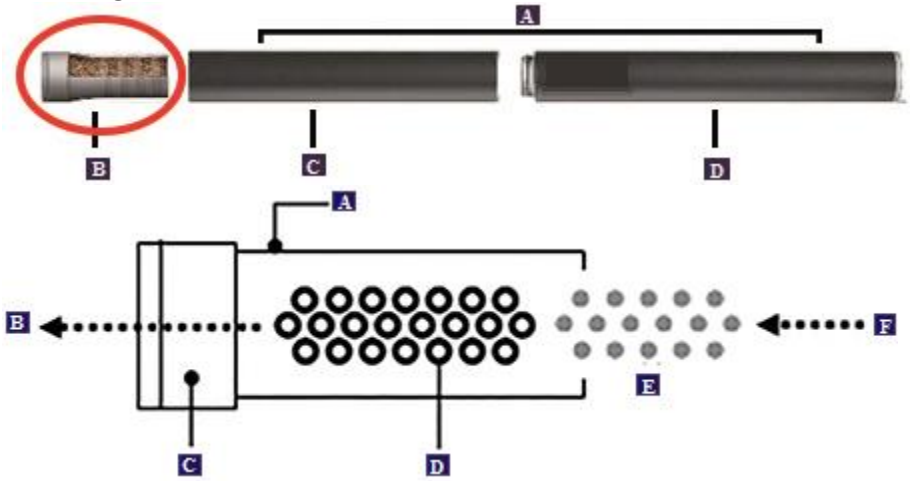
-- Containing tobacco or reconstituted tobacco

CLASSIFICATION OPINIONS

1. **Tobacco capsule** (see **Fig. 1**), presented separately, designed for use in a specialized, electrically heated device consisting of a cartridge and a battery.
The tobacco capsule, in a cylindrical form (length – 22.9 mm, diameter – 9.5 mm/8.4 mm), comprises of an outer capsule of polypropylene filled with approximately 0.31 g of granulated reconstituted tobacco, water, flavour, potassium carbonate and formulation aid, and a mouthpiece of cellulose acetate. The total weight of the tobacco capsule is approximately 0.56 g.
The tobacco capsule is inserted into the end of the cartridge that contains a liquid consisting of propylene glycol, glycerol and water. After the cartridge has been connected to the battery, the tobacco capsule is placed in the mouth for inhaling. On inhaling, the sensor in the battery reacts and the inside of the cartridge is heated, which enables the liquid in the cartridge to be vaporized. By passing through the tobacco capsule (see **Fig. 2**). the vapour from the cartridge heats the granulated reconstituted tobacco and absorbs flavours and nicotine released from the granulated reconstituted tobacco. The nicotine containing aerosol (vapour) is thus produced without the combustion of tobacco.
Application of GIRs 1 (Notes 2 and 3 of Chapter 24) and 6.
Adoption : 2018

Fig. 1 : Tobacco capsule and device (device not classified)
A Devise
B Tobacco Capsule
C Cartridge
D Battery

Fig. 2 : Tobacco Capsule
A Outer capsule
B Tobacco vapour
C Mouthpiece filter
D Specially blended granulated reconstituted tobacco
E Vapour
F Cartridge



2. **Tobacco-containing product for inhalation** (see **Fig. 1**), designed for use in a specialised, electrically heated device.Th is product has a cylindrical form (length of 45 mm, diameter of 7.3 mm) and is comprised of a tobacco plug, a hollow acetate tube, a polymer-film filter, a low-density cellulose acetate mouth-piece filter and outer and mouthend papers. The tobacco plug is manufactured from a powder containing different types of tobacco, binders andhumectants (water, guar gum and natural cellulose fibres), as well as glycerine to facilitate the generation of an aerosol. The tobacco plug may be wrapped in an aluminium co-laminated paper.

The total weight of the product is around 0.8 g while the weight of the tobacco plug is approximately 0.3 g.
The product is intended to be inserted into a device (See **Fig. 2** for illustrative purposes only) that applies sensorcontrolled heat to it without provoking tobacco combustion. When placed in the mouth for inhalation, the product generates, following the heating, an aerosol containing nicotine.
Application of GIRs 1 (Notes 2 and 3 of Chapter 24) and 6. *Adoption : 2021*

Fig. 1

A Hollow Acetate Tube**B** Tobacco Plug**C** Polymer-Film Filter**D** Mouth Piece Filter**E** Mouth-End Paper**F** Outer Paper

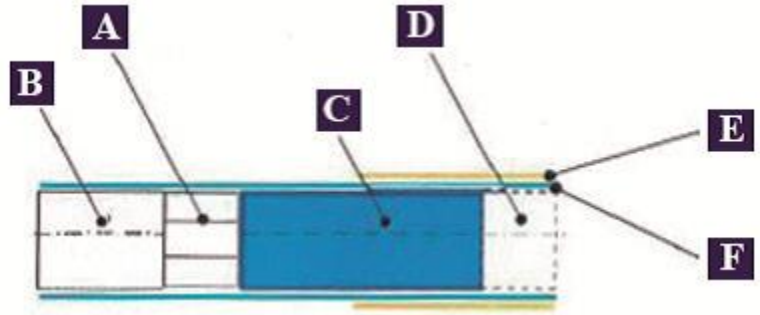
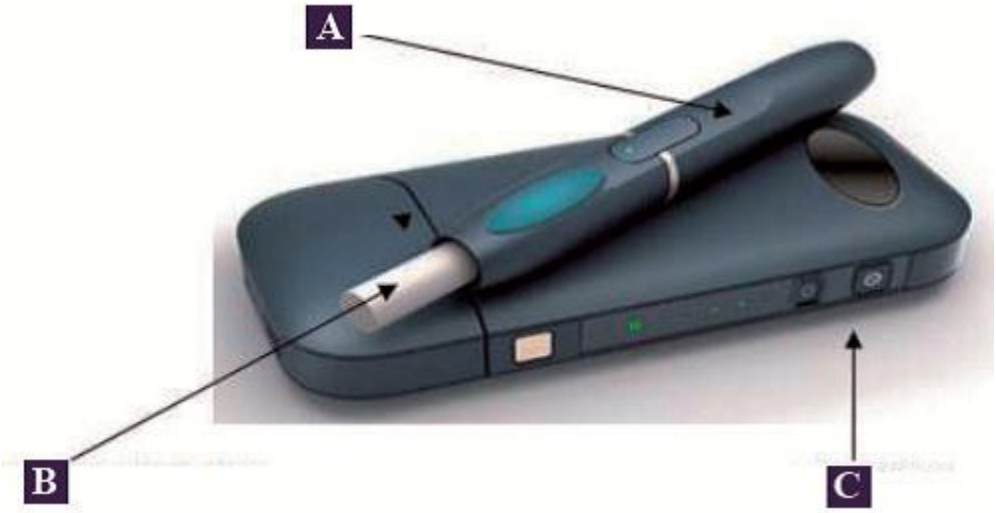


Fig. 2: holder and charger not included in Classification Opinions
A Holder**B** Tobacco stick (EHTP)**C** Charger



2404.12

-- Other, containing nicotine

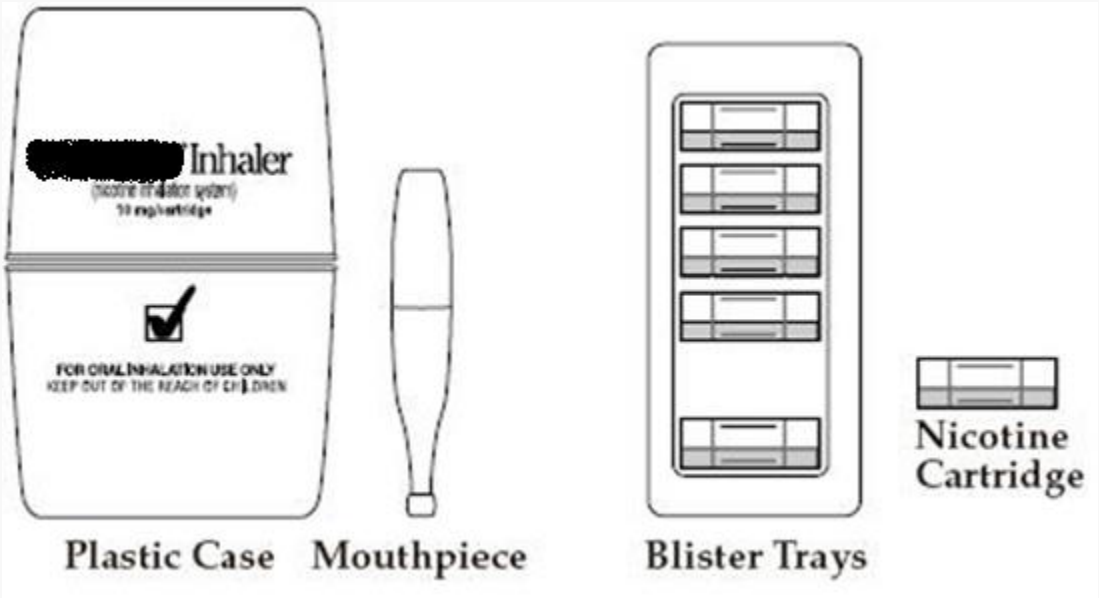
CLASSIFICATION OPINIONS

1. **Cartridge for an electronic cigarette**, consisting of a plastic mouthpiece and a plastic tube containing an absorbing material saturated with a solution consisting of propylene glycol, glycerol, nicotine and ethyl alcohol. The cartridge is used in an electronic cigarette which heats and vaporises the solution in the cartridge to produce a vapour mist which is inhaled by the user of the

cigarette.
Application of GIRs 1, 3 (b) and 6.
See also Opinions 3824.99/18 and 8543.70/5.
Adoption : 2011

1. Cartridge for an electronic cigarette, consisting of a plastic mouthpiece and a plastic tube containing an absorbing material saturated with a solution consisting of propylene glycol, glycerol, nicotine and ethyl alcohol. The cartridge is used in an electronic cigarette which heats and vaporises the solution in the cartridge to produce a vapour mist which is inhaled by the user of the cigarette.
Application of GIRs 1, 3 (b) and 6.
See also Opinions 2404.19/1 and 8543.40/1.
Adoption : 2011

2. Inhaler, containing 10 mg nicotine per cartridge. The product is a prescription-only device used for smoking cessation purposes. It does not use heat in its delivery system. A user inhales on the plastic mouthpiece at the end of the inhaler to activate and draw from a cartridge containing nicotine-saturated porous plugs. Nicotine is released and absorbed through the user's membranes in the mouth and throat. Each cartridge lasts about 20 minutes and delivers approximately the same amount of nicotine as one cigarette.
Application of GIRs 1 and 6.
Adoption : 2022



3. Nicotine packs available in different nicotine concentration levels, containing nicotine blended with vegetable glycerine, propylene glycol, or nicotine salts. It is meant to be added to a bottle of liquid for use in electronic cigarettes to achieve the desired nicotine strength by following the recommended dosage on the package. The product is not a liquid for use in electronic cigarettes and should not be vaped on its own.
Application of GIRs 1 and 6.
Adoption : 2022



2404.19

-- Other

CLASSIFICATION OPINIONS



1. **Cartridge for an electronic cigarette**, consisting of a plastic mouthpiece and a plastic tube containing an absorbing material saturated with a solution consisting of propylene glycol, glycerol, tobacco volatile oil, vanilla, menthol, linalool, 2,5-dimethylpyrazine and 2-acetylpyrazine. The cartridge is used in an electronic cigarette which heats and vaporises the solution in the cartridge to produce a vapour mist which is inhaled by the user of the cigarette. **Application of GIRs 1, 3 (b) and 6.** *See also Opinions 3824.99/19 and 8543.70/5. Adoption : 2011*



2. Essential oil diffusers (nicotine and tobacco free). The product is a pre-filled, disposable electronic device that operates, without combustion, to create vapour to be breathed into the user's mouth and out of the user's nose. The product is pre-filled with a blend of essential oils (20 %) and glycerine (80 %).
Application of GIRs 1 and 6.
Adoption : 2022



3. Chemical product, consisting of a solution of glycerine and flavouring substances, saturated within the pores of natural mineral stones (Shisha-Steam-Stones") via a Pressure Injection Method. The product is free of nicotine.
These stones are used in a water pipe, which heats the stones and boils the solution to produce a vapour steam which is inhaled by the user of the water pipe.
Application of GIRs 1 and 6.
Adoption : 2022



2404.9

- Other :

2404.91

-- For oral application

CLASSIFICATION OPINIONS

1. Nicotine chewing gum, in the form of tablets containing 2 or 4 mg of nicotine bound to an ion-exchange resin, glycerol, a synthetic polymer, sodium carbonate, sodium hydrogen carbonate, sorbitol and flavourings to simulate, in particular, the taste of tobacco smoke, used by persons wishing to give up smoking. **Application of GIRs 1 (Note 1 (f) of Chapter 21) and 6** *Adoption : 1996*

1. Nicotine chewing gum, in the form of tablets containing 2 or 4 mg of nicotine bound to an ion-exchange resin, glycerol, a synthetic polymer, sodium carbonate, sodium hydrogen carbonate, sorbitol and flavourings to simulate, in particular, the taste of tobacco smoke, used by persons wishing to give up smoking. **Application of GIRs 1 (Note 1 (f) of Chapter 21) and 6** *Adoption : 1996*

2. Single-use oral nicotine pouches, tobacco free, containing pharmaceutical grade nicotine, water, and other food-grade ingredients, including eucalyptus and pine tree fibers, flavouring and sweeteners. Users place the pouch between gum and upper lip. During use, nicotine and flavours are released and only the nicotine is absorbed through the oral mucosa in the gum. They are for recreational use and not intended to assist tobacco use cessation. **Application of GIRs 1 and 6.** *Adoption : 2022*



2404.92

-- For transdermal application

CLASSIFICATION OPINIONS

1. Transdermal administration system, used as an alternative source of nicotine by smokers who are attempting to stop smoking, comprising (i) a transparent, external protective film of plastics to prevent leakage of the active substance (nicotine); (ii) a small reservoir from which nicotine is released by absorption through the skin into the circulatory system; (iii) a control membrane (permeable to the active ingredient) to permit a continuous and controlled release of nicotine entering the body; (iv) an adhesive contact permeable to the active ingredient, enabling absorption to start at the moment of application; and (v) a removable protective film which keeps the system closed and intact until the time of application.
Adoption : 1997 + 1999

2404.99

-- Other

Section V

MINERAL PRODUCTS

EXPLANATORY NOTES

Section V

MINERAL PRODUCTS

Chapter 25

Salt; sulphur; earths and stone; plastering materials, lime and cement

LEGAL NOTES

Notes.

1.- Except where their context or Note 4 to this Chapter otherwise requires, the headings of this Chapter cover only products which are in the crude state or which have been washed (even with chemical substances eliminating the impurities without changing the structure of the product), crushed, ground, powdered, levigated, sifted, screened, concentrated by flotation, magnetic separation or other mechanical or physical processes (except crystallisation), but not products which have been roasted, calcined, obtained by mixing or subjected to processing beyond that mentioned in each heading.

The products of this Chapter may contain an added anti-dusting agent, provided that such addition does not render the product particularly suitable for specific use rather than for general use.

2.- This Chapter does not cover :

(a) Sublimed sulphur, precipitated sulphur or colloidal sulphur (heading 28.02);

(b) Earth colours containing 70 % or more by weight of combined iron evaluated as Fe_2O_3 (heading 28.21);

(c) Medicaments or other products of Chapter 30;

(d) Perfumery, cosmetic or toilet preparations (Chapter 33);

(e) Dolomite ramming mix (heading 38.16);

(f) Setts, curbstones or flagstones (heading 68.01); mosaic cubes or the like (heading 68.02); roofing, facing or damp course slates (heading 68.03);

(g) Precious or semi-precious stones (heading 71.02 or 71.03);

(h) Cultured crystals (other than optical elements) weighing not less than 2.5 g each, of sodium chloride or of magnesium oxide, of heading 38.24; optical elements of sodium chloride or of magnesium oxide (heading 90.01);

(ij) Billiard chalks (heading 95.04); or

(k) Writing or drawing chalks or tailors' chalks (heading 96.09).

3.- Any products classifiable in heading 25.17 and any other heading of the Chapter are to be classified in heading 25.17.

4.- Heading 25.30 applies, *inter alia*, to : vermiculite, perlite and chlorites, unexpanded; earth colours, whether or not calcined or mixed together; natural micaceous iron oxides; meerschaum (whether or not in polished pieces); amber; agglomerated meerschaum and agglomerated amber, in plates, rods, sticks or similar forms, not worked after moulding; jet; strontianite (whether or not calcined), other than strontium oxide; broken pieces of pottery, brick or concrete.

EXPLANATORY NOTES

Chapter 25

Salt; sulphur; earths and stone; plastering materials, lime and cement

Notes.

1.- Except where their context or Note 4 to this Chapter otherwise requires, the headings of this Chapter cover only products which are in the crude state or which have been washed (even with chemical substances eliminating the impurities without changing the structure of the product), crushed, ground, powdered, levigated, sifted, screened, concentrated by flotation, magnetic separation or other mechanical or physical processes (except crystallisation), but not products which have been roasted, calcined, obtained by mixing or subjected to processing beyond that mentioned in each heading.

The products of this Chapter may contain an added anti-dusting agent, provided that such addition does not render the product particularly suitable for specific use rather than for general use.

2.- This Chapter does not cover :

(a) Sublimed sulphur, precipitated sulphur or colloidal sulphur (heading 28.02);

(b) Earth colours containing 70 % or more by weight of combined iron evaluated as Fe_2O_3 (heading 28.21);

(c) Medicaments or other products of Chapter 30;

(d) Perfumery, cosmetic or toilet preparations (Chapter 33);

(e) Dolomite ramming mix (heading 38.16);

(f) Setts, curbstones or flagstones (heading 68.01); mosaic cubes or the like (heading 68.02); roofing, facing or damp course slates (heading 68.03);

(g) Precious or semi-precious stones (heading 71.02 or 71.03);

(h) Cultured crystals (other than optical elements) weighing not less than 2.5 g each, of sodium chloride or of magnesium oxide, of heading 38.24; optical elements of sodium chloride or of magnesium oxide (heading 90.01);

(ij) Billiard chalks (heading 95.04); or

(k) Writing or drawing chalks or tailors' chalks (heading 96.09).

3.- Any products classifiable in heading 25.17 and any other heading of the Chapter are to be classified in heading 25.17.

4.- Heading 25.30 applies, *inter alia*, to : vermiculite, perlite and chlorites, unexpanded; earth colours, whether or not calcined or mixed together; natural micaceous iron oxides; meerschaum (whether or not in polished pieces); amber; agglomerated meerschaum and agglomerated amber, in plates, rods, sticks or similar forms, not worked after moulding; jet; strontianite (whether or not calcined), other than strontium oxide; broken pieces of pottery, brick or concrete.

GENERAL

As provided in Note 1, this Chapter covers, except where the context otherwise requires, mineral products **only** in the crude state or washed (including washing with chemical substances to eliminate impurities provided that the structure of the product itself is not changed), crushed, ground, powdered, levigated, sifted, screened or concentrated by flotation, magnetic separation or other mechanical or physical processes (not including crystallisation). The products of this Chapter may also be heated to remove moisture or impurities or for other purposes, provided that the heat treatment does not modify their chemical or crystalline structures. However, other heat treatments (e.g., roasting, fusion or calcination) are not allowed, unless specifically permitted by the heading text. Thus, for example, heat treatment which could entail a change in chemical or crystalline structure is allowed for products of headings 25.13 and 25.17, because the texts of these headings explicitly refer to heat treatment.

The products of this Chapter may contain an added anti-dusting agent, provided that such addition does not render the product particularly suitable for specific use rather than for general use. Minerals which have been **otherwise** processed (e.g., purified by re-crystallisation, obtained by mixing minerals falling in the same or different headings of this Chapter, made up into articles by shaping, carving, etc.) **generally fall in later Chapters** (for example, **Chapter 28** or **68**).

In certain cases, however, the headings :

(1) Refer to goods which by their nature must have been subjected to a process not provided for by Note 1 to this Chapter. Examples include pure sodium chloride (heading 25.01), certain forms of refined sulphur (heading 25.03), chamotte earth (heading 25.08), plasters (heading 25.20), quicklime (heading 25.22) and hydraulic cements (heading 25.23).

(2) Specify conditions or processes which are admissible in those cases in addition to those allowed generally under Note 1 to this Chapter. For example, witherite (heading 25.11), siliceous fossil meals and similar siliceous earths (heading 25.12) and dolomite (heading 25.18) may be calcined; magnesite and magnesia (heading 25.19) may be fused or calcined (dead-burned (sintered) or caustic-burned). In the case of dead-burned (sintered) magnesia, other oxides (e.g., iron oxide, chromium oxide) may have been added to facilitate sintering. Similarly the materials of headings 25.06, 25.14, 25.15, 25.16, 25.18 and 25.26 may be roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape.

When products are classifiable in heading 25.17 and any other heading of this Chapter, they are to be classified in heading 25.17.

The Chapter **excludes** precious or semi-precious stones of **Chapter 71**.

Heading 2501

Salt (including table salt and denatured salt) and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents; sea water.

EXPLANATORY NOTES

25.01 - Salt (including table salt and denatured salt) and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents; sea water.

This heading relates to sodium chloride, commonly known as salt. Salt is used for culinary purposes (cooking salt, table salt), but it also has many other uses and, if necessary, may be denatured to render it unfit for human consumption.

The heading includes :

(A) Salt which is extracted from underground :

- either by conventional mining (rock salt),

- or by solution mining (water is injected under pressure into a layer of salt and returns to the surface as saturated brine).

(B) Evaporated salt :

- solar salt (sea salt) is obtained by evaporation of sea water by the sun;

- refined salt is obtained by evaporation of saturated brine.

(C) Sea water, brine and other saline solutions.

The heading also covers :

(1) Salt (e.g., table salt) which has been slightly iodised, phosphated, etc., or treated so that it will remain dry.

(2) Salt to which anti-caking agents or free-flowing agents have been added.

(3) Salt which has been denatured by any process.

(4) Residuary sodium chloride, in particular that left after chemical processing (e.g., electrolysis) or obtained as a by-product of the treatment of certain ores.

This heading **does not include :**

(a) Salted condiments such as celery salt (**heading 21.03**).

(b) Sodium chloride solutions, including sea water, put up in ampoules, and sodium chloride otherwise put up as medicaments (**Chapter 30**), and sodium chloride solutions put up for hygiene use in packings for retail sale, other than medical or pharmaceutical, whether or not sterile (**heading 33.07**).

(c) Cultured sodium chloride crystals weighing not less than 2.5 g each (other than optical elements) (**heading 38.24**).

(d) Optical elements of sodium chloride (**heading 90.01**).

2501.00

Salt (including table salt and denatured salt) and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents; sea water.

CLASSIFICATION OPINIONS

1. Salt, agglomerated under pressure into blocks, consisting of sodium chloride (at least 95 %) with small quantities of added trace-elements of a kind found in certain natural forms of salt (such as magnesium, copper, manganese and cobalt), **for use as salt licks for livestock**.
Adoption : 1963

Heading 2502

Unroasted iron pyrites.

EXPLANATORY NOTES

25.02 - Unroasted iron pyrites.

This heading relates to all unroasted iron pyrites, including unroasted cupreous iron pyrites.

Pyrites are mainly composed of iron sulphide; they are grey or yellowish, with a metallic lustre when stripped of their gangue. In powder form, they are usually greyish.

Unroasted pyrites are mainly used for the extraction of sulphur, although certain cupreous pyrites may also serve for the recovery of copper, as a by-product.

The heading **excludes** all roasted pyrites (**heading 26.01**).

It also **excludes** :

(a) Chalcopyrite (mixed copper-iron sulphides) (**heading 26.03**).

(b) Marcasite (semi-precious stone) (**heading 71.03**).

2502.00

Unroasted iron pyrites.

Heading 2503

Sulphur of all kinds, other than sublimed sulphur, precipitated sulphur and colloidal sulphur.

EXPLANATORY NOTES

25.03 - Sulphur of all kinds, other than sublimed sulphur, precipitated sulphur and colloidal sulphur.

The heading includes :

(1) Crude mineral sulphur occurring in the free state, whether or not concentrated by mechanical processes to remove part of the rocky matter.

(2) Unrefined sulphur extracted from mineral sulphur by melting. This process may be carried out in sulphur kilns (calcaroni), furnaces (Gill furnaces), etc., or may be effected in the deposit itself by forcing superheated steam through pipes sunk in a bore hole (Frasch process).

(3) Unrefined sulphur obtained by the roasting of pyrites or by the treatment of other sulphur minerals.

(4) Unrefined sulphurs recovered as by-products in the purification of coal gas, by the scrubbing of sulphurous furnace gases, from sour natural gas and from the refining of sour crude mineral oils, etc. These recovered sulphurs, sometimes referred to as “purified sulphur”or “precipitated sulphur”, must not be confused with the precipitated sulphur defined in the Explanatory Note to **heading 28.02**.

The unrefined sulphurs in the last three paragraphs are sometimes fairly pure. This is especially true of the sulphur produced by the Frasch process which contains such small proportions of impurities that it is practically never refined; it is usually presented in rough lumps or as dust.

(5) Refined sulphur, obtained by rapidly distilling crude sulphur and condensing it in the liquid state; sulphur thus obtained can then be moulded into sticks or cakes, or crushed after solidification.

(6) Triturated sulphur, which is sulphur (impure or refined) in the form of a finely divided powder obtained by grinding and then sieving, either mechanically or by gas suction. These products are known as “sieved sulphur”, “winnowed sulphur”, “atomised sulphur”, etc., according to the process employed and the fineness of the particles.

(7) Sulphur, obtained by the sudden cooling of sulphur vapours without passing through the liquid phase, which is insoluble, particularly in carbon disulphide (sulphur μ).

The various types of sulphur classified in this heading are used in the chemical industry (preparation of numerous sulphur compounds, sulphur dyestuffs, etc.) for vulcanising rubber, as a fungicide in viticulture, in the manufacture of matches and sulphur wicks and for the preparation of sulphur dioxide in the bleaching industries, etc.

The heading **excludes** sublimed sulphur, precipitated sulphur and colloidal sulphur (**heading 28.02**). Sulphur put up in forms or packings for retail sale as fungicides, etc., falls in **heading 38.08**.

2503.00

Sulphur of all kinds, other than sublimed sulphur, precipitated sulphur and colloidal sulphur.

Heading 2504

Natural graphite.

EXPLANATORY NOTES

25.04 - Natural graphite.

2504.10 - In powder or in flakes

2504.90 - Other

Natural graphite (otherwise known as plumbago or black lead) is a variety of carbon distinguished by its lustre and its property of marking paper (for which reason it is used as pencil lead). Its apparent specific gravity varies, according to its degree of purity, between 1.9 and 2.26; the carbon content of the purest grades ranges from 90 to 96 %, while the cheaper grades contain only 40 to 80 %.

Natural graphite remains in this heading when it has been heat treated merely to remove impurities.

Apart from its use in pencils, natural graphite is also used as a polish, for the manufacture of crucibles and other refractory articles, furnace electrodes and other electric parts.

The heading **excludes** artificial graphite (which closely resembles natural graphite but has a higher degree of purity and lower specific gravity), colloidal or semi-colloidal graphite and preparations based on graphite in the form of pastes, blocks, plates and other semi-manufactures (**heading 38.01**). It also excludes articles of natural graphite (usually **heading 68.15**, **69.02**, **69.03** or **85.45**).

2504.10

- In powder or in flakes

2504.90

- Other

Heading 2505

Natural sands of all kinds, whether or not coloured, other than metalbearing sands of Chapter 26.

EXPLANATORY NOTES

25.05 - Natural sands of all kinds, whether or not coloured, other than metal-bearing sands of chapter 26.

2505.10 - Silica sands and quartz sands

2505.90 - Other

With the **exception** of metal-bearing sands from which metals are commercially extractable (**Chapter 26**), this heading covers all natural sea, lake, river or quarry sand (i.e., sand in the form of more or less fine particles resulting from the natural disintegration of minerals), but **excludes** sands and powders obtained artificially, for example, by crushing (classified in **heading 25.17** or in the heading for the rock concerned).

The heading covers, *inter alia* :

(1) Silica sands and quartz sands, used in building, in the glass industry, for cleaning metals, etc.

(2) Clayey sands including kaolinic sands, used mainly for preparing foundry moulds and refractory products.

(3) Feldspathic sands, used in the ceramic industry.

Natural sands remain in this heading when they have been heat treated merely to remove impurities.

On the other hand, this heading **does not include** gold-bearing or platinum-bearing sands, zircon sands, rutile sands and ilmenite sands, nor monazite sands (monazites) which are classified as thorium ores; all these fall in **Chapter 26. Nor does** the heading **cover** tar sands or "asphaltic sands" (**heading 27.14**).

2505.10

- Silica sands and quartz sands

2505.90

- Other

Heading 2506

Quartz (other than natural sands); quartzite, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape.

EXPLANATORY NOTES

25.06 - Quartz (other than natural sands); quartzite, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape.

2506.10 - Quartz

2506.20 - Quartzite

Quartz is the naturally occurring crystal form of silica.

It falls in this heading **only** if complying with both of the following two conditions :

(a) It must be in the crude state or have not undergone any process beyond that allowed in Note 1 to this Chapter; for this purpose, heat treatment designed solely to facilitate crushing is regarded as a process permitted by Chapter Note 1.

(b) It must **not** be of a variety and quality suitable for the manufacture of gem-stones (e.g., rock crystal and smoky quartz, amethyst and rose quartz). Such quartz is **excluded** (**heading 71.03**), even if intended to be used for technical purposes, e.g., as piezo-electric quartz or for the manufacture of parts of tools.

Quartzite is the name of very hard compact rock composed of grains of quartz agglomerated by a siliceous binder.

Quartzite falls in this heading when in the crude state or when it has not undergone any process beyond that allowed by Note 1 to this Chapter or when it has been roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape. It is to be noted, however, that quartzite in shapes identifiable as road or paving setts, flagstones or curbstones is **excluded** (**heading 68.01**), even if merely shaped or processed as specified in the heading text.

The heading also **excludes** :

(a) Natural quartz sand (**heading 25.05**).

(b) Flint or other products of **heading 25.17**.

(c) Optical elements of quartz (**heading 90.01**).

2506.10

- Quartz

CLASSIFICATION OPINIONS

Quartz, obtained by subjecting crushed alaskite ore, without changing its α -quartz structure, to a mechanical separation process, to an acid treatment in order to eliminate impurities and to a heat treatment in order to remove residual moisture that remains after the product has been washed or rinsed with water.
Adoption : 1996

2506.20

- Quartzite

Heading 2507

Kaolin and other kaolinic clays, whether or not calcined.

EXPLANATORY NOTES

25.07 - Kaolin and other kaolinic clays, whether or not calcined.

This heading covers kaolin and other kaolinic clays, the main constituents of which are kaolin minerals such as kaolinite, dickite and nacrite, anauxite, and halloysite. Such clays remain in the heading even when calcined.

Kaolin, also known as China clay, is a high grade, white or nearly white clay used in the porcelain and paper-making industries. Kaolin-bearing sands are **excluded** (**heading 25.05**).

2507.00

Kaolin and other kaolinic clays, whether or not calcined.

Heading 2508

Other clays (not including expanded clays of heading 68.06), andalusite, kyanite and sillimanite, whether or not calcined; mullite; chamotte or dinas earths.

EXPLANATORY NOTES

25.08 - Other clays (not including expanded clays of heading 68.06), andalusite, kyanite and sillimanite, whether or not calcined; mullite; chamotte or dinas earths (+).

2508.10 - Bentonite

2508.30 - Fire-clay

2508.40 - Other clays

2508.50 - Andalusite, kyanite and sillimanite

2508.60 - Mullite

2508.70 - Chamotte or dinas earths

This heading covers all natural clayey substances (**other than** kaolin and other kaolinic clays of **heading 25.07**) consisting of earths or rocks of sedimentary origin with a basis of aluminium silicates. The characteristic properties of these products are plasticity, the faculty of hardening when fired and resistance to heat. Because of these properties clays are used as raw materials in the ceramic industry (bricks, building tiles, porcelain, china, earthenware, refractory bricks and other refractory goods, etc.); common clay is also used for soil improvement.

These products remain in this heading even if they have been heated to remove some or most of the associated water (to produce absorbent clay) or when fully calcined.

In addition to common clays, the following special products also fall in the heading :

(1) **Bentonite**, a clay derived from volcanic ash; largely used as an ingredient of moulding sand, as a filtering and decolouring agent in oil refining and for degreasing of textiles.

(2) **Fuller's earth**, a natural earthy material with high absorptive power, composed chiefly of attapulgite. It is used for decolourising oils, for degreasing textiles, etc.

(3) **Andalusite**, **kyanite** (or disthene) and **sillimanite**, natural anhydrous aluminium silicates used as refractories.

(4) **Mullite**, obtained by heat treatment of sillimanite, kyanite or andalusite or by fusing a mixture of silica or clay and aluminium oxide in an electric furnace; used in the preparation of refractory products with great resistance to heat.

(5) **Chamotte earth**, also called "fire-clay grog", obtained either by crushing fire-clay bricks or by crushing a calcined mixture of clay with other refractory materials.

(6) **Dinas earth**, a refractory material which consists of quartzose earth containing clay or may be obtained by mixing clay with ground quartz or quartz sand.

This heading **does not include :**

(a) Clays which are earth colours within the meaning of **heading 25.30**.

(b) Activated clay (**heading 38.02**).

(c) Special preparations for the manufacture of certain ceramic goods (**heading 38.24**).

(d) Expanded clays (used in lightweight concrete aggregates or for heat insulation) even if obtained solely by calcining natural clays (**heading 68.06**).

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° °

Subheading Explanatory Notes.

Subheading 2508.10

Subheading 2508.10 includes sodium bentonites (swelling bentonites) and calcium bentonites (non-swelling bentonites).

Subheading 2508.30

Subheading 2508.30 **does not cover** clays composed mainly of kaolin, some of which are “fire-clays”. Such clays are to be classified in **heading 25.07**.

2508.10

- Bentonite

2508.30

- Fire-clay

2508.40

- Other clays

2508.50

- Andalusite, kyanite and sillimanite

2508.60

- Mullite

2508.70

- Chamotte or dinas earths

Heading 2509

Chalk.

EXPLANATORY NOTES

25.09 - Chalk.

Chalk is a naturally occurring variety of calcium carbonate, composed predominantly of the shells of aquatic micro-organisms.

The heading **does not include :**

(a) Phosphated chalk (**heading 25.10**).

(b) Steatite or talc (sometimes known as “French chalk” or “Venice chalk”) (**heading 25.26**).

(c) Powdered chalk prepared as a dentifrice (**heading 33.06**).

(d) Metal polishes and similar preparations of **heading 34.05**.

(e) Calcium carbonate in powder form, the particles of which are coated with a water-repellent film of fatty acids (e.g., stearic acid) (**heading 38.24**).

(f) Billiard chalks (**heading 95.04**).

(g) Writing or drawing chalks and tailor’s chalks (**heading 96.09**).

2509.00

Chalk.

Heading 2510

Natural calcium phosphates, natural aluminium calcium phosphates and phosphatic chalk.

EXPLANATORY NOTES

25.10 - Natural calcium phosphates, natural aluminium calcium phosphates and phosphatic chalk.

2510.10 - Unground

2510.20 - Ground

This heading covers **only** apatite and other natural calcium phosphates (tricalcium phosphates or phosphorites), natural aluminium calcium phosphates and phosphatic chalks (chalk naturally mixed with calcium phosphate).

These products remain in this heading even when ground for use as fertilisers or if they have been heat treated merely to remove impurities. But the heading **does not include** the products when they are calcined or further heat treated than for the removal of impurities (**heading 31.03** or **31.05**).

2510.10

- Unground

2510.20

- Ground

Heading 2511

Natural barium sulphate (barytes); natural barium carbonate (witherite), whether or not calcined, other than barium oxide of heading 28.16.

EXPLANATORY NOTES

25.11 - Natural barium sulphate (barytes); natural barium carbonate (witherite), whether or not calcined, other than barium oxide of heading 28.16.

2511.10 - Natural barium sulphate (barytes)

2511.20 - Natural barium carbonate (witherite)

This heading covers **only** the naturally occurring barium sulphate (barytes - sometimes known as heavy spar) and barium carbonate (witherite). Refined or chemically produced barium sulphate and barium carbonate are **excluded** (**headings 28.33** and **28.36** respectively).

Calcined witherite, which consists largely of impure barium oxide, remains in this heading.

The heading **excludes** purified barium oxide (**heading 28.16**).

2511.10

- Natural barium sulphate (barytes)

2511.20

- Natural barium carbonate (witherite)

Heading 2512

Siliceous fossil meals (for example, kieselguhr, tripolite and diatomite) and similar siliceous earths, whether or not calcined, of an apparent specific gravity of 1 or less.

EXPLANATORY NOTES

25.12 - Siliceous fossil meals (for example, kieselguhr, tripolite and diatomite) and similar siliceous earths, whether or not calcined, of an apparent specific gravity of 1 or less.

These materials are siliceous earths formed of small fossilised organisms (diatoms, etc.) and are very light. Their “apparent specific gravity”, which must not exceed 1, is to be taken as their effective weight in kg/1,000 cm^3, uncompressed, in the form in which they are presented.

The principal siliceous earths are kieselguhr, tripolite, diatomite and moler earth. Although certain earths classified here are sometimes referred to as “tripoli”, they must not be confused with the true tripoli known as “rotten-stone”, which, since it results from the natural decomposition of certain rocks, is not diatomaceous. This latter product, which is used as a mild abrasive for polishing, falls in **heading 25.13**.

The various earths of this heading are sometimes incorrectly called “infusorial earths”.

Most of these earths are used for the manufacture of heat-resisting or heat- or sound-insulating articles of heading 68.06 or 69.01. Thus, sawn blocks of diatomite fall in **heading 68.06**, if they have not been fired; otherwise, they are classified in **heading 69.01**.

Some of the products of this heading are used as abrasive or polishing powders.

This heading **excludes** activated diatomite, e.g., diatomite calcined with sintering agents such as sodium chloride or sodium carbonate (**heading 38.02**). On the other hand, diatomite calcined (without the addition of other products) in order to eliminate impurities or washed for that purpose in acid, without altering the structure of the product, remains in this heading.

2512.00

Siliceous fossil meals (for example, kieselguhr, tripolite and diatomite) and similar siliceous earths, whether or not calcined, of an apparent specific gravity of 1 or less.

Heading 2513

Pumice stone; emery; natural corundum, natural garnet and other natural abrasives, whether or not heat-treated.

EXPLANATORY NOTES

25.13 - Pumice stone; emery; natural corundum, natural garnet and other natural abrasives, whether or not heat-treated.

2513.10 - Pumice stone

2513.20 - Emery, natural corundum, natural garnet and other natural abrasives

Pumice stone is a very porous variety of volcanic rock, rough to the touch and extremely light in weight, usually whitish or grey, but sometimes brown or red. The heading also covers crushed pumice (bimskies).

Emery is a dense rock formed of small hard aluminium oxide crystals mixed with iron oxide and particles of mica. It is often presented in rock form for use as an abrasive powder after simple crushing. Crushed emery is a dirty brown powder interspersed with occasional glittering grains; a magnet attracts the particles of iron oxide.

Natural corundum is also composed largely of aluminium oxide but, unlike emery, it is often presented in bags, in the form of more or less fine grains. Ground or crushed corundum is mainly composed of small white granules with a few black or yellow particles. Natural corundum remains classified in this heading even if it has been heat treated.

Other natural abrasives include the tripoli known as “rotten-stone”, an ash grey product used as a mild abrasive or for polishing, and garnet (including dust and powder) **other than** that of **Chapter 71**. The natural abrasives of this paragraph remain classified in this heading even if they have been heat-treated; natural garnet, for example, is sometimes heat-treated after grading to improve its capillarity and hardness.

The heading **does not include :**

(a) Abrasive materials referred to in **other headings of this Chapter**.

(b) Precious or semi-precious stones (e.g., ruby, sapphire) of **heading 71.03**.

(c) Artificial abrasives such as artificial corundum (**heading 28.18**), silicon carbide (**heading 28.49**) and synthetic precious or semi-precious stones (**heading 71.04**).

(d) Dust and powder of natural or synthetic precious or semi-precious stones (**heading 71.05**).

2513.10

- Pumice stone

2513.20

- Emery, natural corundum, natural garnet and other natural abrasives

Heading 2514

Slate, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape.

EXPLANATORY NOTES

25.14 - Slate, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape.

Slate, which splits readily into thin sheets, is generally bluish-grey but sometimes black or tending towards purple.

The heading covers slate in the mass or roughly trimmed or merely cut, by sawing or otherwise (e.g., with a wire strand), into blocks or slabs of a rectangular (including square) shape. Slate powder and waste are also included in this heading.

On the other hand, this heading **does not cover** mosaic cubes of **heading 68.02**, or the following goods which are to be classified in **heading 68.03** :

(a) Blocks, slabs and sheets further worked than described above, e.g., cut or sawn to shapes other than rectangular (including square), ground, polished, chamfered or otherwise worked.

(b) Roofing, facing and damp course slates, even if shaped or processed as specified in the text of this heading.

(c) Articles of agglomerated slate.

The heading also **excludes** slates and slate blackboards prepared for writing or drawing, whether framed or not (**heading 96.10**) and slate pencils (**heading 96.09**).

2514.00

Slate, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape.

Heading 2515

Marble, travertine, ecaussine and other calcareous monumental or building stone of an apparent specific gravity of 2.5 or more, and alabaster, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape.

EXPLANATORY NOTES

25.15 - Marble, travertine, ecaussine and other calcareous monumental or building stone of an apparent specific gravity of 2.5 or more, and alabaster, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape (+).

- Marble and travertine :

2515.11 - - Crude or roughly trimmed

2515.12 - - Merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape

2515.20 - Ecaussine and other calcareous monumental or building stone; alabaster

Marble is a hard calcareous stone, homogeneous and fine-grained, often crystalline and either opaque or translucent. Marble is usually variously tinted by the presence of mineral oxides (coloured veined marble, onyx marble, etc.), but there are pure white varieties.

Travertines are varieties of calcareous stone containing layers of open cells.

Ecaussine is extracted from various quarries in Belgium and particularly at Ecaussines. It is a bluish-grey stone with an irregular crystalline structure and contains many fossilised shells. On fracture Ecaussine shows a granular surface similar to granite and is therefore sometimes known as “Belgian granite”, “Flanders granite” or “*petit granit*”.

The heading covers **other similar hard calcareous monumental or building stones, provided their apparent specific gravity is 2.5 or more** (i.e., effective weight in kg/1,000 cm^3). Calcareous monumental or building stones of an apparent specific gravity of less than 2.5 are classified in **heading 25.16**.

The heading also includes both **gypseous alabaster**, which is usually white and uniformly translucent, and **calcareous alabaster**, normally yellowish and veined.

The heading is restricted to the stones specified, presented in the mass or roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape. In the form of granules, chippings or powder, they fall in **heading 25.17**.

Blocks, etc., which have been further worked, i.e., bossed, dressed with the pick, bushing hammer or chisel, etc., sand-dressed, ground, polished, chamfered, etc., are classified in **heading 68.02**. The same classification applies to blanks of articles.

The heading also **excludes** :

(a) Serpentine or ophite (a magnesium silicate sometimes called marble) (**heading 25.16**).

(b) Limestone (known as “lithographic stone” and used in the printing industry) (**heading 25.30** when in the crude state).

(c) Stones identifiable as mosaic cubes or as paving flagstones, even if merely shaped or processed as specified in the text of this heading (**heading 68.02** or **68.01** respectively).

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Subheading Explanatory Notes.

Subheading 2515.11

For the purposes of this subheading, “crude” refers to blocks or slabs which have been merely split along the natural cleavage planes of the stone. Their surfaces are often uneven or undulating and frequently bear marks of the tools used to separate them (crowbars, wedges, picks, etc.).

This subheading also covers unshaped stone (quarrystone, rubble) obtained by breaking out rocks from the quarry face (using picks, explosives, etc.). They have uneven, broken surfaces and irregular edges. This type of stone often bears the marks of quarrying (blast holes, wedge marks, etc.). Unshaped stone is used for the construction of dykes, breakwaters, road foundations, etc.

The subheading also includes waste of irregular shape arising from the actual extraction or from subsequent working (quarry stones, waste from sawing, etc.), but only if large enough to be used for cutting or construction. Otherwise it is classified in **heading 25.17**.

“Roughly-trimmed” stone is stone which has been very crudely worked after quarrying, to form blocks or slabs, still having some rough, uneven surfaces. This working involves removing superfluous protuberances by means of hammer or chisel-type tools.

This subheading **does not cover** blocks or slabs which have been cut to a rectangular (including square) shape.

Subheading 2515.12

To fall in this subheading, the blocks and slabs which have been merely cut by sawing must bear discernible traces of the sawing (by wire strand or other saws) on their surfaces. If care was taken with the sawing, these traces may be very slight. In such cases, it is useful to apply a sheet of thin paper to the stone and to rub it gently and evenly with a pencil held as flat as possible. This often reveals saw marks even on carefully sawn or very granular surfaces.

This subheading also covers blocks and slabs of a rectangular (including square) shape obtained otherwise than by sawing, e.g., by working with a hammer or chisel.

2515.1

- Marble and travertine :
2515.11

-- Crude or roughly trimmed
2515.12

-- Merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape
2515.20

- Ecaussine and other calcareous monumental or building stone; alabaster

Heading 2516

Granite, porphyry, basalt, sandstone and other monumental or building stone, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape.

EXPLANATORY NOTES

25.16 - Granite, porphyry, basalt, sandstone and other monu-mental or building stone, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape (+).

- Granite :

2516.11 - - Crude or roughly trimmed

2516.12 - - Merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape

2516.20 - Sandstone

2516.90 - Other monumental or building stone

Granite is a very hard, granular igneous rock formed by the agglomeration of quartz crystals with feldspar and mica. It varies in colour (grey, green, pink, red, etc.) according to the relative proportions of these three substances and the presence of iron oxide or manganese oxide.

Porphyry is a finely grained, slightly translucent variety of granite.

Sandstone is a rock of sedimentary origin composed of small quartzose or siliceous particles naturally agglomerated by calcareous or siliceous materials.

Basalt is also an igneous rock, blackish, very compact and extremely hard.

The heading also includes other hard igneous rocks (e.g., syenite, gneiss, trachyte, lava, diabase, diorite, phonolite), as well as calcareous monumental or building stone **not falling** in heading 25.15 (including building limestone or Portland stone) and serpentine marble (or ophite) which, being a natural form of magnesium silicate, cannot be classified in heading 25.15.

The stones of this heading may be shaped or processed in the same ways as the stones of heading 25.15 (see the Explanatory Note to that heading). It should be noted that when broken up in the form of macadam these rocks are classified in **heading 25.17**, and that stones in shapes identifiable as road or paving setts, flagstones or curbstones are classified in **heading 68.01** even if merely shaped or processed as specified in the text of this heading.

Ecaussine, sometimes known as "*petit granit*", "Belgian granite" or "Flanders granite", falls in **heading 25.15**. Fused basalt is classified in **heading 68.15**.

When in the form of granules, chippings or powder, the stones of this heading fall in **heading 25.17**.

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Subheading Explanatory Notes.

Subheadings 2516.11

See the Explanatory Note to subheading 2515.11.

Subheadings 2516.12

See the Explanatory Note to subheading 2515.12.

2516.1

- Granite :

2516.11

-- Crude or roughly trimmed

2516.12

-- Merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape

2516.20

- Sandstone

2516.90

- Other monumental or building stone

Heading 2517

Pebbles, gravel, broken or crushed stone, of a kind commonly used for concrete aggregates, for road metalling or for railway or other ballast, shingle and flint, whether or not heat-treated; macadam of slag, dross or similar industrial waste, whether or not incorporating the materials cited in the first part of the heading; tarred macadam; granules, chippings and powder, of stones of heading 25.15 or 25.16, whether or not heat-treated.

EXPLANATORY NOTES

25.17 - Pebbles, gravel, broken or crushed stone, of a kind commonly used for concrete aggregates, for road metalling or for railway or other ballast, shingle and flint, whether or not heat-treated; macadam of slag, dross or similar industrial waste, whether or not incorporating the materials cited in the first part of the heading; tarred macadam; granules, chippings and powder, of stones of heading 25.15 or 25.16, whether or not heat-treated.

2517.10 - Pebbles, gravel, broken or crushed stone, of a kind commonly used for concrete aggregates, for road metalling or for railway or other ballast, shingle and flint, whether or not heat-treated

2517.20 - Macadam of slag, dross or similar industrial waste, whether or not incorporating the materials cited in subheading 2517.10

2517.30 - Tarred macadam

- Granules, chippings and powder, of stones of heading 25.15 or 25.16, whether or not heat-treated :

2517.41 - - Of marble

2517.49 - - Other

This heading covers pebbles, gravel and broken or crushed stone (including mixtures of different kinds of stone), of a kind commonly used for concrete aggregates, for road metalling or for railway track or other ballast. Segregated materials of construction and demolition waste consisting essentially of broken pieces of stone which are used for the same purposes, either as such or after crushing, also fall in this heading.

The heading also includes shingle and flint. Round modules of flint are used in ball mills for crushing lime, cement, etc. Flint is, however, mainly used, after crushing, in the ceramic industry or as an abrasive material. Other shingle is used in ball mills (e.g., for grinding lime, cement, etc.) or for road metalling.

It should be noted that the heading **does not cover** flint in cut blocks, or stones which have been manufactured by artificial rounding into pebbles for use in ball mills. These fall in **heading 68.02**.

The heading also covers macadam and tarred macadam.

Macadam is composed of roughly graded crushed stones, pebbles, slag, dross or similar industrial waste, or intermixtures of these materials. When mixed with tar, bitumen, etc., it is known as tarred macadam.

Products specially prepared (e.g., by fusion of a mixture of minerals) e.g., for addition to road surfacing materials, to improve hardness, anti-skid properties, visibility, etc., are **excluded** from this heading (generally **heading 38.24**).

The heading also includes granules, chippings and powder of stones of heading 25.15 or 25.16; when artificially coloured (e.g., for shop window displays), such chippings and granules are, however, classified in **heading 68.02**.

The following products remain classified in this heading even when they have been heat treated :

(1) Pebbles, gravel and broken or crushed stone.

(2) Shingle and flint.

(3) Granules, chippings and powder of stones of heading 25.15 or 25.16.

In accordance with Note 3 to this Chapter, any products classifiable in this heading and any other heading of the Chapter are to be classified in this heading.

2517.10

- Pebbles, gravel, broken or crushed stone, of a kind commonly used for concrete aggregates, for road metalling or for railway or other ballast, shingle and flint, whether or not heat-treated

2517.20

- Macadam of slag, dross or similar industrial waste, whether or not incorporating the materials cited in subheading 2517.10

2517.30

- Tarred macadam

2517.4

- Granules, chippings and powder, of stones of heading 25.15 or 25.16, whether or not heat-treated :

2517.41

-- Of marble

2517.49

-- Other

Heading 2518

Dolomite, whether or not calcined or sintered, including dolomite roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape.

EXPLANATORY NOTES

25.18 - Dolomite, whether or not calcined or sintered, including dolomite roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape.

2518.10 - Dolomite not calcined or sintered

2518.20 - Calcined or sintered dolomite

Dolomite is a natural double carbonate of calcium and magnesium.

The heading covers crude dolomite as well as calcined and sintered dolomite. Dolomite is calcined at a temperature range of 700 °C - 1000 °C to convert it into magnesium and calcium oxides by releasing carbon dioxide. On the other hand, sintered dolomite is obtained by heating dolomite to a temperature range of 1700 °C - 1900 °C when it becomes a refractory material. The heading also includes dolomite which has been roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape.

However, the heading does not cover crushed dolomite for concrete aggregates, road metalling or railway ballast (**heading 25.17**) or dolomite ramming mix (**heading 38.16**).

2518.10

- Dolomite, not calcined or sintered

2518.20

- Calcined or sintered dolomite

Heading 2519

Natural magnesium carbonate (magnesite); fused magnesia; dead-burned (sintered) magnesia, whether or not containing small quantities of other oxides added before sintering; other magnesium oxide, whether or not pure.

EXPLANATORY NOTES

25.19 - Natural magnesium carbonate (magnesite); fused magnesia; dead-burned (sintered) magnesia, whether or not containing small quantities of other oxides added before sintering; other magnesium oxide, whether or not pure.

2519.10 - Natural magnesium carbonate (magnesite)

2519.90 - Other

This heading covers magnesite (or giobertite) which is a naturally occurring magnesium carbonate with impurities in various proportions.

The heading also covers various types of magnesia (magnesium oxide) obtained from natural magnesium carbonate, basic magnesium carbonate, magnesium hydroxide precipitated from sea water, etc. The main types are :

(1) **Fused magnesia**, obtained by fusion. It is usually colourless but may be slightly yellowish or greenish. It is less soluble than other types of magnesia and is used, for example, in the manufacture of crucibles or heating elements for electric ovens.

(2) **Dead-burned (sintered) magnesia**, obtained by high temperature (about 1400-1800 °C) calcination. Sintered magnesia may contain small quantities of other oxides (e.g., iron oxide or chromium oxide), added before sintering in order to lower the sintering temperature. It is used in the manufacture of refractory bricks.

(3) **Caustic-burned magnesia**, usually obtained from magnesite by relatively low temperature (lower than 900 °C) calcination. It is more chemically reactive than fused or sintered magnesia and is used, for example, in the production of magnesium compounds, decolouring agents or oxychloride cement.

Light and **heavy** magnesium oxides are usually obtained by calcination of pure precipitated magnesium hydroxide or basic carbonate at temperatures from 600 °C to 900 °C. These magnesium oxides are practically insoluble in water but are readily soluble in dilute acids and are more chemically reactive than other types of magnesia (i.e., sintered magnesia and fused magnesia). They are used in the manufacture of medicaments, cosmetics, etc.

The heading **does not cover** :

(a) Hydrated basic magnesium carbonate, sometimes known as “pharmacist’s white magnesia” (**heading 28.36**).

(b) Cultured crystals (**other than** optical elements), of magnesium oxide, weighing not less than 2.5 g each (**heading 38.24**); optical elements of magnesium oxide (**heading 90.01**).

2519.10

- Natural magnesium carbonate (magnesite)

2519.90

- Other

Heading 2520

Gypsum; anhydrite; plasters (consisting of calcined gypsum or calcium sulphate) whether or not coloured, with or without small quantities of accelerators or retarders.

EXPLANATORY NOTES

25.20 - Gypsum; anhydrite; plasters (consisting of calcined gypsum or calcium sulphate) whether or not coloured, with or without small quantities of accelerators or retarders.

2520.10 - Gypsum; anhydrite

2520.20 - Plasters

Gypsum is a natural hydrated calcium sulphate generally white and friable.

Anhydrite is a natural anhydrous calcium sulphate used in the manufacture of sulphuric acid or of certain types of plaster.

Plasters consist of gypsum partly or completely dehydrated by calcination.

The characteristic of gypsum is that, when calcined, it loses part of its water thus forming plasters which on being mixed with water set hard. In order that the plasters should not set too quickly small quantities of retarders are often added to the calcined gypsum. For special purposes gypsum is calcined until all its water is lost, and a small quantity of an accelerator such as alum is added (Keene's cement or English cement). Similar plasters are made by adding alum to natural anhydrite. All these prepared plasters remain in this heading.

This heading also covers :

(1) Plaster reduced to a floury consistency for use in dressing woven fabrics or surfacing paper.

(2) Plaster containing added colouring matter.

(3) Plaster which has been specially calcined or finely ground for use in dentistry, whether or not containing small quantities of accelerators or retarders. This heading does not include preparations for use in dentistry with a basis of plaster (**heading 34.07**).

2520.10

- Gypsum; anhydrite

2520.20

- Plasters

Heading 2521

Limestone flux; limestone and other calcareous stone, of a kind used for the manufacture of lime or cement.

EXPLANATORY NOTES

25.21 - Limestone flux; limestone and other calcareous stone, of a kind used for the manufacture of lime or cement.

This heading covers limestone flux and limestone and other calcareous rocks commonly used for the manufacture of lime or cement, **not being** building or monumental stone (**heading 25.15** or **25.16**). Dolomite falls in **heading 25.18** and chalk in **heading 25.09**.

Limestone flux is chiefly employed as a flux in the iron and steel industry.

The heading also includes these materials when presented in powder form for soil improvement. However, it **does not cover** crushed or broken stone for use as concrete aggregates, road metalling or railway ballast (**heading 25.17**).

2521.00

Limestone flux; limestone and other calcareous stone, of a kind used for the manufacture of lime or cement.

Heading 2522

Quicklime, slaked lime and hydraulic lime, other than calcium oxide and hydroxide of heading 28.25.
EXPLANATORY NOTES

25.22 - Quicklime, slaked lime and hydraulic lime, other than calcium oxide and hydroxide of heading 28.25.

2522.10 - Quicklime

2522.20 - Slaked lime

2522.30 - Hydraulic lime

Quicklime (an impure calcium oxide) is obtained by calcining limestone containing very little or no clay. It combines very rapidly with water, giving off considerable heat and producing slaked lime (calcium hydroxide). **Slaked lime** is usually employed for soil improvement or in the sugar industry.

Hydraulic lime is obtained by low temperature calcination of limestone containing sufficient clay (although usually less than 20 %) to ensure that the product sets under water. Hydraulic lime differs from natural cement in that it still contains appreciable amounts of uncombined quicklime, which may be slaked with water.

The heading **excludes** purified calcium oxide and calcium hydroxide (**heading 28.25**).

2522.10

- Quicklime

2522.20

- Slaked lime

2522.30

- Hydraulic lime

Heading 2523

Portland cement, aluminous cement, slag cement, supersulphate cement and similar hydraulic cements, whether or not coloured or in the form of clinkers.
EXPLANATORY NOTES

25.23 - Portland cement, aluminous cement, slag cement, supersulphate cement and similar hydraulic cements, whether or not coloured or in the form of clinkers (+).

2523.10 - Cement clinkers

- Portland cement :

2523.21 - - White cement, whether or not artificially coloured

2523.29 - - Other

2523.30 - Aluminous cement

2523.90 - Other hydraulic cements

Portland cement is obtained by firing limestone containing in its natural state, or mixed artificially with, a suitable proportion of clay. Other materials such as silica, alumina or iron bearing substances may also be added. As a result of the firing process, semi-finished products known as **clinkers** are obtained. These clinkers are subsequently ground to produce Portland cement, which may incorporate additives and accelerators to modify its hydraulic properties. The principal types of Portland cement are normal Portland cement, moderate Portland cement and white Portland cement.

The heading also covers aluminous cement, slag cement, supersulphate cement (ground blast furnace slag mixed with an accelerator and calcined gypsum), pozzolana cement, Roman cement, etc., and mixtures of the above-mentioned cements.

The cements of this heading may be coloured.

This heading **does not include** certain products sometimes known under the name of cement, such as, Keene's cement or English cement (alumed plaster gypsum) (**heading 25.20**), and pozzolana earth, santorin earth and similar substances, sometimes called natural cements (**heading 25.30**).

The heading also **excludes** :

(a) Finely ground blast furnace slag which requires the addition of a small quantity of accelerator at the time of making up (**heading 26.19**); the ground slag mixed with an accelerator, ready for use, **does**, however, fall in this heading.

(b) Dental cements and bone reconstruction cements (**heading 30.06**).

(c) Cements of **heading 32.14**.

(d) Refractory cements and mortars, based on chamotte or dinas earths, etc. (**heading 38.16**).

(e) Non-refractory mortars and concretes (**heading 38.24**).

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Subheading Explanatory Note.

Subheadings 2523.21 and 2523.29

For the purposes of subheadings 2523.21 and 2523.29, "Portland cement" means cement obtained by grinding Portland clinker with the possible addition of a small quantity of calcium sulphate. It is to be noted :

- that Portland clinker is a product of subheading 2523.10 consisting mostly of calcium silicates which is obtained by heating to partial fusion a predetermined and homogeneous mixture of materials principally containing lime (CaO) and silica (SiO_2) with a smaller proportion of alumina (Al_2O_3) and iron oxide (Fe_2O_3) and;

- that the term “calcium sulphate” covers gypsum and its derivatives and anhydrite and other calcium sulphate products appropriate to the manufacture of cements.

2523.10

- Cement clinkers

2523.2

- Portland cement :

2523.21

-- White cement, whether or not artificially coloured

2523.29

-- Other

2523.30

- Aluminous cement

2523.90

- Other hydraulic cements

CLASSIFICATION OPINIONS

1. Hydraulic cements, consisting of Portland cement blended with more than 5 % by weight cementitious materials such as pozzolan, fly ash or limestone.

Application of GIRs 1 and 6.

Adoption : 2019

Heading 2524

Asbestos.

EXPLANATORY NOTES

25.24 - Asbestos.

2524.10 - Crocidolite

2524.90 - Other

Asbestos is a natural mineral substance produced by the decomposition of certain rocks. It has a very characteristic fibrous texture; it is sometimes silky in appearance and the colour varies greatly, being usually white, but sometimes grey, greenish, blue or dark brown. Its main property is its resistance to fire and acids.

Crocidolite is the asbestos form of riebeckite. It is found in the form of fibre bundles in magmatic rock which is acid with a high alkali content and also in metamorphic rock. It is dark blue to black or dark green and is translucent to partially opaque. Crocidolite asbestos, also known as blue asbestos, has a greater tensile strengths but a lower resistance to heat and less elastic fibres than other forms of asbestos and is acid resistant but not base resistant. It is considered the most dangerous form of asbestos.

The heading applies to crude asbestos in rock form, to raw, beaten or washed fibres, whether graded to length or not, to asbestos in flakes or powder and also to asbestos waste. The heading **excludes** fibre which has been further processed (carded, dyed, etc.) and finished articles of asbestos (**heading 68.12**).

2524.10

- Crocidolite

2524.90

- Other

Heading 2525

Mica, including splittings; mica waste.

EXPLANATORY NOTES

25.25 - Mica, including splittings; mica waste.

2525.10 - Crude mica and mica rifted into sheets or splittings

2525.20 - Mica powder

2525.30 - Mica waste

Mica (muscovite, phlogopite, biotite, etc.) constitutes a group of natural complex aluminium silicates characterised by the fact that they are readily split into glistening, transparent, flexible sheets of varied colour.

The heading includes :

(A) **Crude mica**, which consists of mica crystals, of irregular shape, size and thickness, covered with earth (“books”).

(B) **Mica sheets**, obtained by rifting cobbed and trimmed books. The sheets take the shape of irregular polygons, like the crystals from which they were obtained, and their edges are roughly trimmed and bevelled. Their thickness usually varies from 200 to 750 micrometres (microns).

(C) **Mica splittings**, obtained by rifting sheet mica. Like the sheets from which they have been rifted, they have the shape of irregular polygons. Their edges are roughly trimmed.

They are marketed as :

(1) Condenser film, usually of a thickness between 25 and 200 micrometres (microns), or

(2) Splittings, usually of a thickness between 12 and 30 micrometres (microns), used solely for the manufacture of built-up mica (e.g., micanite).

The heading also includes mica waste and powder.

The heading **excludes** products obtained by cutting-out or die-stamping from mica sheets or splittings (**heading 68.14** or **Chapter 85**), and products made from bonded (built-up) splittings (e.g., micanite, micafolium) or from pulped (reconstituted) mica (**heading 68.14**).

Vermiculite, a mineral allied to mica, falls in **heading 25.30**, as do perlite and the chlorites (minerals chemically related to vermiculite).

2525.10

- Crude mica and mica rifted into sheets or splittings

2525.20

- Mica powder

2525.30

- Mica waste

Heading 2526

Natural steatite, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape; talc.

EXPLANATORY NOTES

25.26 - Natural steatite, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape; talc.

2526.10 - Not crushed, not powdered

2526.20 - Crushed or powdered

Both natural steatite and talc are mineral substances rich in hydrous magnesium silicate. The former is more compact and massive than talc. Talc is foliated and softer and soapier to the touch.

Natural steatite of this heading may be shaped or processed in the same ways as the stones of heading 25.15 (see the Explanatory Note to that heading) and may be submitted to the processes allowed by Note 1 to this Chapter. Soapstone is a variety of natural steatite.

Talc of this heading may be submitted to the processes allowed by Note 1 to this Chapter. The more commonly met forms of talc are crude or powdered.

The term “French chalk” is used to designate certain varieties of steatite or talc in powder form.

The heading **excludes** “tailor’s chalks” which are composed of steatite (**heading 96.09**).

2526.10

- Not crushed, not powdered

2526.20

- Crushed or powdered

Heading 2528

Natural borates and concentrates thereof (whether or not calcined), but not including borates separated from natural brine; natural boric acid containing not more than 85 % of H3BO3 calculated on the dry weight.

EXPLANATORY NOTES

25.28 - Natural borates and concentrates thereof (whether or not calcined), but not including borates separated from natural brine; natural boric acid containing not more than 85 % of H_3BO_3 calculated on the dry weight.

This heading covers **only** natural borate minerals as extracted, concentrates (whether or not calcined) of such materials, and natural boric acid as obtained by evaporation of the water left after the condensation of the natural vapours escaping from the earth in certain regions (the Italian soffioni), or by evaporating water drawn from underground sources in those regions. However, the heading **excludes** boric acid containing more than 85 % of H_3BO_3 calculated on the dry weight (**heading 28.10**).

The natural borates classified here include :

(1) **Kernite** or **tincal**, sodium borates also known as “natural borax”.

(2) **Pandermite** and **priceite**, calcium borates.

(3) **Boracite**, magnesium chloroborate.

The heading **excludes** the sodium borate (refined borax) obtained by chemical treatment of kernite or tincal and the sodium borates obtained by evaporating complex brines from certain salt lakes (**heading 28.40**).

2528.00

Natural borates and concentrates thereof (whether or not calcined), but not including borates separated from natural brine; natural boric acid containing not more than 85 % of H3BO3 calculated on the dry weight.

Heading 2529

Feldspar; leucite, nepheline and nepheline syenite; fluorspar.

EXPLANATORY NOTES

25.29 - Feldspar; leucite; nepheline and nepheline syenite; fluorspar.

2529.10 - Feldspar

- Fluorspar :

2529.21 - - Containing by weight 97 % or less of calcium fluoride

2529.22 - - Containing by weight more than 97 % of calcium fluoride

2529.30 - Leucite; nepheline and nepheline syenite

Feldspar, **leucite**, **nepheline** and **nepheline syenite** are composed of complex silicates of aluminium and alkali or alkaline-earth metals. They are used as fluxes in the ceramic industry. The heading **excludes** feldspathic sands (**heading 25.05**).

Fluorspar (or fluorite) is natural calcium fluoride occurring as solid masses streaked with varied colours or in agglomerated crystals of various colours; it is principally used in the manufacture of hydrofluoric acid and as a flux for metallurgical purposes.

The heading also covers fluorspar obtained from the mineral by a heat treatment which causes the product to break up into its constituent particles; as these differ in size, simple screening then permits removal of part of the silica content.

The heading **excludes** feldspar or fluorspar in the form of precious or semi-precious stones (**Chapter 71**).

2529.10

- Feldspar

2529.2

- Fluorspar :

2529.21

-- Containing by weight 97 % or less of calcium fluoride

2529.22

-- Containing by weight more than 97 % of calcium fluoride

2529.30

- Leucite; nepheline and nepheline syenite

Heading 2530

Mineral substances not elsewhere specified or included.

EXPLANATORY NOTES

25.30 - Mineral substances not elsewhere specified or included.

2530.10 - Vermiculite, perlite and chlorites, unexpanded

2530.20 - Kieserite, epsomite (natural magnesium sulphates)

2530.90 - Other

(A) **EARTH COLOURS, WHETHER OR NOT CALCINED OR MIXED TOGETHER; NATURAL MICACEOUS IRON OXIDES**

The colours classified here are usually naturally occurring clays mixed with white or coloured mineral substances, particularly iron oxide; because of their colouring properties, they are generally used as pigments.

They include :

(1) **Ochres** (yellow, brown, red, Spanish red, etc.).

(2) **Siennas** (Italian sienna, yellow-brown; and burnt sienna, orange-brown, etc.).

(3) **Umbers** (including burnt umber), which are brown or dark brown.

(4) **Black earths** and **natural vandyke brown** (Cassel and Cologne earths). **Soluble** vandyke brown is a prepared pigment which falls in **heading 32.06**.

(5) **Verona earth** and **Cyprus earth** (green).

Calcination or the mixing together of various earth colours does not affect their classification. However, when mixed with other substances or presented as dispersions in water, oil, etc., they fall in **Chapter 32**.

The heading **excludes** iron ores (**heading 26.01**) and earth colours containing 70 % or more by weight of combined iron evaluated as Fe_2O_3 (**heading 28.21**).

However, **micaceous iron oxides**, used mainly as anti-rust pigments are classified in this heading although they naturally contain more than 70 % by weight of combined iron.

(B) MEERSCHAUM (WHETHER OR NOT IN POLISHED PIECES) AND AMBER; AGGLOMERATED MEERSCHAUM AND AGGLOMERATED AMBER, IN PLATES, RODS, STICKS OR SIMILAR FORMS, NOT WORKED AFTER MOULDING; JET

(1) **Natural meerschaum** is a very light and porous hydrated silicate of magnesia, white, yellowish, grey or pink, found almost exclusively in Asia Minor. It is obtained in small pieces (the sides seldom exceed 30 cm). These pieces are submitted to a preliminary cleaning, scraping, wool polishing and drying (in the sun or in an oven), followed by further flannel and wax polishing, in order to improve their appearance and to establish their grade or quality.

Agglomerated meerschaum is obtained by agglomerating shavings and other waste of natural meerschaum with binding agents (oils, alum, etc.) under the influence of heat. It falls here **only** when in plates, rods, sticks or similar forms, not worked after moulding.

(2) **Amber** is a fossilised resin (also known as "succinite" or "*Karabé*"). It generally ranges in colour from yellow to deep orange. Care should be taken not to confuse amber or succinite with ambergris, a secretion of the whale, classified in **heading 05.10**.

Agglomerated amber (or ambroid) is an opaque mineral substance formed by agglomerating amber waste. It falls in this heading **only** when in plates, rods, sticks or similar forms, not worked after moulding.

(3) **Jet** is a compact variety of lignite. It is intensely black, easily carved and takes a high polish. Although employed in the manufacture of jewellery, it is not regarded as a precious stone for the purpose of the Nomenclature.

(C) STRONTIANITE (WHETHER OR NOT CALCINED), OTHER THAN STRONTIUM OXIDE

This group covers strontianite (natural strontium carbonates) and calcined strontianite, which consists mainly of impure strontium oxide.

The heading **excludes** pure strontium oxide (**heading 28.16**).

(D) MINERAL SUBSTANCES NOT ELSEWHERE SPECIFIED OR INCLUDED; BROKEN POTTERY

This group covers, *inter alia* :

(1) Natural arsenic sulphides. The two main varieties are :

(i) Realgar, which is an arsenic disulphide, bright red in colour, used in pyrotechnics.

(ii) Orpiment, which is an arsenic trisulphide, bright yellow, used in paint-making.

Mispickel (arsenical pyrites or iron thioarsenide) is also included in this heading.

(2) Alunite, also called alumstone because it is employed in the manufacture of alum. It is a stony substance, reddish-grey or yellowish in colour, and stains the fingers.

(3) Vermiculite, a mineral allied to mica and similar in colour but usually in the form of smaller flakes; also chlorites and perlite, minerals chemically related to vermiculite. These minerals expand when heated and then constitute heat-insulating materials. In the expanded (or exfoliated) forms they are, however, classified in **heading 68.06**.

(4) Lydite, a very hard, rough, fine-textured and even-grained, dark stone, not attacked by acids. Touchstones made of lydite (e.g., for testing precious metals) fall in **heading 68.15**.

(5) Celestite (natural strontium sulphate); Iceland spar (or calcite) and aragonite, which are crystallised calcium carbonates; lepidolite (lithium mica) (fluosilicoaluminate of potassium and lithium) and amblygonite (aluminium phosphatelithium fluoride).

(6) Garden earth, heath earth, marsh earth, marl, alluvium, leaf moulds and excavated soil and subsoil, which, although used in agriculture or in landscaping, are not included under Chapter 31 (Fertilisers) whether or not they contain in the natural state small quantities of nitrogen, phosphorus or potassium. However, the heading **excludes** excavated natural sands of all kinds (**heading 25.05**).

(7) Pozzolana, santorin, trass and similar earths, sometimes called natural cements because they are used in cement manufacture.

(8) Limestone (known as “lithographic stone” and used in the printing industry), in the crude state.

(9) Broken pottery, broken pieces of brick and broken pieces of concrete.

(10) Ores of the rare earth metals (e.g., bastnasite, xenotime, gadolinite), but **not** including monazites and other ores used solely or principally for the extraction of uranium or thorium (**heading 26.12**).

(11) Opacifiers used in enamelling, obtained by the treatment (purification with hydrochloric acid and micronisation) of zircon sand.

(12) Molybdenite “concentrates” obtained from molybdenum ores by certain physical treatments such as washing, grinding, flotation and by heat treatment (other than calcination) designed to drive off traces of oil and water, for non-metallurgical uses (lubrication).

(13) Nsutite, a manganese ore containing not less than 79 % by weight of manganese oxides, not used in the metallurgical industry for the extraction of manganese but in electric batteries.

(14) Natural cryolite, obtained mainly from Greenland, snow-white, occasionally tinged with colour, shiny and almost transparent, used as a flux particularly in the electrolytic production of aluminium; natural chiolite, which, like cryolite, may be regarded as a sodium fluoroaluminate. The heading **excludes** chemically produced fluorides of similar composition to cryolite and chiolite (**heading 28.26**).

The heading **does not cover** precious or semi-precious stones of **Chapter 71**.

2530.10

- Vermiculite, perlite and chlorites, unexpanded

2530.20

- Kieserite, epsomite (natural magnesium sulphates)

2530.90

- Other

CLASSIFICATION OPINIONS

1. **Waste and scrap** from grindstones, polishing stones, etc., of agglomerated natural or artificial abrasives (heading 68.04), suitable solely for recovery of the abrasive. **Application of GRI 4.** *Adoption : 1967*

2. **Free flowing white powder** containing more than 99.2 % by weight of anhydrous disodium sulphate, obtained only by mechanical collection of thenardite (anhydrous disodium sulphate) formed naturally in the open air on the surface of mirabilite (disodium sulphate decahydrate) which crystallised from natural lake brine due to low temperature in winter. Prior to packing, the product is passed through a sieve with an aperture of 0.65 mm. **Application of GIRs 1 and 6.** *See also Opinion 2833.11/1. Adoption : 2016*

Chapter 26

Ores, slag and ash

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Slag or similar industrial waste prepared as macadam (heading 25.17);

(b) Natural magnesium carbonate (magnesite), whether or not calcined (heading 25.19);

(c) Sludges from the storage tanks of petroleum oils consisting mainly of such oils (heading 27.10);

(d) Basic slag of Chapter 31;

(e) Slag wool, rock wool or similar mineral wools (heading 68.06);

(f) Waste or scrap of precious metal or of metal clad with precious metal; other waste or scrap containing precious metal or precious metal compounds, of a kind used principally for the recovery of precious metal (heading 71.12 or 85.49); or

(g) Copper, nickel or cobalt mattes produced by any process of smelting (Section XV).

2.- For the purposes of headings 26.01 to 26.17, the term “ores” means minerals of mineralogical species actually used in the metallurgical industry for the extraction of mercury, of the metals of heading 28.44 or of the metals of Section XIV or XV, even if they are intended for non-metallurgical purposes. Headings 26.01 to 26.17 do not, however, include minerals which have been submitted to processes not normal to the metallurgical industry.

3.- Heading 26.20 applies only to :

(a) Slag, ash and residues of a kind used in industry either for the extraction of metals or as a basis for the manufacture of chemical compounds of metals, excluding ash and residues from the incineration of municipal waste (heading 26.21); and

(b) Slag, ash and residues containing arsenic, whether or not containing metals, of a kind used either for the extraction of arsenic or metals or for the manufacture of their chemical compounds.

Subheading Notes.

1.- For the purposes of subheading 2620.21, “leaded gasoline sludges and leaded anti-knock compound sludges” mean sludges obtained from storage tanks of leaded gasoline and leaded anti-knock compounds (for example, tetraethyllead), and consisting essentially of lead, lead compounds and iron oxide.

2.- Slag, ash and residues containing arsenic, mercury, thallium or their mixtures, of a kind used for the extraction of arsenic or those metals or for the manufacture of their chemical compounds, are to be classified in subheading 2620.60.

EXPLANATORY NOTES

Chapter 26

Ores, slag and ash

Notes.

1.- This Chapter does not cover :

(a) Slag or similar industrial waste prepared as macadam (heading 25.17);

(b) Natural magnesium carbonate (magnesite), whether or not calcined (heading 25.19);

(c) Sludges from the storage tanks of petroleum oils consisting mainly of such oils (heading 27.10);

(d) Basic slag of Chapter 31;

(e) Slag wool, rock wool or similar mineral wools (heading 68.06);

(f) Waste or scrap of precious metal or of metal clad with precious metal; other waste or scrap containing precious metal or precious metal compounds, of a kind used principally for the recovery of precious metal (heading 71.12 or 85.49); or

(g) Copper, nickel or cobalt mattes produced by any process of smelting (Section XV).

2.- For the purposes of headings 26.01 to 26.17, the term “ores” means minerals of mineralogical species actually used in the metallurgical industry for the extraction of mercury, of the metals of heading 28.44 or of the metals of Section XIV or XV, even if they are intended for non-metallurgical purposes. Headings 26.01 to 26.17 do not, however, include minerals which have been submitted to processes not normal to the metallurgical industry.

3.- Heading 26.20 applies only to :

(a) Slag, ash and residues of a kind used in industry either for the extraction of metals or as a basis for the manufacture of chemical compounds of metals, excluding ash and residues from the incineration of municipal waste (heading 26.21); and

(b) Slag, ash and residues containing arsenic, whether or not containing metals, of a kind used either for the extraction of arsenic or metals or for the manufacture of their chemical compounds.

Subheading Notes.

1.- For the purposes of subheading 2620.21, “leaded gasoline sludges and leaded anti-knock compound sludges” mean sludges obtained from storage tanks of leaded gasoline and leaded anti-knock compounds (for example, tetraethyllead), and consisting essentially of lead, lead compounds and iron oxide.

2.- Slag, ash and residues containing arsenic, mercury, thallium or their mixtures, of a kind used for the extraction of arsenic or those metals or for the manufacture of their chemical compounds, are to be classified in subheading 2620.60.

GENERAL

Headings 26.01 to 26.17 are **limited** to metallic ores and concentrates which :

(A) Are of mineralogical species actually used in the metallurgical industry for the extraction of the metals of Section XIV or XV, of mercury or of the metals of heading 28.44, even if they are intended for non-metallurgical purposes, **and**

(B) Have not been submitted to processes not normal to the metallurgical industry.

The term “**ores**” applies to metalliferous minerals associated with the substances in which they occur and with which they are extracted from the mine; it also applies to native metals in their gangue (e.g., metalliferous sands).

Ores are seldom marketed before “preparation” for subsequent metallurgical operations. The most important preparatory processes are those aimed at concentrating the ores.

For the purposes of headings 26.01 to 26.17, the term “**concentrates**” applies to ores which have had part or all of the foreign matter removed by special treatments, either because such foreign matter might hamper subsequent metallurgical operations or with a view to economical transport.

Processes to which products of headings 26.01 to 26.17 may have been submitted include physical, physico-chemical or chemical operations, provided they are normal to the preparation of the ores for the extraction of metal. With the exception of changes resulting from calcination, roasting or firing (with or without agglomeration), such operations must not alter the chemical composition of the basic compound which furnishes the desired metal.

The physical or physico-chemical operations include crushing, grinding, magnetic separation, gravimetric separation, flotation, screening, grading, agglomeration of powders (e.g., by sintering or pelleting) into grains, balls or briquettes (whether or not with the addition of small quantities of binders), drying, calcination, roasting to oxidise, reduce or magnetise the ore, etc. (but not roasting for purposes of sulphating, chloridating, etc.).

The chemical processes are aimed at eliminating the unwanted matter (e.g., dissolution).

Concentrates of ores obtained by treatments, other than calcining or roasting, which alter the chemical composition or crystallographic structure of the basic ore are **excluded** (generally **Chapter 28**). Also **excluded** are more or less pure products obtained by repeated physical changes (fractional crystallisation, sublimation, etc.), even if there has been no change in the chemical composition of the basic ore.

The ores of headings 26.01 to 26.17 are used commercially to obtain :

(1) The precious metals as defined in Chapter 71 (viz., silver, gold, platinum, iridium, osmium, palladium, rhodium and ruthenium).

(2) The metallurgical base metals referred to in Section XV (viz., iron, copper, nickel, aluminium, lead, zinc, tin, tungsten (wolfram), molybdenum, tantalum, cobalt, bismuth, cadmium, titanium, zirconium, antimony, manganese, chromium, germanium, vanadium, beryllium, gallium, hafnium, indium, niobium (colombium), rhenium, thallium).

(3) Mercury of heading 28.05.

(4) Metals of heading 28.44.

In certain cases, the ores are used to obtain alloys such as ferro-manganese or ferro-chromium.

Except where the context otherwise requires, ores and concentrates comprising more than one mineralogical species are to be classified in headings 26.01 to 26.17 as appropriate by application of General Interpretative Rule 3 (b) or failing that by application of Rule 3 (c).

Headings 26.01 to 26.17 **do not cover** :

(a) Minerals containing the above metals if :

(i) They are specified in another heading, e.g., unroasted iron pyrites (**heading 25.02**), natural cryolite and natural chiolite (**heading 25.30**).

(ii) The metals are not extracted commercially, e.g., earth colours, alunite or alumstone (**heading 25.30**), precious or semi-precious stones (**Chapter 71**).

(b) The minerals which at present are used for the extraction of magnesium, i.e., dolomite (**heading 25.18**), magnesite or giobertite (**heading 25.19**) and carnallite (**heading 31.04**).

(c) Minerals of the alkaline or alkaline-earth metals of heading 28.05 (i.e., lithium, sodium, potassium, rubidium, caesium, calcium, strontium and barium); such minerals include salt (**heading 25.01**), barytes and witherite (**heading 25.11**), strontianite, celestite, Iceland spar and aragonite (**heading 25.30**).

(d) Native metals (e.g., nuggets or grains) and natural alloys separated from their gangues or matrices, such native metals and natural alloys being classified in **Section XIV** or **XV**.

(e) Ores of the rare earth metals of **heading 25.30**.

Heading 2601

Iron ores and concentrates, including roasted iron pyrites.
EXPLANATORY NOTES

26.01 - Iron ores and concentrates, including roasted iron pyrites.

- Iron ores and concentrates, other than roasted iron pyrites :

2601.11 - - Non-agglomerated

2601.12 - - Agglomerated

2601.20 - Roasted iron pyrites

The principal ores generally classified in this heading are :

(a) Red haematite, including specular iron ore and martite - iron oxides - and brown haematite (minettes) - hydrated iron oxide containing iron and calcium carbonates.

(b) Limonite, hydrated iron oxide.

(c) Magnetite, magnetic iron oxide.

(d) Siderite or chalybite, iron carbonate.

(e) Roasted iron pyrites or pyrites cinders, whether or not agglomerated.

The heading also covers iron ores and concentrates with a manganese content of less than 20 % calculated on the dry weight (the ores and concentrates being heated to a temperature of 105 to 110 °C) (see Explanatory Note to heading 26.02). Depending upon their manganese content, these ores are known either as manganiferous iron ores or as ferruginous manganese ores.

The heading **excludes** finely ground magnetite and other finely ground iron ores for use as pigments (**Chapter 32**).

2601.1

- Iron ores and concentrates, other than roasted iron pyrites :
2601.11

-- Non-agglomerated
2601.12

-- Agglomerated
2601.20

- Roasted iron pyrites
Heading 2602

Manganese ores and concentrates, including ferruginous manganese ores and concentrates with a manganese content of 20 % or more, calculated on the dry weight.
EXPLANATORY NOTES

26.02 - Manganese ores and concentrates, including ferruginous manganese ores and concentrates with a manganese content of 20 % or more, calculated on the dry weight.

The principal ores generally covered by this heading are :

(a) Braunite, manganese oxide.

(b) Rhodochrosite (or dialogite), manganese carbonate.

(c) Hausmannite, saline manganese oxide.

(d) Manganite, hydrated manganese oxide.

(e) Psilomelane, hydrated manganese dioxide.

(f) Pyrolusite (or polianite), manganese dioxide.

The heading also covers ferruginous manganese ores and concentrates, provided they have a manganese content of 20 % or more, calculated on the dry weight (the ores and concentrates being heated to a temperature of 105 to 110 °C); those with a manganese content of less than 20 % calculated on the dry weight are **excluded** (**heading 26.01**).

The heading also **excludes** pyrolusite prepared for use in dry batteries (**heading 25.30**).

2602.00

Manganese ores and concentrates, including ferruginous manganese ores and concentrates with a manganese content of 20 % or more, calculated on the dry weight.

Heading 2603

Copper ores and concentrates.

EXPLANATORY NOTES

26.03 - Copper ores and concentrates.

The principal ores generally classified in this heading are :

(a) Atacamite, natural copper hydroxychloride.

(b) Azurite, basic copper carbonate.

(c) Bornite (or erubescite), sulphide of copper and iron.

(d) Bournonite, sulphide of copper, lead and antimony.

(e) Brochantite, basic copper sulphate.

(f) Chalcocite, copper sulphide.

(g) Chalcopyrite (copper pyrites), sulphide of copper and iron.

(h) Chrysocolla, hydrated copper silicate.

(ij) Covellite, copper sulphide.

(k) Cuprite, cuprous oxide.

(l) Dioptase, copper silicate.

(m) Grey copper ore (often silver-bearing), a sulphide of copper and antimony (tetrahedrite or fahlerz) or a sulphide of copper and arsenic (tennantite, enargite).

(n) Malachite, basic copper carbonate.

(o) Tenorite, cupric oxide.

2603.00

Copper ores and concentrates.

Heading 2604

Nickel ores and concentrates.

EXPLANATORY NOTES

26.04 - Nickel ores and concentrates.

The principal ores generally classified in this heading are :

(a) Garnierite, double silicate of nickel and magnesium.

(b) Niccolite (nickelin), nickel arsenide.

(c) Pentlandite, sulphide of nickel and iron.

(d) Nickeliferous pyrrhotite, nickel-bearing iron sulphide.

2604.00

Nickel ores and concentrates.

Heading 2605

Cobalt ores and concentrates.

EXPLANATORY NOTES

26.05 - Cobalt ores and concentrates.

The principal ores generally classified in this heading are :

(a) Cobaltite, sulphide and arsenide of cobalt.

(b) Heterogenite, hydrated oxide of cobalt.

(c) Linnaeite, sulphide of cobalt and nickel.

(d) Smaltite, cobalt arsenide.

2605.00

Cobalt ores and concentrates.

Heading 2606

Aluminium ores and concentrates.

EXPLANATORY NOTES

26.06 - Aluminium ores and concentrates.

This heading covers bauxite (hydrated aluminium oxide containing variable proportions of iron oxide, silica, etc.).

The heading also covers bauxite, heat-treated (1,200 °C to 1,400 °C) suitable for use in metallurgy for the manufacture of aluminium (carbo-thermo-reduction in electric furnace, Gross, etc., processes) or for other uses (in particular, for the manufacture of abrasives).

2606.00

Aluminium ores and concentrates.

Heading 2607

Lead ores and concentrates.

EXPLANATORY NOTES

26.07 - Lead ores and concentrates.

The principal ores generally classified in this heading are :

(a) Anglesite, lead sulphate.

(b) Cerussite, lead carbonate.

(c) Galena, lead sulphide, often silver-bearing.

(d) Pyromorphite, phosphate and chloride of lead.

2607.00

Lead ores and concentrates.

Heading 2608

Zinc ores and concentrates.

EXPLANATORY NOTES

26.08 - Zinc ores and concentrates.

The principal ores generally classified in this heading are :

(a) Blende (sphalerite), zinc sulphide.

(b) Hemimorphite (or calamine), zinc hydrosilicate.

(c) Smithsonite, zinc carbonate.

(d) Zincite, zinc oxide.

2608.00

Zinc ores and concentrates.

Heading 2609

Tin ores and concentrates.

EXPLANATORY NOTES

26.09 - Tin, ores and concentrates.

The principal ores generally classified in this heading are :

(a) Cassiterite (or tin-stone), tin oxide.

(b) Stannite (or tin pyrites), sulphide of tin, copper and iron.

2609.00

Tin ores and concentrates.

Heading 2610

Chromium ores and concentrates.

EXPLANATORY NOTES

26.10 - Chromium ores and concentrates.

This heading covers chromite (or chrome iron ore), i.e., oxide of chromium and iron.

2610.00

Chromium ores and concentrates.

Heading 2611

Tungsten ores and concentrates.

EXPLANATORY NOTES

26.11 - Tungsten ores and concentrates.

The principal ores generally classified in this heading are :

(a) Ferberite, iron tungstate.

(b) Hubnerite, manganese tungstate.

(c) Scheelite, calcium tungstate.

(d) Wolframite, tungstate of iron and manganese.

2611.00

Tungsten ores and concentrates.

Heading 2612

Uranium or thorium ores and concentrates.
EXPLANATORY NOTES

26.12 - Uranium or thorium ores and concentrates.

2612.10 - Uranium ores and concentrates

2612.20 - Thorium ores and concentrates

The principal uranium ores generally classified in this heading are :

(a) Autunite, hydrated phosphate of uranium and calcium.

(b) Brannerite, uranium titanate.

(c) Carnotite, hydrated vanadate of uranium and potassium.

(d) Coffinite, uranium silicate.

(e) Davidite, uranium iron titanate.

(f) Parsonsite, hydrated phosphate of uranium and lead.

(g) Pitchblende and uraninite, saline uranium oxides.

(h) Torbernite (or chalcolite), hydrated phosphate of uranium and copper.

(ij) Tyuyamunite, hydrated vanadate of uranium and calcium.

(k) Uranophane, calcium-uranium silicate.

(l) Uranothorianite, oxide of uranium and thorium.

The principal thorium ores generally classified in this heading are :

(a) Monazite, phosphate of thorium and rare earths.

(b) Thorite, hydrated thorium silicate.

The heading **excludes** those products known in trade as “concentrates” of uranium which are obtained by processes not normal to the metallurgical industry (**heading 28.44**).

2612.10

- Uranium ores and concentrates

2612.20

- Thorium ores and concentrates

Heading 2613

Molybdenum ores and concentrates.
EXPLANATORY NOTES

26.13 - Molybdenum ores and concentrates.

2613.10 - Roasted

2613.90 - Other

The principal molybdenum ores generally classified in this heading are :

(a) Molybdenite, molybdenum sulphide.

(b) Wulfenite, lead molybdate.

The heading also covers roasted molybdenite concentrates (“technical molybdic oxide”, obtained by merely roasting molybdenite concentrates).

The heading **excludes** molybdenite prepared for use as a lubricant (**heading 25.30**).

2613.10

- Roasted

2613.90

- Other

Heading 2614

Titanium ores and concentrates.
EXPLANATORY NOTES

26.14 - Titanium ores and concentrates.

The principal ores generally classified in this heading are :

(a) Ilmenite (or titaniferous iron ore), iron titanate.

(b) Rutile, anatase and brookite, titanium oxides.

The heading **excludes** finely ground titanium ores for use as pigments (**Chapter 32**).

2614.00

Titanium ores and concentrates.

Heading 2615

Niobium, tantalum, vanadium or zirconium ores and concentrates.
EXPLANATORY NOTES

26.15 - Niobium, tantalum, vanadium or zirconium ores and concentrates.

2615.10 - Zirconium ores and concentrates

2615.90 - Other

The principal zirconium ores generally classified in this heading are :

(a) Baddeleyite, zirconium oxide.

(b) Zircon and zircon sands, zirconium silicates. (When in the form of a precious stone, zircon falls in **heading 71.03**.)

The principal tantalum and niobium (columbium) ores generally classified in this heading are tantalite and niobite (columbite) (i.e., tantalo-niobate of iron and manganese).

The principal vanadium ores generally classified in this heading are :

(a) Descloizite, basic vanadate of lead and zinc.

(b) Patronite, vanadium sulphide.

(c) Roscoelite (vanadium mica), complex vanado-silicate of aluminium and magnesium.

(d) Vanadinite, vanadate and chloride of lead.

Fused vanadium oxides obtained by treatments, other than calcining or roasting, which alter the chemical composition or crystallographic structure of the basic ore are **excluded** (generally **Chapter 28**).

The heading also **excludes** zircon sand micronised for use as an opacifier in enamel manufacture (**heading 25.30**).

2615.10

- Zirconium ores and concentrates

2615.90

- Other

Heading 2616

Precious metal ores and concentrates.

EXPLANATORY NOTES

26.16 - Precious metal ores and concentrates.

2616.10 - Silver ores and concentrates

2616.90 - Other

The principal ores generally classified in this heading are :

(a) Argentite, silver sulphide.

(b) Calaverite, telluride of gold and silver.

(c) Cerargyrites (or horn silver), silver chlorides and iodides.

(d) Polybasite, sulphide of silver and antimony.

(e) Proustite, sulphide of silver and arsenic.

(f) Pyrargyrite, sulphide of silver and antimony.

(g) Stephanite, sulphide of silver and antimony.

(h) Gold and platinum-bearing sands; the latter frequently contain other metals of the platinum group (i.e., iridium, osmium, palladium, rhodium and ruthenium).

2616.10

- Silver ores and concentrates

2616.90

- Other

Heading 2617

Other ores and concentrates.

EXPLANATORY NOTES

26.17 - Other ores and concentrates.

2617.10 - Antimony ores and concentrates

2617.90 - Other

The principal ores generally classified in this heading are :

(1) **Antimony ores.**

(a) Cervantite, antimony oxide.

(b) Kermesite, antimony oxysulphide.

(c) Senarmontite, antimony oxide.

(d) Stibnite (or antimonite), antimony sulphide.

(e) Valentinite or white antimony, antimony oxide.

(2) **Beryllium ores.**

(a) Beryl, double silicate of beryllium and aluminium. (When in the form of a precious stone, beryl or common emerald falls within **heading 71.03**.)

(b) Bertrandite.

(3) **Bismuth ores.**

(a) Bismuthinite (or bismuth glance), bismuth sulphide.

(b) Bismutite, hydrated bismuth carbonate.

(c) Bismuth ochre (or bismite), hydrated bismuth oxide.

(4) **Germanium ores.**

Germanite, copper germano-sulphide.

The heading **excludes** those products known in trade as “concentrates” of germanium, which are obtained by processes not normal to the metallurgical industry (generally **heading 28.25**).

(5) **Mercury ores.**

Cinnabar, sulphide of mercury.

Indium, gallium, rhenium, hafnium, thallium and cadmium are not extracted directly from one particular ore, but are obtained as by-products of the metallurgy of other metals (e.g., zinc, lead, copper, aluminium, zirconium, molybdenum).

2617.10

- Antimony ores and concentrates

2617.90

- Other

Heading 2618

Granulated slag (slag sand) from the manufacture of iron or steel.

EXPLANATORY NOTES

26.18 - Granulated slag (slag sand) from the manufacture of iron or steel.

This heading covers granulated slag (slag sand) obtained, for example, by pouring liquid dross into water as it leaves the blast furnace.

On the other hand, it does **not** include slag wool obtained by blowing steam or compressed air through molten slag, nor foamed slag made by adding small amounts of water to molten slag (**heading 68.06**). The heading also **excludes** slag cements (**heading 25.23**).

2618.00

Granulated slag (slag sand) from the manufacture of iron or steel.

Heading 2619

Slag, dross (other than granulated slag), scalings and other waste from the manufacture of iron or steel.

EXPLANATORY NOTES

26.19 - Slag, dross (other than granulated slag), scalings and other waste from the manufacture of iron or steel.

The slags covered by this heading are silicates of aluminium, calcium or iron obtained during the smelting of iron ore (blast furnace slag), the refining of pig iron or the manufacture of steel (converter slag). The heading includes these slags whether or not they contain sufficient iron to permit the recovery of the metal. But it **excludes** the phosphatic slags ("basic slag" or "Thomas slag"); these are important fertilisers and are classified in **Chapter 31**.

Slag and dross are used in the manufacture of cement, for ballast and in road construction. Slag crushed and roughly graded as macadam falls in **heading 25.17**. The heading also **excludes** granulated slag (slag sand) of **heading 26.18**.

Scalings are chips of iron oxide which result from the forging, hot-rolling, etc., of iron or steel.

The heading also includes dust from blast furnaces and other kinds of waste resulting from the manufacture of iron and steel, but **not** scrap metal produced during cutting, shaping or other metal working processes, which falls in **heading 72.04**.

2619.00

Slag, dross (other than granulated slag), scalings and other waste from the manufacture of iron or steel.

Heading 2620

Slag, ash and residues (other than from the manufacture of iron or steel) containing metals, arsenic or their compounds.

EXPLANATORY NOTES

26.20 - Slag, ash and residues (other than from the manufacture of iron or steel) containing metals, arsenic, or their compounds.

- Containing mainly zinc :

2620.11 - - Hard zinc spelter

2620.19 - - Other

- Containing mainly lead :

2620.21 - - Leaded gasoline sludges and leaded anti-knock compound sludges

2620.29 - - Other

2620.30 - Containing mainly copper

2620.40 - Containing mainly aluminium

2620.60 - Containing arsenic, mercury, thallium or their mixtures, of a kind used for the extraction of arsenic or those metals or for the manufacture of their chemical compounds

- Other :

2620.91 - - Containing antimony, beryllium, cadmium, chromium or their mixtures

2620.99 - - Other

This heading covers slag, ash and residues (**other than** those of heading **26.18, 26.19** or **71.12**) which containing metals, arsenic (whether or not containing metals) or their compounds, and which are of a kind used in industry either for the extraction of arsenic or metals or as a basis for the manufacture of their chemical compounds. They result from the treatment of ores or intermediate metallurgical products (such as mattes) or from electrolytic, chemical or other processes which do not involve the mechanical working of metal. Waste which derives from the mechanical working of metal, or scrap which consists of worn-out or broken metal articles is **excluded** (**Section Section XIV, XV or XVI**). On the other hand, scalings, which are essentially oxides although deriving from the mechanical working of non-ferrous metal, also fall in this heading.

The heading includes :

(1) Mattes (**other than** copper, nickel or cobalt mattes (**Section XV**)) and slag or dross, for example those rich in copper, zinc, tin, lead, etc.

(2) Hard zinc spelter, residue from galvanisation by dipping in molten zinc.

(3) Sludge from electrolytic baths after the preparation or refining of metal, and electro-galvanising sludge.

(4) Accumulator sludge.

(5) Residues from electrolytic metal refining, dried or concentrated in block form.

(6) Residues from the manufacture of copper sulphate.

(7) Impure cobalt oxides resulting from the treatment of silver-bearing ores.

(8) Spent catalysts usable only for the extraction of metal or for the manufacture of chemicals.

(9) Residual carnallite lyes, mainly used for obtaining magnesium chloride.

(10) Leaded gasoline sludges and leaded anti-knock compound sludges from storage tanks of leaded gasoline and leaded anti-knock compounds, consisting essentially of lead, lead compounds (including tetraethyllead and tetramethyllead) and iron oxide (due to rusting of storage tanks). In general, such sludges are used for recovery of lead or lead compounds, and contain practically no petroleum oils.

(11) Flue dusts from zinc, lead or copper smelting. Generally, arsenic is present in the flue dusts from copper and lead smelting, and thallium is present in the flue dusts from lead and zinc smelting.

(12) Slag, ash and residues from zinc, lead or copper smelting and rich in mercury usually as oxide, sulphide or as an amalgam with other metals.

(13) Slag, ash and residues containing antimony, beryllium, cadmium, chromium or their mixtures. These are generally in the form of wastes arising from processing (e.g., heat treatment) of goods containing these metals.

(14) Slag, ash and residues from wastes resulting from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnishes, of a kind used for the recovery of metals or their compounds.

The heading also **excludes** :

(a) Ash and residues from the incineration of municipal waste (**heading 26.21**).

(b) Sludges from the storage tanks of petroleum oils consisting mainly of such oils (**heading 27.10**).

(c) Chemically defined compounds of **Chapter 28**.

(d) Waste and scrap of precious metals or of metal clad with precious metal (including e.g., spent or damaged catalysts in the form of platinum alloy gauze) and other waste and scrap containing precious metal or precious metal compounds, of a kind used principally for the recovery of precious metal (**heading 71.12** or **85.49**).

(e) Scrap metal resulting from the mechanical working of the metals of **Section XV**.

(f) Zinc dust (**heading 79.03**).

2620.1

- Containing mainly zinc :

2620.11

-- Hard zinc spelter

2620.19

-- Other

2620.2

- Containing mainly lead :

2620.21

-- Leaded gasoline sludges and leaded anti-knock compound sludges

2620.29

-- Other

2620.30

- Containing mainly copper

2620.40

- Containing mainly aluminium

2620.60

- Containing arsenic, mercury, thallium or their mixtures, of a kind used for the extraction of arsenic or those metals or for the manufacture of their chemical compounds

2620.9

- Other :

2620.91

-- Containing antimony, beryllium, cadmium, chromium or their mixtures

2620.99

-- Other

Heading 2621

Other slag and ash, including seaweed ash (kelp); ash and residues from the incineration of municipal waste.

EXPLANATORY NOTES

26.21 - Other slag and ash, including seaweed ash (kelp); ash and residues from the incineration of municipal waste.

2621.10 - Ash and residues from the incineration of municipal waste

2621.90 - Other

This heading covers slag and ash **not falling** in **heading 26.18**, **26.19** or **26.20**, derived from the working of ores or from metallurgical processes, as well as those derived from any other material or process. Although many of the products are used as fertilisers they are classified here and not in Chapter 31 (**except** in the case of basic slag).

The products covered include :

(1) Ash and clinker of mineral origin produced primarily from burning coal, lignite, peat or oil in utility boilers. Its principal uses are as a raw material for cement manufacture, as a supplement to cement in concrete, in mine backfill, as a mineral filler in plastics and paints, as a lightweight aggregate in building block manufacture and in civil engineering structures such as embankments, highway ramps and bridge abutments. It includes :

(a) Fly ash – finely divided particles entrained in furnace flue gases and removed from the gas stream by bag or electrostatic filters;

(b) Bottom ash – more coarse ash removed by settlement from the gas stream immediately after leaving the furnace;

(c) Boiler slag – coarse residues removed from the bottom of the furnace;

(d) Fluidised bed combustor ash (FBC-ash) - inorganic residues from burning coal or oil in a fluidised bed of limestone or of dolomite.

(2) Kelp and other vegetable ash. Kelp covered by this heading is material produced by incinerating certain types of seaweed. In its raw state it is a heavy, rough, blackish material but, when refined, it is a dull white powder. It is mainly used for extracting iodine or in the glass industry.

This group also includes rice husk ash, composed almost entirely of silica, and used primarily for the manufacture of sound-insulating bricks or other sound-insulating products.

(3) Bone ash obtained from the calcination of bones in the open air. Apart from its use for soil improvement, this product is also used for coating ingot moulds in copper smelting. The heading **excludes** animal black, obtained from the calcination of bones in a closed vessel (**heading 38.02**).

(4) Crude potassium salts obtained in the sugar industry from residues of beet molasses by incineration, washing, etc.

(5) Ash and residues resulting from the incineration of municipal waste (see Note 4 to Chapter 38). Such ash and residues are frequently a mixture of clinker and some toxic metals (e.g., lead) and generally used for the construction of temporary roadways on landfill sites as a substitute for aggregates. Metal content of this type of ash and residues does not warrant the recovery of metals or metal compounds.

The heading **excludes** separate chemically defined silica fume collected as a by-product from silicon, ferrosilicon and zirconia production, generally used as a pozzolanic additive in concrete, fibre cement, or refractory castables, and as an additive in polymers (**heading 28.11**).

2621.10

- Ash and residues from the incineration of municipal waste

2621.90

- Other

Chapter 27

Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Separate chemically defined organic compounds, other than pure methane and propane which are to be classified in heading 27.11;

(b) Medicaments of heading 30.03 or 30.04; or

(c) Mixed unsaturated hydrocarbons of heading 33.01, 33.02 or 38.05.

2.- References in heading 27.10 to "petroleum oils and oils obtained from bituminous minerals" include not only petroleum oils and oils obtained from bituminous minerals but also similar oils, as well as those consisting mainly of mixed unsaturated hydrocarbons, obtained by any process, provided that the weight of the non-aromatic constituents exceeds that of the aromatic constituents.

However, the references do not include liquid synthetic polyolefins of which less than 60 % by volume distils at 300 °C, after conversion to 1,013 millibars when a reduced-pressure distillation method is used (Chapter 39).

3.- For the purposes of heading 27.10, "waste oils" means waste containing mainly petroleum oils and oils obtained from bituminous minerals (as described in Note 2 to this Chapter), whether or not mixed with water. These include :

(a) Such oils no longer fit for use as primary products (for example, used lubricating oils, used hydraulic oils and used transformer oils);

(b) Sludge oils from the storage tanks of petroleum oils, mainly containing such oils and a high concentration of additives (for example, chemicals) used in the manufacture of the primary products; and

(c) Such oils in the form of emulsions in water or mixtures with water, such as those resulting from oil spills or storage tank washings, or from the use of cutting oils for machining operations.

Subheading Notes.

1.- For the purposes of subheading 2701.11, "anthracite" means coal having a volatile matter limit (on a dry, mineral-matter-free basis) not exceeding 14 %.

2.- For the purposes of subheading 2701.12, "bituminous coal" means coal having a volatile matter limit (on a dry, mineral-matter-free basis) exceeding 14 % and a calorific value limit (on a moist, mineral-matter-free basis) equal to or greater than 5,833 kcal/kg.

3.- For the purposes of subheadings 2707.10, 2707.20, 2707.30 and 2707.40 the terms “benzol (benzene)”, “toluol (toluene)”, “xylol (xylenes)” and “naphthalene” apply to products which contain more than 50 % by weight of benzene, toluene, xylenes or naphthalene respectively.

4.- For the purposes of subheading 2710.12, “light oils and preparations” are those of which 90 % or more by volume (including losses) distil at 210 °C according to the ISO 3405 method (equivalent to the ASTM D 86 method).

5.- For the purposes of the subheadings of heading 27.10, the term “biodiesel” means mono-alkyl esters of fatty acids of a kind used as a fuel, derived from animal, vegetable or microbial fats and oils whether or not used.

EXPLANATORY NOTES

Chapter 27

Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes

Notes.

1.- This Chapter does not cover :

(a) Separate chemically defined organic compounds, other than pure methane and propane which are to be classified in heading 27.11;

(b) Medicaments of heading 30.03 or 30.04; or

(c) Mixed unsaturated hydrocarbons of heading 33.01, 33.02 or 38.05.

2.- References in heading 27.10 to “petroleum oils and oils obtained from bituminous minerals” include not only petroleum oils and oils obtained from bituminous minerals but also similar oils, as well as those consisting mainly of mixed unsaturated hydrocarbons, obtained by any process, provided that the weight of the non-aromatic constituents exceeds that of the aromatic constituents.

However, the references do not include liquid synthetic polyolefins of which less than 60 % by volume distils at 300 °C, after conversion to 1,013 millibars when a reduced-pressure distillation method is used (Chapter 39).

3.- For the purposes of heading 27.10, “waste oils” means waste containing mainly petroleum oils and oils obtained from bituminous minerals (as described in Note 2 to this Chapter), whether or not mixed with water. These include :

(a) Such oils no longer fit for use as primary products (for example, used lubricating oils, used hydraulic oils and used transformer oils);

(b) Sludge oils from the storage tanks of petroleum oils, mainly containing such oils and a high concentration of additives (for example, chemicals) used in the manufacture of the primary products; and

(c) Such oils in the form of emulsions in water or mixtures with water, such as those resulting from oil spills or storage tank washings, or from the use of cutting oils for machining operations.

Subheading Notes.

1.- For the purposes of subheading 2701.11, “anthracite” means coal having a volatile matter limit (on a dry, mineral-matter-free basis) not exceeding 14 %.

2.- For the purposes of subheading 2701.12, “bituminous coal” means coal having a volatile matter limit (on a dry, mineral-matter-free basis) exceeding 14 % and a calorific value limit (on a moist, mineral-matter-free basis) equal to or greater than 5,833 kcal/kg.

3.- For the purposes of subheadings 2707.10, 2707.20, 2707.30 and 2707.40 the terms “benzol (benzene)”, “toluol (toluene)”, “xylol (xylenes)” and “naphthalene” apply to products which contain more than 50 % by weight of benzene, toluene, xylenes or naphthalene respectively.

4.- For the purposes of subheading 2710.12, “light oils and preparations” are those of which 90 % or more by volume (including losses) distil at 210 °C according to the ISO 3405 method (equivalent to the ASTM D 86 method).

5.- For the purposes of the subheadings of heading 27.10, the term “biodiesel” means mono-alkyl esters of fatty acids of a kind used as a fuel, derived from animal, vegetable or microbial fats and oils whether or not used.

GENERAL

The Chapter covers, in general, coal and other natural mineral fuels, petroleum oils and oils obtained from bituminous minerals, their distillation products, and products of a similar kind obtained by any other process. It also covers mineral waxes and natural bituminous substances. Goods of this Chapter may be crude or refined; however, with the exception of methane and propane, when they are separate chemically defined organic compounds in the pure or commercially pure state, they are to be classified in **Chapter 29**. For certain of these compounds (e.g., ethane, benzene, phenol, pyridine) there are specific purity criteria indicated in Explanatory Notes 29.01, 29.07 and 29.33. Methane and propane are classified in heading 27.11, even when pure.

The expression “aromatic constituents” as used in Note 2 to this Chapter and in heading 27.07 should be taken to refer to entire molecules with an aromatic part irrespective of the number and length of side-chains and not to the aromatic portions of such molecules only.

The Chapter **does not cover** :

(a) Medicaments of **heading 30.03** or **30.04**.

(b) Perfumery, cosmetic or toilet preparations (**headings 33.03 to 33.07**).

(c) Liquid or liquefied-gas fuels in containers of a kind used for filling or refilling cigarette or similar lighters and of a capacity not exceeding 300 cm^3 (**heading 36.06**).

CLASSIFICATION OPINIONS

1. Separate isomers and mixtures of isomers of saturated acyclic hydrocarbons :
(i) Separate isomers less than 95 % pure (*).
(ii) Mixtures of isomers containing less than 95 % (*) of a single isomer.
See also Opinion 2901.10/1.
Adoption : 1969

2. Separate isomers and mixtures of isomers (other than stereoisomers) of monoethylenic or polyethylenic acyclic hydrocarbons :
(i) Separate isomers less than 90 % pure (*).
(ii) Mixtures of isomers containing less than 90 % (*) of a single isomer.
See also Opinions 2901.23 to 2901.29/1.
Adoption : 1974

Heading 2701

Coal; briquettes, ovoids and similar solid fuels manufactured from coal.
EXPLANATORY NOTES

27.01 - Coal; briquettes, ovoids and similar solid fuels manufactured from coal.

- Coal, whether or not pulverised, but not agglomerated :

2701.11 - - Anthracite

2701.12 - - Bituminous coal

2701.19 - - Other coal

2701.20 - Briquettes, ovoids and similar solid fuels manufactured from coal

This heading covers the various types of coal and anthracite, whether or not pulverised or agglomerated (ovoids, briquettes, etc.). It also covers briquettes and similar manufactured fuels which have been carbonised to render them smokeless.

The heading also includes pulverised coal dispersed in water (slurry coal) and containing small amounts of dispersing agents, especially surface-active agents.

The heading **does not cover** jet (**heading 25.30**), brown coal (lignite) (**heading 27.02**), nor coke and semi-coke of coal (**heading 27.04**).

2701.1

- Coal, whether or not pulverised, but not agglomerated :
2701.11

-- Anthracite
2701.12

-- Bituminous coal
2701.19

-- Other coal
2701.20

- Briquettes, ovoids and similar solid fuels manufactured from coal

Heading 2702

Lignite, whether or not agglomerated, excluding jet.
EXPLANATORY NOTES

27.02 - Lignite, whether or not agglomerated, excluding jet.

2702.10 - Lignite, whether or not pulverised, but not agglomerated

2702.20 - Agglomerated lignite

This heading covers lignite (brown coal), a fuel intermediate between coal and peat, whether or not dehydrated, pulverised or agglomerated.

The heading **excludes** jet, a variety of lignite (**heading 25.30**).

2702.10

- Lignite, whether or not pulverised, but not agglomerated

2702.20

- Agglomerated lignite

Heading 2703

Peat (including peat litter), whether or not agglomerated.
EXPLANATORY NOTES

27.03 - Peat (including peat litter), whether or not agglomerated.

Peat, which is formed of partly carbonised vegetable material, is generally light and fibrous.

The heading covers all kinds of peat, including dried or agglomerated peat used as fuel, crushed peat, peat litter, etc., used in stables, for soil improvement or for other purposes.

Mixtures of peat and sand or clay, the essential character of which is given by the peat, are also included in this heading, whether or not they contain small quantities of the fertilising elements nitrogen, phosphorus or potassium. Such products are generally used as potting soils.

However, the heading **does not cover** :

(a) Fibres of peat (known as “berandine”) prepared for textile use (**Section XI**).

(b) Flower pots or other articles of peat, including insulating sheets for buildings, obtained by cutting or moulding (**Chapter 68**).

2703.00

Peat (including peat litter), whether or not agglomerated.

Heading 2704

Coke and semi-coke of coal, of lignite or of peat, whether or not agglomerated; retort carbon.

EXPLANATORY NOTES

27.04 - Coke and semi-coke of coal, of lignite or of peat, whether or not agglomerated; retort carbon.

Coke is the solid residue obtained from the distillation (or carbonisation or gasification) of coal, lignite or peat in the absence of air. It is obtained in coke ovens from various qualities of bituminous coals.

Semi-coke results from the distillation of coal or lignite at low temperature.

Coke and semi-coke of this heading may be pulverised or agglomerated.

Retort carbon (gas carbon) is a hard, black, brittle form of carbon which gives a metallic ring when struck. It is obtained as a by-product in gas works or coke ovens where it is deposited on the walls of the ovens or retorts. The carbon usually consists of irregular lumps of which one face is either flat or slightly curved according to the shape of the retort.

In some countries, retort carbon is called “artificial graphite”, but this name is more correctly applied to artificially produced graphite of **heading 38.01**.

The heading **excludes** :

(a) Pitch coke and petroleum coke (**headings 27.08** and **27.13**, respectively).

(b) Articles of retort carbon of a kind used for electrical purposes (**heading 85.45**).

2704.00

Coke and semi-coke of coal, of lignite or of peat, whether or not agglomerated; retort carbon.

Heading 2705

Coal gas, water gas, producer gas and similar gases, other than petroleum gases and other gaseous hydrocarbons.

EXPLANATORY NOTES

27.05 - Coal gas, water gas, producer gas and similar gases, other than petroleum gases and other gaseous hydrocarbons.

Coal gas is obtained by the distillation of coal in the absence of air, usually in gas works or coke ovens. It is a complex mixture of hydrogen, methane, carbon monoxide, etc., and is used for lighting or heating purposes.

The heading includes the gas produced by underground gasification and also water gas, producer gas and similar gases, for example blast-furnace gas. It also covers mixtures of gases formed by cracking or reforming of mineral oils, petroleum gases or natural gases, usually in the presence of steam. These mixtures are similar in composition to coal gas and are used for heating or lighting purposes and in the synthesis of chemicals, e.g., methanol, ammonia. In the latter case, they are sometimes called “synthesis gas”. However, the heading **excludes** the gases specified in **heading 27.11**.

2705.00

Coal gas, water gas, producer gas and similar gases, other than petroleum gases and other gaseous hydrocarbons.

Heading 2706

Tar distilled from coal, from lignite or from peat, and other mineral tars, whether or not dehydrated or partially distilled, including reconstituted tars.

EXPLANATORY NOTES

27.06 - Tar distilled from coal, from lignite or from peat, and other mineral tars, whether or not dehydrated or partially distilled, including reconstituted tars.

These tars are very complex mixtures of variable proportions of aromatic and aliphatic constituents, usually resulting from the distillation of coal, lignite or peat.

The heading covers all such tars including :

(1) The tars produced by high temperature distillation of coal, which consist predominantly of aromatic constituents such as benzene, phenol, naphthalene, anthracene and phenol homologues, pyridine bases.

(2) The tars obtained by the distillation of lignite or peat or by the low temperature distillation of coal. These tars are similar to those referred to in (1) above, but contain a larger proportion of aliphatic, naphthenic and phenolic compounds.

(3) Other mineral tars, including those obtained from water gas producers during the gasification of coals.

The heading also includes dehydrated or partially distilled tars and reconstituted tars obtained by blending pitch with creosote oils or with other coal tar distillation products.

Tars are mainly used in further distillation which produces a series of oils and other coal tar products. They are also used for waterproofing materials and for surfacing roads, etc.

The heading **does not cover** tars extracted from non-mineral sources, e.g., wood tar (**heading 38.07**).

2706.00

Tar distilled from coal, from lignite or from peat, and other mineral tars, whether or not dehydrated or partially distilled, including reconstituted tars.

Heading 2707

Oils and other products of the distillation of high temperature coal tar; similar products in which the weight of the aromatic constituents exceeds that of the non-aromatic constituents.

EXPLANATORY NOTES

27.07 - Oils and other products of the distillation of high temperature coal tar; similar products in which the weight of the aromatic constituents exceeds that of the non-aromatic constituents.

2707.10 - Benzol (benzene)

2707.20 - Toluol (toluene)

2707.30 - Xylol (xylenes)

2707.40 - Naphthalene

2707.50 - Other aromatic hydrocarbon mixtures of which 65 % or more by volume (including losses) distils at 250 °C by the ISO 3405 method (equivalent to the ASTM D 86 method)

- Other :

2707.91 - - Creosote oils

2707.99 - - Other

This heading covers :

(1) The oils and other products obtained by the distillation of high temperature coal tar in more or less broad fractions, which produces mixtures consisting predominantly of aromatic hydrocarbons and other aromatic compounds.

These oils and other products include :

- Benzol (benzene), toluol (toluene), xylol (xylenes) and solvent naphtha.
- Naphthalene oils and crude naphthalene.
- Anthracene oils and crude anthracene.
- Phenolic oils (phenols, cresols, xylenols, etc.).
- Pyridine, quinoline and acridine bases.
- Creosote oils.

(2) Similar oils and products with a predominance of aromatic constituents obtained by the distillation of low temperature coal tar or other mineral tar, by the "stripping" of coal gas, by the processing of petroleum or by any other process.

The heading includes the oils and products referred to above whether crude or refined, but it **excludes** separate chemically defined compounds in the pure or commercially pure state obtained by further fractionation or by other processing of tar oils (**Chapter 29**). For benzene, toluene, xylene, naphthalene, anthracene, phenol, cresols, xylenols, pyridine and certain derivatives of pyridine, there are specific purity criteria, indicated in the relevant parts of Explanatory Notes 29.02, 29.07 and 29.33.

Wood tar oils fall in **Chapter 38**.

The heading **does not cover** mixed alkylbenzenes or mixed alkylnaphthalenes obtained by the alkylation of benzene or naphthalene, and having fairly long side-chains (**heading 38.17**).

2707.10

- Benzol (benzene)

2707.20

- Toluol (toluene)

2707.30

- Xylol (xylenes)

2707.40

- Naphthalene

2707.50

- Other aromatic hydrocarbon mixtures of which 65 % or more by volume (including losses) distils at 250 °C by the ISO 3405 method (equivalent to the ASTM D 86 method)

2707.9

- Other :

2707.91

-- Creosote oils

2707.99

-- Other

Heading 2708

Pitch and pitch coke, obtained from coal tar or from other mineral tars.

EXPLANATORY NOTES

27.08 - Pitch and pitch coke, obtained from coal tar or from other mineral tars.

2708.10 - Pitch

2708.20 - Pitch coke

The **pitch** covered by this heading is a residue of the distillation of either high temperature coal tars or other mineral tars. It contains a small proportion of heavy tar oils. It is black or brown in colour and may be soft or brittle. It is used in the manufacture of electrodes, road tars, waterproofing mixtures, for agglomerating coal-dust, etc.

Pitch which has been slightly modified by air-blowing is similar to unblown pitch and remains in this heading.

Pitch coke is the final residual product left from the distillation of either high temperature or low temperature coal tars or of other mineral tars or of their pitches. It is used for making electrodes or as a fuel.

2708.10

- Pitch

2708.20

- Pitch coke

Heading 2709

Petroleum oils and oils obtained from bituminous minerals, crude.

EXPLANATORY NOTES

27.09 - Petroleum oils and oils obtained from bituminous minerals, crude.

This heading covers crude petroleum oils and crude oils obtained from bituminous minerals (e.g., from shale, calcareous rock, sand), i.e., natural products, whatever their composition, whether obtained from normal or condensation oil-deposits or by the destructive distillation of bituminous minerals. The crude oils thus obtained remain classified in this heading even when they have been subjected to the following processes :

(1) Decantation.

(2) De-salting.

(3) Dehydration.

(4) Stabilisation in order to normalise the vapour pressure.

(5) Elimination of very light fractions with a view to returning them to the oil-deposits in order to improve the drainage and maintain the pressure.

(6) The addition of **only** those hydrocarbons previously recovered by physical methods during the course of the above-mentioned processes.

(7) Any other minor process, provided it does not change the essential character of the product.

The heading also covers gas condensates, i.e., crude oils obtained during the stabilisation of natural gas immediately upon its extraction. This operation consists of obtaining, mainly by cooling and depressurisation, the condensable hydrocarbons (C4 to approximately C20) from the wet natural gas.

2709.00

Petroleum oils and oils obtained from bituminous minerals, crude.

Heading 2710

Petroleum oils and oils obtained from bituminous minerals, other than crude; preparations not elsewhere specified or included, containing by weight 70 % or more of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations; waste oils.

EXPLANATORY NOTES

27.10 - Petroleum oils and oils obtained from bituminous minerals, other than crude; preparations not elsewhere specified or included, containing by weight 70 % or more of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations; waste oils.

- Petroleum oils and oils obtained from bituminous minerals (other than crude) and preparations not elsewhere specified or included, containing by weight 70 % or

more of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations, other than those containing biodiesel and other than waste oils :

2710.12 - - Light oils and preparations

2710.19 - - Other

2710.20 - Petroleum oils and oils obtained from bituminous minerals (other than crude) and preparations not elsewhere specified or included, containing by weight 70 % or more of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations, containing biodiesel, other than waste oils

- Waste oils :

2710.91 - - Containing polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs) or polybrominated biphenyls (PBBs)

2710.99 - - Other

(I) PRIMARY PRODUCTS

The products covered by the first part of this heading are those which have undergone any process **other than** those specified in the Explanatory Note to heading 27.09.

The heading includes :

(A) "Topped crudes" (where certain lighter fractions have been removed by distillation), as well as light, medium and heavy oils obtained in more or less broad fractions by the distillation or refining of crude petroleum oils or of crude oils obtained from bituminous minerals. These oils, which are more or less liquid or semi-solid, consist predominantly of **non-aromatic** hydrocarbons such as paraffinic, cyclanic (naphthenic).

They include :

(1) Petroleum spirit.

(2) White spirit.

(3) Kerosene.

(4) Gas-oils.

(5) Fuel oils.

(6) Spindle-oils and lubricating oils.

(7) White oils.

The heading covers fractions as described above, even if they have been further treated to eliminate impurities (e.g., treatment with acids or alkalis, with selective solvents, with zinc chloride, with absorbent earths, etc., or by re-distillation), **provided** this treatment **does not** produce separate chemically defined compounds in a pure or commercially pure state (**Chapter 29**).

(B) Similar oils in which the weight of the non-aromatic constituents exceeds that of the aromatic constituents. They may be obtained by the low temperature distillation of coal, by hydrogenation or by any other process (e.g., by cracking, reforming, etc.).

The heading includes **mixed alkylenes**, called **tripropylene, tetrapropylene**, **di-isobutylene**, **tri-isobutylene**, etc. These are mixtures of unsaturated acyclic hydrocarbons (octylenes, nonylenes, homologues and isomers thereof, etc.) and saturated acyclic hydrocarbons.

They are obtained either by very low polymerisation of propylene, isobutylene or other ethylenic hydrocarbons or by separation (e.g., fractional distillation) from certain products of the cracking of mineral oils.

Mixed alkylenes are mainly used in chemical synthesis, as solvents or as diluents. Because of their high octane rating, they can also be incorporated, with appropriate additives, in petroleum spirit.

However, this heading **does not include** liquid synthetic polyolefins of which less than 60 % by volume distils at 300 °C, after conversion to 1,013 millibars (101.3 kPa) when a reduced-pressure distillation method is used (**Chapter 39**).

Further, the heading **does not include** oils with a predominance by weight of aromatic constituents, obtained by the processing of petroleum or by any other process (**heading 27.07**).

(C) The oils described in (A) and (B) above to which various substances have been added to render them suitable for particular uses, **provided** the products contain by weight 70 % or more of petroleum oils or of oils obtained from bituminous minerals as a basis and that they are not covered by a more specific heading in the Nomenclature.

Examples of the types of products referred to are :

(1) **Petroleum spirit** containing small quantities of added anti-knock products (e.g., tetraethyllead, dibromoethane) and anti-oxidants (e.g., para-butylaminophenol).

(2) **Lubricants** consisting of mixtures of lubricating oils with widely varying quantities of other products (e.g., products for improving their lubricating properties (such as vegetable oils and fats), anti-oxidants, rust preventives, anti-foam agents such as silicones). These lubricants include compounded oils, oils for heavy duty work, oils blended with graphite (graphite suspensions in petroleum oils or in oils obtained from bituminous minerals), upper cylinder lubricants, textile oils, and solid lubricants (greases) composed of a lubricating oil with about 10 to 15 % of soaps of aluminium, calcium, lithium, etc.

(3) **Transformer and circuit-breaker oils** (not used for their lubricating properties), which are stabilised, specially refined oils with added anti-oxidants such as ditertiarybutylparacresol.

(4) **Cutting oils** used for cooling cutting tools, etc., and the material being worked. They consist of heavy oils with the addition of about 10 to 15 % of an emulsifying agent (e.g., alkali sulphoricinoleate) and are used as emulsions in water.

(5) **Cleansing oils** used for cleaning motors, engines and other appliances. These are heavy oils usually containing, in addition, small quantities of peptising agents to facilitate removal of gum, carbon deposits, etc., formed during the running of the machine.

(6) **Mould release oils** used to facilitate the removal of ceramic articles, concrete pillars, etc., from the mould. These include heavy oils containing, for example, about 10 % of vegetable fats.

(7) **Liquids for hydraulic brakes**, etc., consisting of heavy oils to which have been added products to improve their lubricating properties, anti-oxidants, rust preventives, anti-foam agents, etc.

(8) **Blends of biodiesel**, containing by weight 70 % or more of petroleum oils or of oils obtained from bituminous minerals. However, biodiesel and its blends, containing less than 70 % by weight of petroleum oils or of oils obtained from bituminous minerals, fall in **heading 38.26**.

(II) WASTE OILS

Waste oils are waste containing mainly petroleum oils and oils obtained from bituminous minerals (as described in Note 2 to this Chapter), whether or not mixed with water. They include :

(1) Waste petroleum and similar waste oils no longer fit for use as primary products (e.g., used lubricating oils, used hydraulic oils and used transformer oils). Waste oils containing polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs) and polybrominated biphenyls (PBBs) result mainly from draining out of these chemicals from electrical equipment such as heat exchangers, transformers or switch gears;

(2) Sludge oils from the storage tanks of petroleum oils, mainly containing such oils and a high concentration of additives (e.g., chemicals) used in the manufacture of the primary products; and

(3) Waste oils in the form of emulsions in water or mixtures with water, such as those resulting from oil spills or storage tank washings, or from the use of cutting oils for machining operations.

(4) Waste oils resulting from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnishes.

The heading **does not include :**

(a) Leaded gasoline sludges and leaded anti-knock compound sludges from storage tanks of leaded gasoline and leaded anti-knock compounds, consisting essentially of lead, lead compounds and iron oxide and containing practically no petroleum oils, generally used for recovery of lead or lead compounds (**heading 26.20**).

(b) Preparations containing less than 70 % by weight of petroleum oils or of oils obtained from bituminous minerals, e.g., textile greasing or oiling preparations and other lubricating preparations of **heading 34.03** and hydraulic brake fluids of **heading 38.19**.

(c) Preparations containing petroleum oils or oils obtained from bituminous minerals in any proportion (even exceeding 70 % by weight) covered by a more specific heading in the Nomenclature or based on products other than petroleum oils or oils obtained from bituminous minerals. This is the case with the anti-rust preparations of **heading 34.03**, which consist of lanolin in solution in white spirit, the lanolin being the basic material and the white spirit acting merely as a solvent and evaporating after application. It is also the case with disinfecting, insecticidal, fungicidal, etc., preparations (**heading 38.08**), prepared additives for mineral oils (**heading 38.11**), composite solvents and thinners for varnishes (**heading 38.14**) and certain preparations of **heading 38.24**, such as starting fluid for petrol (gasoline) engines, the fluid consisting of diethyl ether, 70 % or more by weight of petroleum oils and also other constituents, the diethyl ether being the basic constituent.

2710.1

- Petroleum oils and oils obtained from bituminous minerals (other than crude) and preparations not elsewhere specified or included, containing by weight 70 % or more of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations, other than those containing biodiesel and other than waste oils :

2710.12

-- Light oils and preparations

CLASSIFICATION OPINIONS

1. Oils graphited, consisting of petroleum oils or of oils obtained from bituminous minerals containing, in stabilised suspension, approximately 0.04 to 0.2 % of graphite in the form of particles (mostly ranging in size between 0.1 and 0.5 micrometres (microns)).
Adoption : 1962

2. Motor Petrol with octane number 92, a preparation of petroleum oil, which is presented as a clear liquid, with a yellowish tint, intended for use in spark-ignition internal combustion piston engines. It is a mixture of components of different technological processes, namely petroleum straight-run distillation, catalytic reforming, alkylation, isomerisation of straight-run fractions, catalytic cracking and hydrocracking of vacuum gas oil.
The aromatic hydrocarbon content is 52 % by weight. It has the following physicochemical properties.
Density at 15 °C (ASTM D 1298) is 742.0 kg/m3.
Fractional composition (ISO 3405/ASTM D 86) is as follows: initial boiling point (IBP) 35 °C; final boiling point (FBP) 210 °C; 5 % vol. distilled at 54 °C; 90 % vol. distilled at 180 °C; 96 % vol. distilled at 210 °C.
Application of GIRs 1 and 6 (Subheading Note 4 to Chapter 27).
Adoption : 2019

2710.19

-- Other

CLASSIFICATION OPINIONS

1. Petroleum products : Distinguishing criteria for certain petroleum products of Ch. 27 : petroleum jellies, petroleum waxes, petroleum bitumens and petroleum oils (headings 27.12, 27.13 and 27.10).

N.B. : *The Annex to the present Opinion reproduces the criteria below in diagrammatic form.*
Adoption : 1962

(i) Products having a Congealing Point, as determined by the rotating thermometer method (ASTM D 938) :

(a) Less than 30 °C (**Oils**).

(b) Not less than 30 °C. *(See under (ii).)*

(ii) Products specified at (i) (b) above, having a density at 70 °C :

(a) Not less than 0.942 g/cm3. *(See under (iii).)*

(b) Less than 0.942 g/cm3. *(See under (iv).)*

(iii) Products specified at (ii) (a) above, having a Needle Penetration at 25 °C, as determined by the method ASTM D 5 :

(a) Less than 400 (**Bitumens**).

(b) Not less than 400 (**Oils**)

(iv) Products specified at (ii) (b) above, having a Worked Cone Penetration at 25 °C, as determined by the method ASTM D 217 (*) :

(a) Not less than 350 (**Oils**).

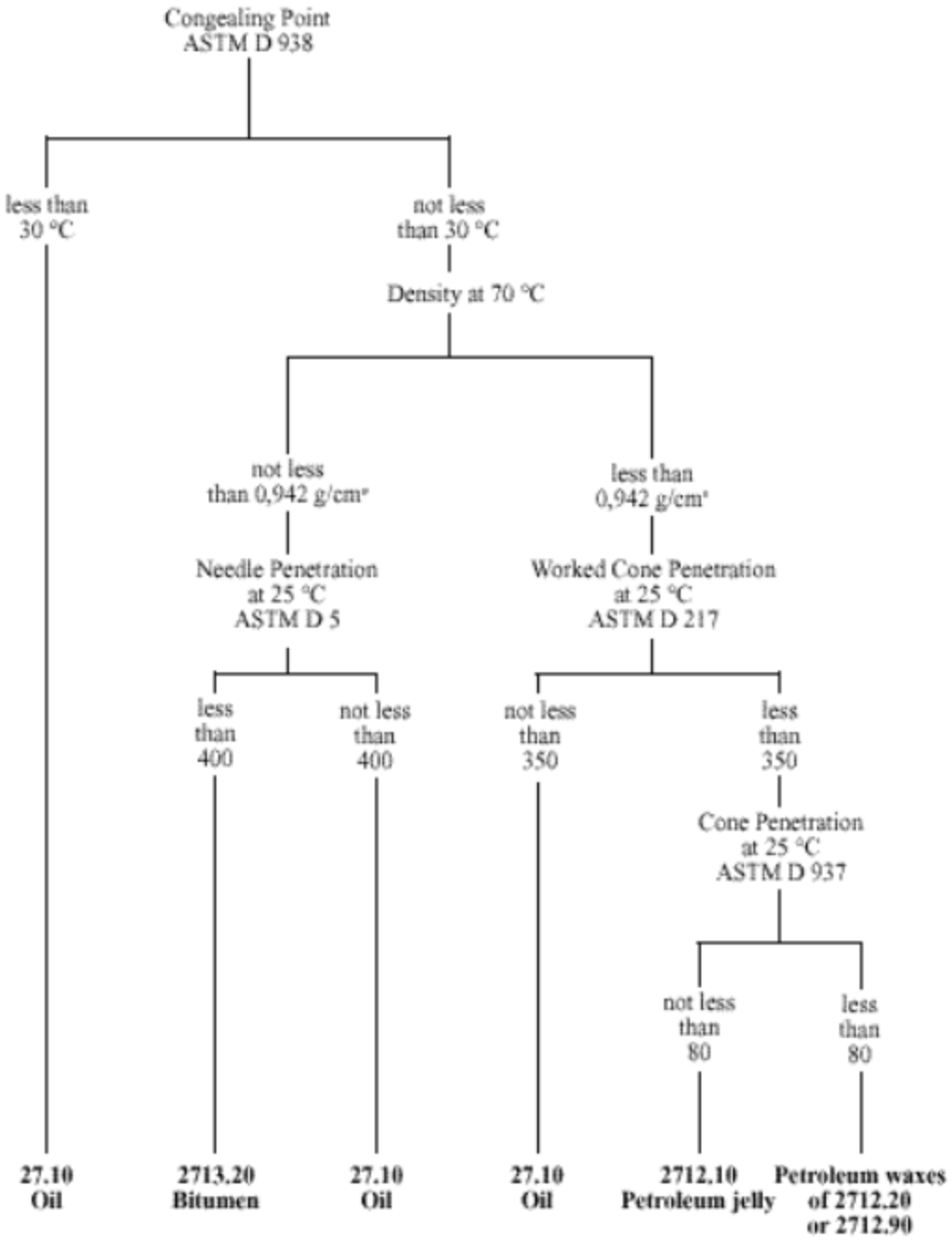
(b) Less than 350 (*(See under (v).)*

(v) Products specified at (iv) (b) above, having a Cone Penetration at 25 °C, as determined by the method ISO 2137 (equivalent to the ASTM D 937):

(a) Not less than 80 (**Petroleum jelly**).

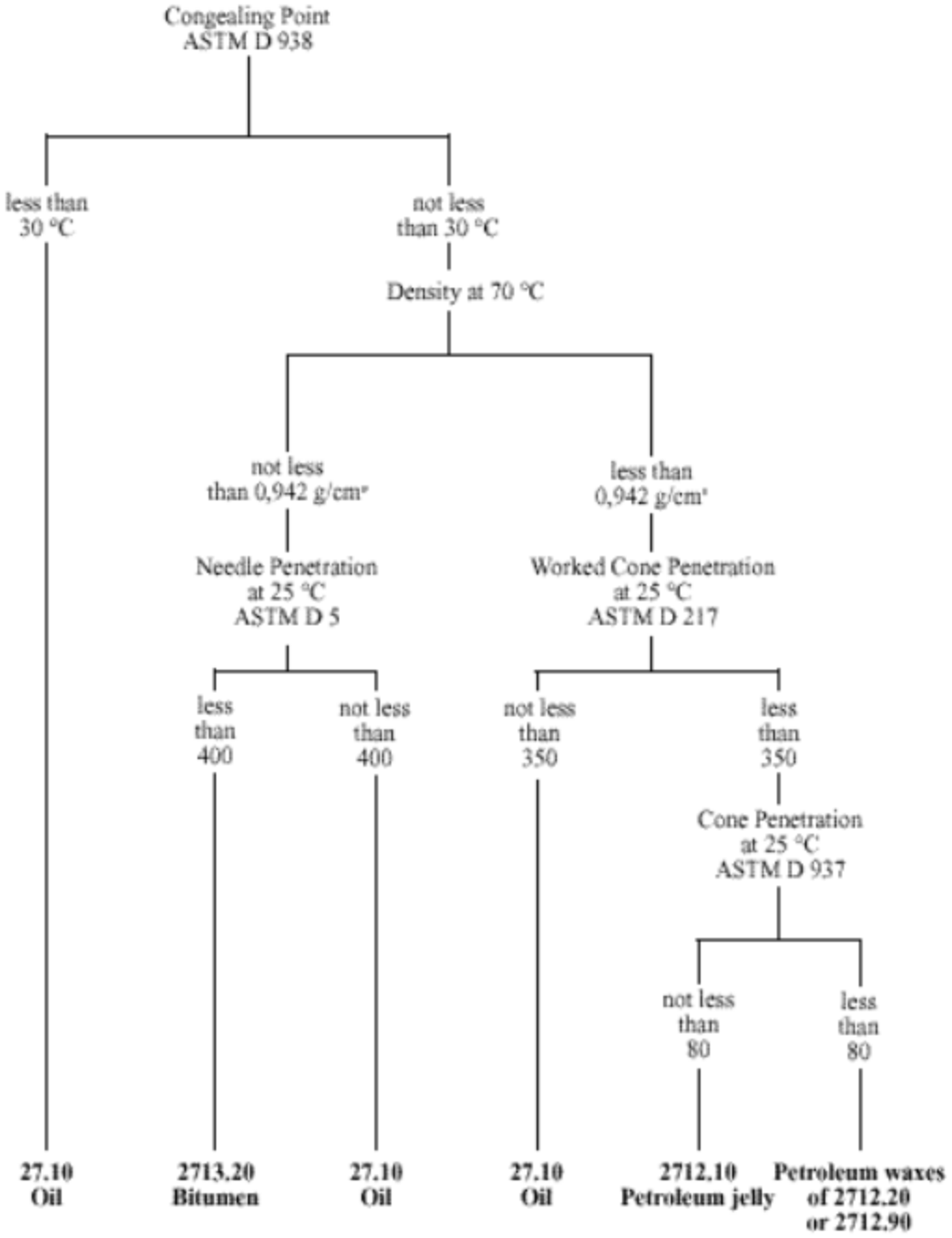
(b) Less than 80 (**Petroleum waxes**).

(*) If the sample proves too hard to be «worked», the Worked Cone Penetration (ASTM D 217) should be omitted, and the sample should be submitted directly to the Cone Penetration (ASTM D 937).



1. **Oils graphited,** consisting of petroleum oils or of oils obtained from bituminous minerals containing, in stabilised suspension, approximately 0.04 to 0.2 % of graphite in the form of particles (mostly ranging in size between 0.1 and 0.5 micrometres (microns)). *Adoption : 1962*

2. Mixture in the form of a liquid of pale yellow to light brown colour, containing, by weight, kerosene (50 %) and paraffin (50 %). The paraffin consists of C9 - C15 saturated hydrocarbons obtained from deoxidized vegetable oils by hydrogenation. Less than 90 % by volume (including losses) of the product distils at 210 °C (ISO 3405 method (equivalent to the ASTM D 86 method)). It is used as a fuel for jet engines. **Application of GIRs 1 (Note 2 to Chapter 27) and 6 (Subheading Note 4 to Chapter 27).** *Adoption : 1962*



3. Heavy distillates, liquid fuels, fuel oil 100, a preparation of petroleum oil, which is presented as a thick viscous liquid of dark brown colour fuel, intended for combustion in stationary steam boilers and industrial furnaces. It is made of petroleum refining residues with the addition of middle distillate fractions. The aromatic hydrocarbon content is 68 % by weight. It has the following physicochemical properties. Kinematic viscosity at 50 °C (ISO 3104/ASTM D 445): 354 mm2/sec (cSt). Colorimetric characteristic with dilution 1: 100 (ASTM D 1500) : more than 8. Sulfur content (ISO 8754) :

2.23 % by weight. Flash point in open crucible (ASTM D 92) : 150 °C. Solidification temperature (ISO 3016) : 6 °C. Index of saponification (ISO 6293) : less than 4. Mass fraction of sulphate ash (ISO 3987) : less than 1 % by weight. Fractional composition (ISO 3405/ASTM D 86) is as follows : initial boiling point (IBP) 184 °C; final boiling point (FBP) 313 °C; output 18 % vol.; 1 % vol. distilled at 210 °C; 4 % vol. distilled at 250 °C; 14 % vol. distilled at 300 °C; 18 % vol. distilled at 313 to 350 °C. **Application of GIRs 1 and 6.** *Adoption : 2019*

4. **Low-viscosity marine vessel fuel**, (a preparation of petroleum oil, which is presented as a transparent yellow oily liquid, intended for use in the engines of marine vessels, obtained from the distillate fractions of the straight-run distillation of petroleum and secondary treatment processes. The aromatic hydrocarbon content is 65 % by weight. It has the following physicochemical properties. Kinematic viscosity at 50 °C (ISO 3104/ASTM D 445): 4.30 mm2/sec (cSt). Colorimetric characteristics with dilution of 1: 100 (ASTM D 1500): 0. Sulphur content (ISO 8754): 0.03 % by weight. Flash point in open crucible: 117 °C. Flash point in closed crucible: 92°C. Fractional composition (ISO 3405/ASTM D 86) is as follows: initial boiling point (IBP) : 206 °C; final boiling point (FBP) 381 °C; output: 97 % vol.; 1 % vol. distilled at 210 °C; 9 % vol. distilled at 250 °C; 39 % vol. distilled at 300 °C; 79 % vol. distilled at 350 °C. **Application of GIRs 1 and 6.** *Adoption : 2019*

2710.20

- Petroleum oils and oils obtained from bituminous minerals (other than crude) and preparations not elsewhere specified or included, containing by weight 70 % or more of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations, containing biodiesel, other than waste oils

2710.9

- Waste oils :

2710.91

-- Containing polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs) or polybrominated biphenyls (PBBs)

CLASSIFICATION OPINIONS

1. Petroleum products :
Distinguishing criteria for certain petroleum products of Ch. 27 : petroleum jellies, petroleum waxes, petroleum bitumens and petroleum oils (headings 27.12, 27.13 and 27.10).

N.B. : *The Annex to the present Opinion reproduces the criteria below in diagrammatic form. Adoption : 1962*

(i) Products having a Congealing Point, as determined by the rotating thermometer method (ASTM D 938) :

(a) Less than 30 °C (**Oils**).

(b) Not less than 30 °C. *(See under (ii).)*

(ii) Products specified at (i) (b) above, having a density at 70 °C :

(a) Not less than 0.942 g/cm3. *(See under (iii).)*

(b) Less than 0.942 g/cm3. *(See under (iv).)*

(iii) Products specified at (ii) (a) above, having a Needle Penetration at 25 °C, as determined by the method ASTM D 5 :

(a) Less than 400 (**Bitumens**).

(b) Not less than 400 (**Oils**)

(iv) Products specified at (ii) (b) above, having a Worked Cone Penetration at 25 °C, as determined by the method ASTM D 217 (*) :

(a) Not less than 350 (**Oils**).

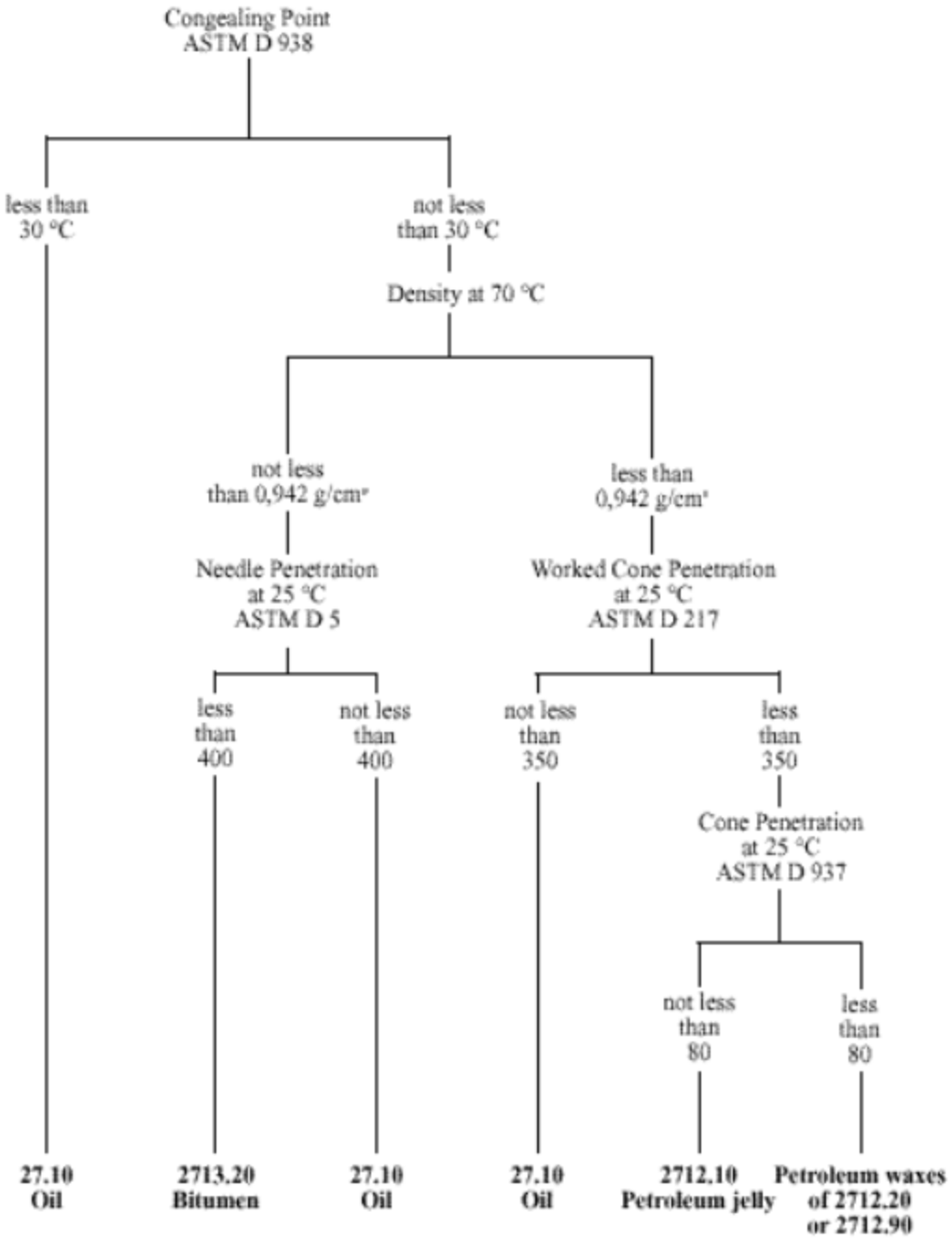
(b) Less than 350 (*(See under (v).)*

(v) Products specified at (iv) (b) above, having a Cone Penetration at 25 °C, as determined by the method ISO 2137 (equivalent to the ASTM D 937):

(a) Not less than 80 (**Petroleum jelly**).

(b) Less than 80 (**Petroleum waxes**).

(*) If the sample proves too hard to be «worked», the Worked Cone Penetration (ASTM D 217) should be omitted, and the sample should be submitted directly to the Cone Penetration (ASTM D 937).



2710.99

-- Other

CLASSIFICATION OPINIONS

1. Petroleum products : Distinguishing criteria for certain petroleum products of Ch. 27 : petroleum jellies, petroleum waxes, petroleum bitumens and petroleum oils (headings 27.12, 27.13 and 27.10).

N.B. : *The Annex to the present Opinion reproduces the criteria below in diagrammatic form. Adoption : 1962*

(i) Products having a Congealing Point, as determined by the rotating thermometer method (ASTM D 938) :

(a) Less than 30 °C (**Oils**).

(b) Not less than 30 °C. *(See under (ii).)*

(ii) Products specified at (i) (b) above, having a density at 70 °C :

(a) Not less than 0.942 g/cm3. *(See under (iii).)*

(b) Less than 0.942 g/cm3. *(See under (iv).)*

(iii) Products specified at (ii) (a) above, having a Needle Penetration at 25 °C, as determined by the method ASTM D 5 :

(a) Less than 400 (**Bitumens**).

(b) Not less than 400 (**Oils**)

(iv) Products specified at (ii) (b) above, having a Worked Cone Penetration at 25 °C, as determined by the method ASTM D 217 (*) :

(a) Not less than 350 (**Oils**).

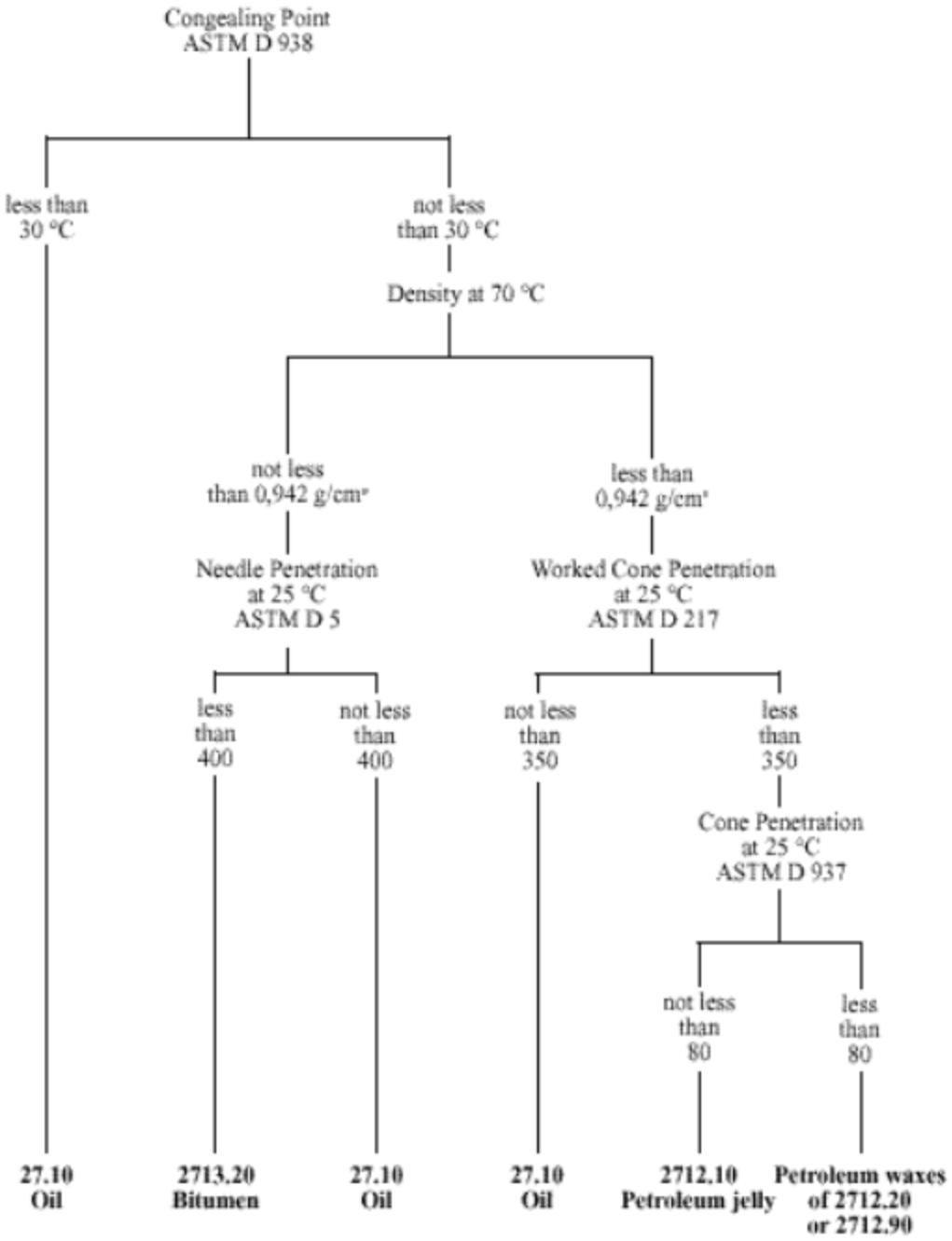
(b) Less than 350 (*(See under (v).)*

(v) Products specified at (iv) (b) above, having a Cone Penetration at 25 °C, as determined by the method ISO 2137 (equivalent to the ASTM D 937):

(a) Not less than 80 (**Petroleum jelly**).

(b) Less than 80 (**Petroleum waxes**).

(*) If the sample proves too hard to be «worked», the Worked Cone Penetration (ASTM D 217) should be omitted, and the sample should be submitted directly to the Cone Penetration (ASTM D 937).



Heading 2711

Petroleum gases and other gaseous hydrocarbons.
EXPLANATORY NOTES

27.11 - Petroleum gases and other gaseous hydrocarbons

1 - Liquefied :

2711.11 - - Natural gas

2711.12 - - Propane

2711.13 - - Butanes

2711.14 - - Ethylene, propylene, butylene and butadiene

2711.19 - - Other

- In gaseous state :

2711.21 - - Natural gas

2711.29 - - Other

This heading covers **crude** gaseous hydrocarbons obtained as natural gases or from petroleum, or produced chemically. **Methane** and **propane** are, however, included even when pure.

These hydrocarbons are gaseous at a temperature of 15 °C and under a pressure of 1,013 millibars (101.3 kPa). They may be presented under pressure as liquids in metal containers and are often treated, as a safety measure, by the addition of small quantities of highly odoriferous substances to indicate leaks.

They include, in particular, the following gases, whether or not liquefied :

I. Methane and propane, whether or not pure.

II. Ethane and ethylene less than 95 % pure. (Ethane and ethylene not less than 95 % pure fall in **heading 29.01**.)

III. Propene (propylene) less than 90 % pure. (Propene not less than 90 % pure falls in **heading 29.01**.)

IV. Butane containing less than 95 % of n-butane and less than 95 % of isobutane. (Butane containing not less than 95 % of n-butane or isobutane falls in **heading 29.01**.)

V. Butenes (butylenes) and butadienes less than 90 % pure. (Butenes and butadienes not less than 90 % pure fall in **heading 29.01**.)

VI. Intermixtures of propane and butane.

The above percentages are calculated by reference to volume for gaseous products and to weight for liquefied products.

This heading also covers other gases such as liquefied petroleum gas (LPG).

The heading **does not cover** :

(a) Separate chemically defined hydrocarbons (**other than** methane and propane) in a pure or commercially pure state (**heading 29.01**). (As regards such hydrocarbons with added odoriferous substances, see the General Explanatory Note to Chapter 29, Part (A), fifth paragraph. For ethane, ethylene, propene, butane, butenes and butadienes, there are specific purity criteria as indicated in paragraphs II, III, IV and V above.)

(b) Liquefied butane in containers of a kind used for filling or refilling cigarette or similar lighters and of a capacity not exceeding 300 cm^3 (**other than** those constituting parts of cigarette or similar lighters) (**heading 36.06**).

(c) Cigarette or other lighter parts containing liquefied butane (**heading 96.13**).

2711.1

- Liquefied :
2711.11

-- Natural gas
2711.12

-- Propane
2711.13

-- Butanes
2711.14

-- Ethylene, propylene, butylene and butadiene
2711.19

-- Other
CLASSIFICATION OPINIONS

1. Liquefied petroleum gas (LPG), consisting of a mixture of ethane (2.0 %); propane (66.3 %); n-butane (18.7 %); isobutane (11.7 %); n-pentane (0.1 %) and isopentane (1.2 %). This product is presented in a liquid state.
It is a product of the crude oil refining process and of natural gas processing.
Application of GIRs 1 and 6.
Adoption : 2021

2711.2

- In gaseous state :
2711.21

-- Natural gas
2711.29

-- Other
Heading 2712

Petroleum jelly; paraffin wax, micro-crystalline petroleum wax, slack wax, ozokerite, lignite wax, peat wax, other mineral waxes, and similar products obtained by synthesis or by other processes, whether or not coloured.
EXPLANATORY NOTES

27.12 - Petroleum jelly; paraffin wax, microcrystalline petroleum wax, slack wax, ozokerite, lignite wax, peat wax, other mineral waxes, and similar products obtained by synthesis or by other processes, whether or not coloured.

2712.10 - Petroleum jelly

2712.20 - Paraffin wax containing by weight less than 0.75 % of oil

2712.90 - Other

(A) **Petroleum jelly**.

Petroleum jelly is unctuous to the touch. It is white, yellowish or dark brown in colour. It is obtained from the residues of the distillation of certain crude petroleum oils or by mixing fairly high viscosity petroleum oils with such residues or by mixing paraffin wax or ceresine with a sufficiently refined mineral oil. The heading includes the jelly, whether crude (sometimes called **petrolatum**), decolourised or refined. It also covers petroleum jelly obtained by synthesis.

To fall in this heading petroleum jelly must have a congealing point, as determined by the rotating thermometer method (ISO 2207 equivalent to the ASTM D 938 method), of not less than 30 °C, a density at 70 °C of less than 0.942 g/cm^3, a Worked Cone Penetration at 25 °C, as determined by the ISO 2137 method (equivalent to the ASTM D 217 method), of less than 350, a Cone Penetration at 25 °C, as determined by the ISO 2137 method (equivalent to the ASTM D 937 method), of not less than 80.

This heading **does not**, however, **include** petroleum jelly, suitable for use for the care of the skin, put up in packings of a kind sold by retail for such use (**heading 33.04**).

(B) **Paraffin wax, microcrystalline petroleum wax, slack wax, ozokerite, lignite wax, peat wax, other mineral waxes, and similar products obtained by synthesis or by other processes, whether or not coloured**.

Paraffin wax is a hydrocarbon wax extracted from certain distillates of petroleum oils or of oils obtained from shale or other bituminous minerals. This wax is translucent, white or yellowish in colour and has a relatively marked crystalline structure.

Microcrystalline petroleum wax is also a hydrocarbon wax. It is extracted from petroleum residues or from vacuum-distilled lubricating oil fractions. It is more opaque than paraffin wax and has a finer and less apparent crystalline structure. Normally it has a higher melting point than paraffin wax. It can vary from soft and plastic to hard and brittle and from dark brown to white in colour.

Ozokerite is a natural mineral wax. When purified it is known as **ceresine**.

Lignite (or **Montan**) **wax** and the product known as “Montan pitch” are ester waxes extracted from lignite. They are hard and dark when crude, but may be white when refined.

Peat wax is physically and chemically similar to lignite wax, but is slightly softer.

The **other mineral waxes** of this heading (**slack wax** and **scale wax**) result from the de-waxing of lubricating oils. They are less refined and have a higher oil content than paraffin wax. Their colour varies from white to light brown.

The heading also includes products similar to those referred to in the heading and obtained by synthesis or by any other process (e.g., synthetic paraffin wax and synthetic microcrystalline wax). However, the heading **does not include** high polymer waxes such as polyethylene wax. These fall in **heading 34.04**.

All these waxes are covered by the heading whether crude or refined, mixed together or coloured. They are used for making candles (especially paraffin wax), polishes, etc., for insulating, dressing textiles, impregnating matches, protection against rust, etc.

However, the following products are classified in **heading 34.04** :

(a) Artificial waxes obtained by the chemical modification of lignite wax or other mineral waxes.

(b) Mixtures, not emulsified or containing solvents, consisting of :

(i) Waxes of this heading mixed with animal waxes (including spermaceti), vegetable waxes or artificial waxes.

(ii) Waxes of this heading mixed with fats, resins, mineral substances or other materials, provided they have a waxy character.

2712.10

- Petroleum jelly

CLASSIFICATION OPINONS

1. Petroleum products : Distinguishing criteria for certain petroleum products of Ch. 27 : petroleum jellies, petroleum waxes, petroleum bitumens and petroleum oils (headings 27.12, 27.13 and 27.10).

N.B. : *The Annex to the present Opinion reproduces the criteria below in diagrammatic form. Adoption : 1962*

(i) Products having a Congealing Point, as determined by the rotating thermometer method (ASTM D 938) :

(a) Less than 30 °C (**Oils**).

(b) Not less than 30 °C. *(See under (ii).)*

(ii) Products specified at (i) (b) above, having a density at 70 °C :

(a) Not less than 0.942 g/cm3. *(See under (iii).)*

(b) Less than 0.942 g/cm3. *(See under (iv).)*

(iii) Products specified at (ii) (a) above, having a Needle Penetration at 25 °C, as determined by the method ASTM D 5 :

(a) Less than 400 (**Bitumens**).

(b) Not less than 400 (**Oils**)

(iv) Products specified at (ii) (b) above, having a Worked Cone Penetration at 25 °C, as determined by the method ASTM D 217 (*) :

(a) Not less than 350 (**Oils**).

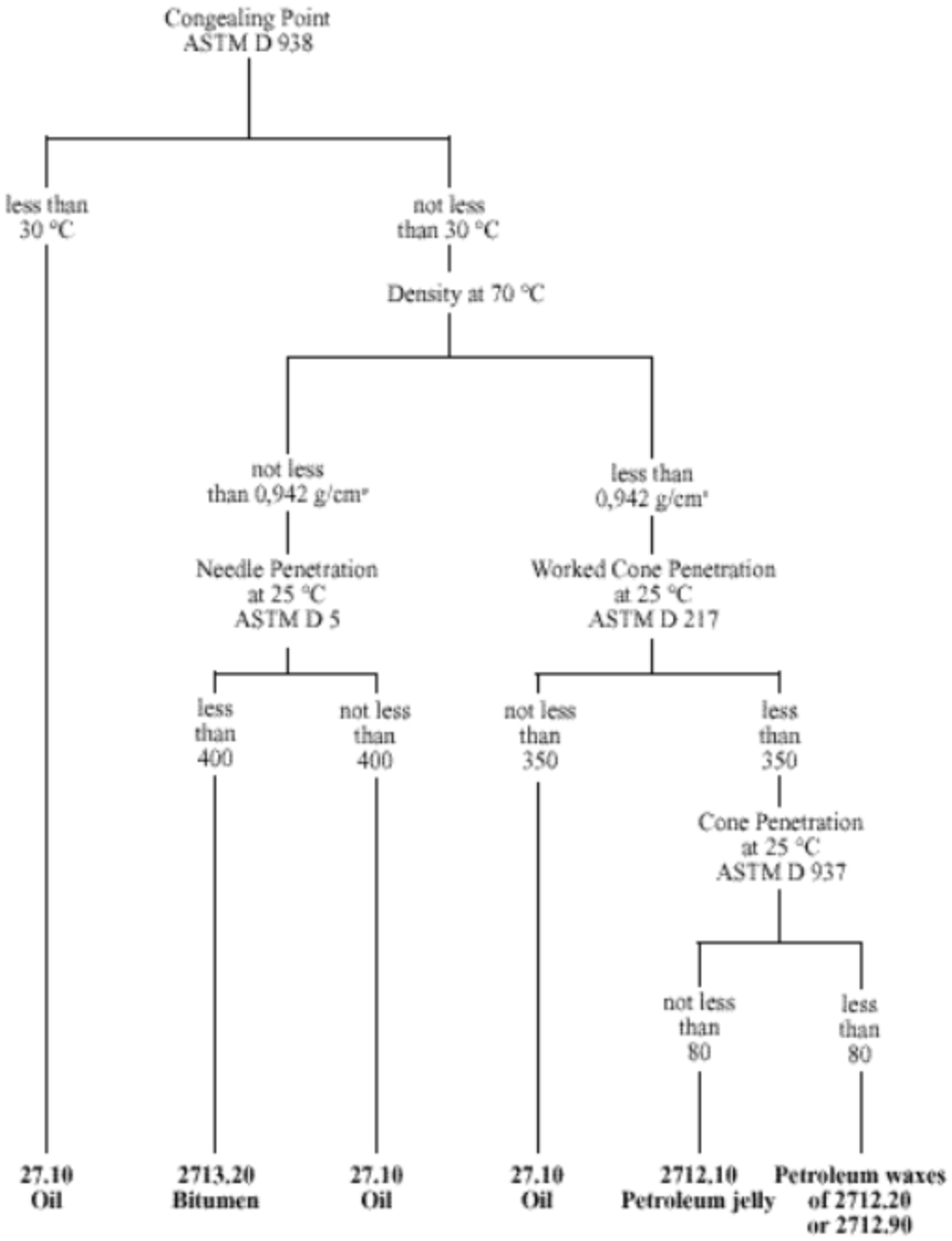
(b) Less than 350 (*(See under (v).)*

(v) Products specified at (iv) (b) above, having a Cone Penetration at 25 °C, as determined by the method ISO 2137 (equivalent to the ASTM D 937):

(a) Not less than 80 (**Petroleum jelly**).

(b) Less than 80 (**Petroleum waxes**).

(*) If the sample proves too hard to be «worked», the Worked Cone Penetration (ASTM D 217) should be omitted, and the sample should be submitted directly to the Cone Penetration (ASTM D 937).



2712.20

- Paraffin wax containing by weight less than 0.75 % of oil

CLASSIFICATION OPINIONS

1. Petroleum products : Distinguishing criteria for certain petroleum products of Ch. 27 : petroleum jellies, petroleum waxes, petroleum bitumens and petroleum oils (headings 27.12, 27.13 and 27.10).

N.B. : *The Annex to the present Opinion reproduces the criteria below in diagrammatic form. Adoption : 1962*

(i) Products having a Congealing Point, as determined by the rotating thermometer method (ASTM D 938) :

(a) Less than 30 °C (**Oils**).

(b) Not less than 30 °C. *(See under (ii).)*

(ii) Products specified at (i) (b) above, having a density at 70 °C :

(a) Not less than 0.942 g/cm3. *(See under (iii).)*

(b) Less than 0.942 g/cm3. *(See under (iv).)*

(iii) Products specified at (ii) (a) above, having a Needle Penetration at 25 °C, as determined by the method ASTM D 5 :

(a) Less than 400 (**Bitumens**).

(b) Not less than 400 (**Oils**)

(iv) Products specified at (ii) (b) above, having a Worked Cone Penetration at 25 °C, as determined by the method ASTM D 217 (*) :

(a) Not less than 350 (**Oils**).

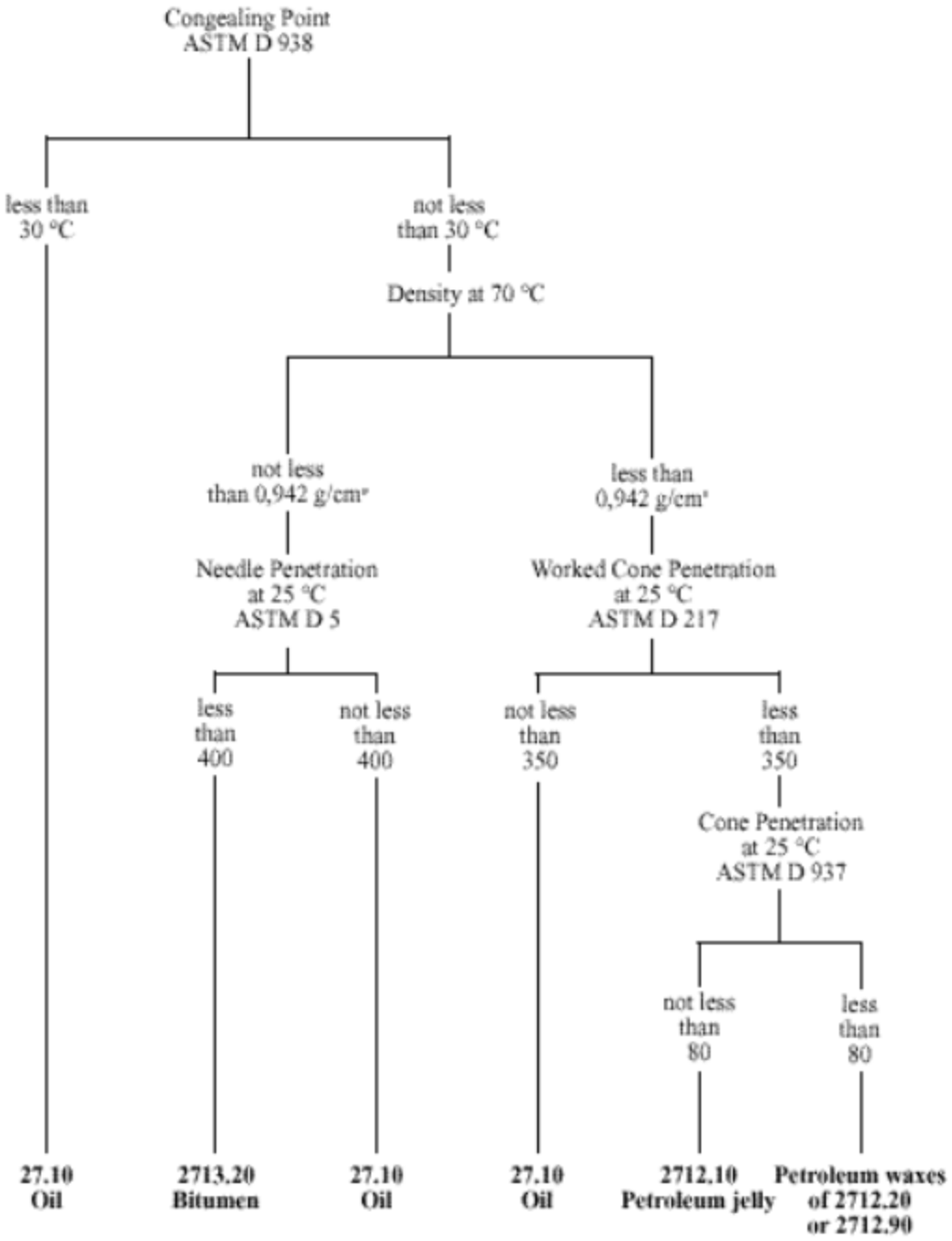
(b) Less than 350 (*(See under (v).)*

(v) Products specified at (iv) (b) above, having a Cone Penetration at 25 °C, as determined by the method ISO 2137 (equivalent to the ASTM D 937):

(a) Not less than 80 (**Petroleum jelly**).

(b) Less than 80 (**Petroleum waxes**).

(*) If the sample proves too hard to be «worked», the Worked Cone Penetration (ASTM D 217) should be omitted, and the sample should be submitted directly to the Cone Penetration (ASTM D 937).



2712.90

- Other

CLASSIFICATION OPINIONS

1. Micro-crystalline waxes (petroleum waxes) containing very small quantities of dopes such as polyisobutylene.
Adoption : 1960

2. Petroleum products : Distinguishing criteria for certain petroleum products of Ch. 27 : petroleum jellies, petroleum waxes, petroleum bitumens and petroleum oils (headings 27.12, 27.13 and 27.10).

N.B. : *The Annex to the present Opinion reproduces the criteria below in diagrammatic form.*
Adoption : 1962

(i) Products having a Congealing Point, as determined by the rotating thermometer method (ASTM D 938) :

(a) Less than 30 °C (**Oils**).

(b) Not less than 30 °C. *(See under (ii).)*

(ii) Products specified at (i) (b) above, having a density at 70 °C :

(a) Not less than 0.942 g/cm3. *(See under (iii).)*

(b) Less than 0.942 g/cm3. *(See under (iv).)*

(iii) Products specified at (ii) (a) above, having a Needle Penetration at 25 °C, as determined by the method ASTM D 5 :

(a) Less than 400 (**Bitumens**).

(b) Not less than 400 (**Oils**)

(iv) Products specified at (ii) (b) above, having a Worked Cone Penetration at 25 °C, as determined by the method ASTM D 217 (*) :

(a) Not less than 350 (**Oils**).

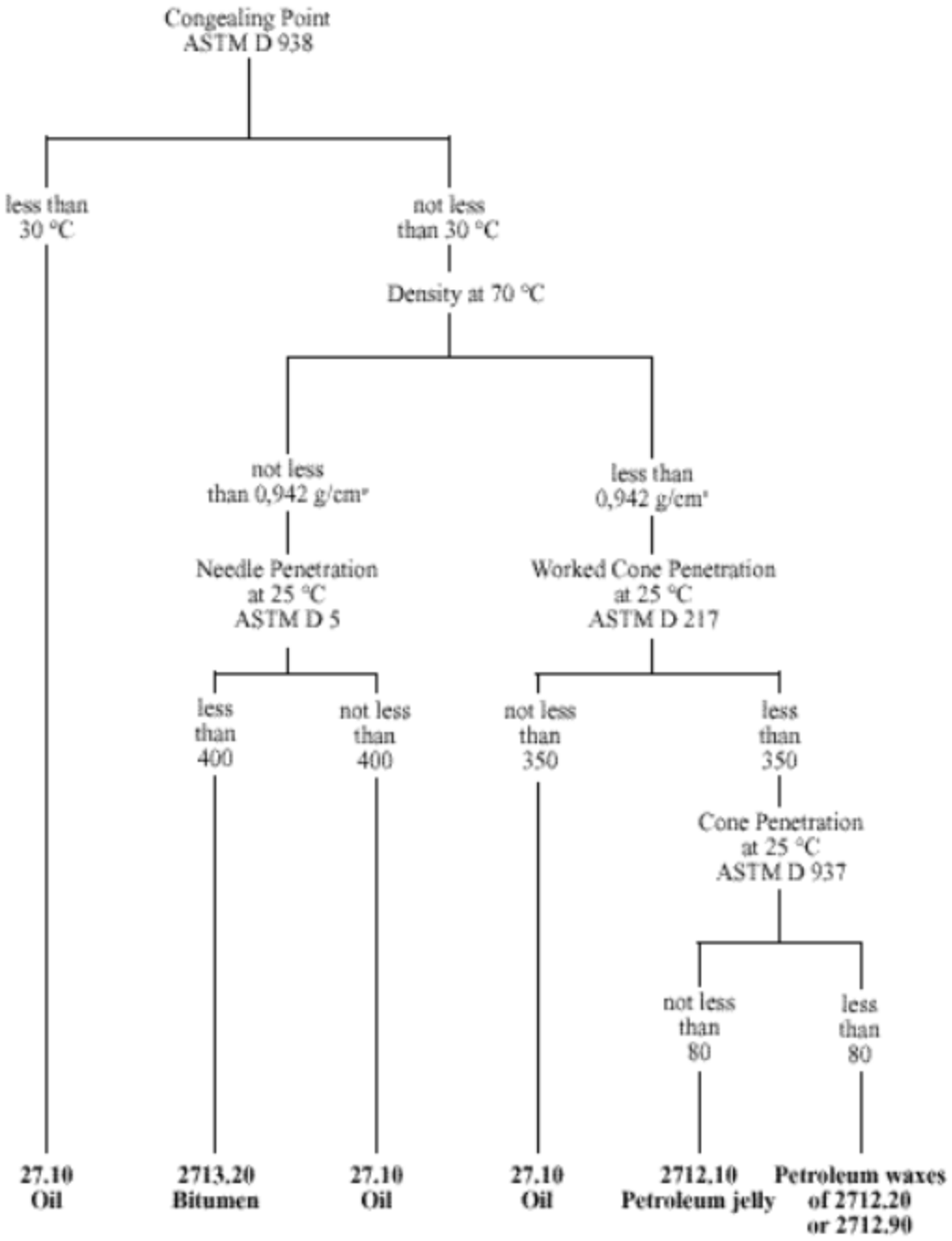
(b) Less than 350 (*(See under (v).)*

(v) Products specified at (iv) (b) above, having a Cone Penetration at 25 °C, as determined by the method ISO 2137 (equivalent to the ASTM D 937):

(a) Not less than 80 (**Petroleum jelly**).

(b) Less than 80 (**Petroleum waxes**).

(*) If the sample proves too hard to be «worked», the Worked Cone Penetration (ASTM D 217) should be omitted, and the sample should be submitted directly to the Cone Penetration (ASTM D 937).



Heading 2713

Petroleum coke, petroleum bitumen and other residues of petroleum oils or of oils obtained from bituminous minerals.

EXPLANATORY NOTES

27.13 - Petroleum coke, petroleum bitumen and other residues of petroleum oils or of oils obtained from bituminous minerals.

- Petroleum coke :

2713.11 - - Not calcined

2713.12 - - Calcined

2713.20 - Petroleum bitumen

2713.90 - Other residues of petroleum oils or of oils obtained from bituminous minerals

(A) **Petroleum coke** (green coke or calcined coke) is a black, porous, solid residue resulting from the cracking or destructive distillation of petroleum or obtained from oils of bituminous minerals. It is used mainly as a raw material for the manufacture of electrodes (calcined coke) or as a fuel (green coke).

(B) **Petroleum bitumen** (also known as petroleum pitch, refinery pitch, petroleum asphalt) is usually obtained as a residue of the distillation of crude petroleum. It is brown or black and may be soft or brittle. It is used for road-surfacing, waterproofing, etc. Petroleum bitumen which has been slightly modified by air-blowing is similar to unblown bitumen and remains in this heading.

(C) **Other residues of petroleum oils** include :

(1) Extracts derived from the treatment of lubricating oils with certain selective solvents.

(2) Petroleum gum and other resinous substances obtained from petroleum.

(3) Acid residues and spent bleaching earths, containing a proportion of oil.

Bitumen, coke and other residues fall in this heading if they result from the treatment of shale oils or of other oils obtained from bituminous minerals.

The heading **does not cover** :

(a) Water-soluble naphthenates or water-soluble petroleum sulphonates (including those containing a certain proportion of mineral oils), such as those of alkali metals, of ammonium or of ethanolamines (**heading 34.02**).

(b) Water-insoluble naphthenates or water-insoluble petroleum sulphonates (**heading 38.24, provided** they are not covered by a more specific heading).

(c) Naphthenic acids, crude or refined (**heading 38.24**).

2713.1

- Petroleum coke :
2713.11

-- Not calcined
2713.12

-- Calcined
2713.20

- Petroleum bitumen
2713.90

- Other residues of petroleum oils or of oils obtained from bituminous minerals

Heading 2714

Bitumen and asphalt, natural; bituminous or oil shale and tar sands; asphaltites and asphaltic rocks.
EXPLANATOY NOTES

27.14 - Bitumen and asphalt, natural; bituminous or oil shale and tar sands; asphaltites and asphaltic rocks (+).

2714.10 - Bituminous or oil shale and tar sands

2714.90 - Other

This heading covers natural bitumen and natural asphalt (including “Trinidad Lake asphalt” and materials known in some countries as “asphaltic sands”). They are brown or black, solid or very viscous mixtures of naturally occurring hydrocarbons with inert mineral matter, which in the case of asphalts may be substantial.

The heading also includes :

(1) Bituminous or oil shale and tar sands.

(2) Asphaltites.

(3) Asphaltic limestone and other asphaltic rocks.

The above materials remain classified in this heading whether or not treated to remove water or gangue and whether or not pulverised or mixed together.The mere addition of water to natural bitumen does not change the classification of the product for the purposes of heading 27.14. Further, the heading also includes dehydrated and pulverized natural bitumen dispersed in water and containing a small amount of an emulsifier (surfactant), added solely to facilitate safety, handling or transport.

They are used for road surfacing, waterproofing, varnish or enamel manufacture, etc. Bituminous shale and tar sands are used as a source of mineral oils.

The heading **does not cover** :

(a) Tarred macadam (**heading 25.17**).

(b) Bituminous coal (**heading 27.01**).

(c) Bituminous lignite (**heading 27.02**).

(d) Bitumen obtained from petroleum (**heading 27.13**).

(e) Bituminous mixtures based on natural bitumen with added substances, other than water and emulsifiers (surfactants) necessary solely to facilitate safety, handling or transport (**heading 27.15**).

(f) Articles of asphalt of **heading 68.07**.

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° °

Subheading Explanatory Note.

Subheading 2714.10

This subheading covers sedimentary rock or sand containing hydrocarbons, which can be separated in the form of products of heading 27.09 (Petroleum oils and oils obtained from bituminous minerals, crude), or in a form from which these products can be extracted. Gas and other products may also be obtained. The separation is achieved by heating or other extraction processes (e.g., by distillation, retorting or mechanical processes). The hydrocarbons contained in shale may be in the form of organic materials called kerogens.

2714.10

- Bituminous or oil shale and tar sands

2714.90

- Other

CLASSIFICATION OPINIONS

1. Dehydrated and pulverised natural bitumen dispersed in water and containing a small amount of an emulsifier (surfactant) added solely to facilitate safety, handling or transport.
Adoption : 1995

Heading 2715

Bituminous mixtures based on natural asphalt, on natural bitumen, on petroleum bitumen, on mineral tar or on mineral tar pitch (for example, bituminous mastics, cut-backs).

EXPLANATORY NOTES

27.15 - Bituminous mixtures based on natural asphalt, on natural bitumen, on petroleum bitumen, on mineral tar or on mineral tar pitch (for example, bituminous mastics, cut-backs).

The bituminous mixtures of this heading include :

(1) **Cut-backs** consisting generally of 60 % or more of bitumen with a solvent. They are used for road surfacing.

(2) **Emulsions** or stable suspensions of asphalt, bitumen, pitch or tar, in water, of the kinds used in particular for road surfacing.

(3) **Mastics** of asphalt and other bituminous mastics, as well as similar bituminous mixtures incorporating mineral substances such as sand or asbestos. These substances are used for caulking, as moulding materials, etc.

The heading extends to these products when agglomerated in blocks, etc., of the kind re-melted before use, but it **excludes** finished articles of regular shape (such as paving flagstones, sheets and tiles) (**heading 68.07**).

The heading also **excludes** :

(a) Tarred macadam (crushed stones mixed with tar) (**heading 25.17**).

(b) Dolomite agglomerated with tar (**heading 25.18**).

(c) Blends of pitch with creosote oils or other coal tar distillation products (**heading 27.06**).

(d) Dehydrated and pulverized natural bitumen dispersed in water and containing a small amount of an emulsifier (surfactant), added solely to facilitate safety, handling or transport (**heading 27.14).**

(e) Bituminous paints and varnishes (**heading 32.10**), which differ from certain mixtures of this heading by, for example, the greater fineness of the fillers (if used), the possible presence of one or more film producing agents (other than asphalt, bitumen, tar or pitch), the ability to dry on exposure to air in the manner of paints or varnishes and the thinness and hardness of the film formed.

(f) Lubricating preparations of **heading 34.03**.

2715.00

Bituminous mixtures based on natural asphalt, on natural bitumen, on petroleum bitumen, on mineral tar or on mineral tar pitch (for example, bituminous mastics, cut-backs).

CLASSIFICATION OPINONS

1. Roof-covering product consisting of a solution of asphalt with added asbestos, mineral fillers and tung oil.
Adoption : 1964

2. Coating **for roofs, outer walls and metal surfaces** consisting of a solution of asphalt with added asbestos fibres and aluminium pigment.
Adoption : 1965

Heading 2716

Electrical energy. (optional heading)

EXPLANATORY NOTES

27.16 - Electrical energy. (optional heading)

No remarks.

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2716.00

Electrical energy. (optional heading).

Section VI

PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES

LEGAL NOTES

Notes.

1.- (A) Goods (other than radioactive ores) answering to a description in heading 28.44 or 28.45 are to be classified in those headings and in no other heading of the Nomenclature.

(B) Subject to paragraph (A) above, goods answering to a description in heading 28.43, 28.46 or 28.52 are to be classified in those headings and in no other heading of this Section.

2.- Subject to Note 1 above, goods classifiable in heading 30.04, 30.05, 30.06, 32.12, 33.03, 33.04, 33.05, 33.06, 33.07, 35.06, 37.07 or 38.08 by reason of being put up in measured doses or for retail sale are to be classified in those headings and in no other heading of the Nomenclature.

3.- Goods put up in sets consisting of two or more separate constituents, some or all of which fall in this Section and are intended to be mixed together to obtain a product of Section VI or VII, are to be classified in the heading appropriate to that product, provided that the constituents are :

(a) having regard to the manner in which they are put up, clearly identifiable as being intended to be used together without first being repacked;

(b) presented together; and

(c) identifiable, whether by their nature or by the relative proportions in which they are present, as being complementary one to another.

4.- Where a product answers to a description in one or more of the headings in Section VI by virtue of being described by name or function and also to heading 38.27, then it is classifiable in a heading that references the product by name or function and not under heading 38.27.

EXPLANATORY NOTES

Section VI

PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES

Notes.

1.- (A) Goods (other than radioactive ores) answering to a description in heading 28.44 or 28.45 are to be classified in those headings and in no other heading of the Nomenclature.

(B) Subject to paragraph (A) above, goods answering to a description in heading 28.43, 28.46 or 28.52 are to be classified in those headings and in no other heading of this Section.

2.- Subject to Note 1 above, goods classifiable in heading 30.04, 30.05, 30.06, 32.12, 33.03, 33.04, 33.05, 33.06, 33.07, 35.06, 37.07 or 38.08 by reason of being put up in measured doses or for retail sale are to be classified in those headings and in no other heading of the Nomenclature.

3.- Goods put up in sets consisting of two or more separate constituents, some or all of which fall in this Section and are intended to be mixed together to obtain a product of Section VI or VII, are to be classified in the heading appropriate to that product, provided that the constituents are :

(a) having regard to the manner in which they are put up, clearly identifiable as being intended to be used together without first being repacked;

(b) presented together; and

(c) identifiable, whether by their nature or by the relative proportions in which they are present, as being complementary one to another.

4.- Where a product answers to a description in one or more of the headings in Section VI by virtue of being described by name or function and also to heading 38.27, then it is classifiable in a heading that references the product by name or function and not under heading 38.27.

GENERAL

Note 1.

Under the provisions of paragraph (A) of this Note, all radioactive chemical elements and radioactive isotopes, and compounds of such elements and isotopes (whether inorganic or organic, and whether or not chemically defined), are classified under heading 28.44, even though they could also fall under some other heading of the Nomenclature. Thus, for example, radioactive sodium chloride and radioactive glycerol fall in heading 28.44 and not in heading 25.01 or 29.05. Similarly, radioactive ethyl alcohol, radioactive gold and radioactive cobalt are in all circumstances classified in heading 28.44. It should be noted, however, that radioactive ores are classified in **Section V** of the Nomenclature.

In the case of non-radioactive isotopes and their compounds, the Note provides that these (whether inorganic or organic, and whether or not chemically defined) are classified in heading 28.45 and not elsewhere in the Nomenclature. Thus, the isotope of carbon is classified under heading 28.45 and not under heading 28.03.

Paragraph (B) of the Note provides that goods described in heading 28.43, 28.46 or 28.52 are to be classified under whichever of those headings is appropriate and under no other heading in Section VI, provided always they are not radioactive or in the form of isotopes (in which case they are classified in either heading 28.44 or heading 28.45). This paragraph of the Note provides, therefore, that, e.g., silver caseinate is classified in heading 28.43 and not in heading 35.01, and that silver nitrate, even when put up for retail sale ready for photographic use, is classified in heading 28.43 and not in heading 37.07.

It should be noted, however, that headings 28.43, 28.46 and 28.52 take precedence **only over the other headings in Section VI**. Where goods described in heading 28.43, 28.46 or 28.52 are also covered by headings in other Sections of the Nomenclature, the classification of such goods is dependent on the application of any relevant Section or Chapter Notes and of the General Rules for the interpretation of the Harmonized System. Thus gadolinite, a compound of rare-earth metals and therefore covered by heading 28.46 is classified in heading 25.30 because Note 3 (a) to Chapter 28 **excludes** all mineral products of **Section V**.

Note 2.

Section Note 2 provides that goods (other than those described in heading 28.43 to 28.46 or 28.52) which are covered by heading 30.04, 30.05, 30.06, 32.12, 33.03, 33.04, 33.05, 33.06, 33.07, 35.06, 37.07 or 38.08 by reason of being put up in measured doses or for retail sale, are to be classified in those headings notwithstanding that they could also fall in some other heading of the Nomenclature. For example, sulphur put up for retail sale for therapeutic purposes is classified in**heading 30.04** and not in heading 25.03 or 28.02, and dextrin put up for retail sale as a glue is classified in **heading 35.06** and not in heading 35.05.

Note 3.

This Note deals with the classification of goods put up in sets consisting of two or more separate constituents, some or all of which fall in Section VI. The Note is, however, limited to sets of which the constituents are intended to be mixed together to obtain a product of Section VI or VII. Such sets are to be classified in the heading appropriate to that product **provided** that the constituents meet conditions (a) to (c) of the Note.

Examples of goods in such sets are dental cements and other dental fillings of heading 30.06 and certain varnishes and paints of headings 32.08 to 32.10 and mastics, etc., of heading 32.14. As regards the classification of goods put up without a necessary hardener, - see, in particular, General Explanatory Note to Chapter 32 and Explanatory Note to heading 32.14.

It should be noted that goods put up in sets consisting of two or more separate constituents, some or all of which fall in Section VI, intended to be used **successively without prior mixing**, are not covered by Note 3 to this Section. Such goods put up for retail sale are to be classified by application of the General Interpretative Rules (generally Rule 3 (b)); in the case of those not put up for retail sale the constituents are to be classified separately.

Note 4.

Section Note 4 provides that heading 38.27 **does not take precedence over other headings in Section VI** that reference goods by name or function. Thus, for example, goods that could fall under the first category of headings 38.14, as “organic composite solvents” and heading 38.27, are to be classified under heading 38.14, even though the texts of both the first category of heading 38.14 and heading 38.27 have the same phrase “not elsewhere specified or included”. It should be noted, however, that heading 38.27 does take precedence over heading 38.24, as this heading does not reference such goods by name or function.

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Chapter 28

Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes

LEGAL NOTES

Notes.

1.- Except where the context otherwise requires, the headings of this Chapter apply only to :

(a) Separate chemical elements and separate chemically defined compounds, whether or not containing impurities;

(b) The products mentioned in (a) above dissolved in water;

(c) The products mentioned in (a) above dissolved in other solvents provided that the solution constitutes a normal and necessary method of putting up these products adopted solely for reasons of safety or for transport and that the solvent does not render the product particularly suitable for specific use rather than for general use;

(d) The products mentioned in (a), (b) or (c) above with an added stabiliser (including an anti-caking agent) necessary for their preservation or transport;

(e) The products mentioned in (a), (b), (c) or (d) above with an added anti-dusting agent or a colouring substance added to facilitate their identification or for safety reasons, provided that the additions do not render the product particularly suitable for specific use rather than for general use.

2.- In addition to dithionites and sulphoxylates, stabilised with organic substances (heading 28.31), carbonates and peroxocarbonates of inorganic bases (heading 28.36), cyanides, cyanide oxides and complex cyanides of inorganic bases (heading 28.37), fulminates, cyanates and thiocyanates, of inorganic bases (heading 28.42), organic products included in heading 28.43 to 28.46 and 28.52 and carbides (heading 28.49), only the following compounds of carbon are to be classified in this Chapter :

(a) Oxides of carbon, hydrogen cyanide and fulminic, isocyanic, thiocyanic and other simple or complex cyanogen acids (heading 28.11);

(b) Halide oxides of carbon (heading 28.12);

(c) Carbon disulphide (heading 28.13);

(d) Thiocarbonates, selenocarbonates, tellurocarbonates, selenocyanates, tellurocyanates, tetrathio- cyanatodiamminochromates (reineckates) and other complex cyanates, of inorganic bases (heading 28.42);

(e) Hydrogen peroxide, solidified with urea (heading 28.47), carbon oxysulphide, thiocarbonyl halides, cyanogen, cyanogen halides and cyanamide and its metal derivatives (heading 28.53) other than calcium cyanamide, whether or not pure (Chapter 31).

3.- Subject to the provisions of Note 1 to Section VI, this Chapter does not cover :

(a) Sodium chloride or magnesium oxide, whether or not pure, or other products of Section V;

(b) Organo-inorganic compounds other than those mentioned in Note 2 above;

(c) Products mentioned in Note 2, 3, 4 or 5 to Chapter 31;

(d) Inorganic products of a kind used as luminophores, of heading 32.06; glass frit and other glass in the form of powder, granules or flakes, of heading 32.07;

(e) Artificial graphite (heading 38.01); products put up as charges for fire-extinguishers or put up in fire-extinguishing grenades, of heading 38.13; ink removers put up in packings for retail sale, of heading 38.24; cultured crystals (other than optical elements) weighing not less than 2.5 g each, of the halides of the alkali or alkaline-earth metals, of heading 38.24;

(f) Precious or semi-precious stones (natural, synthetic or reconstructed) or dust or powder of such stones (headings 71.02 to 71.05), or precious metals or precious metal alloys of Chapter 71;

(g) The metals, whether or not pure, metal alloys or cermets, including sintered metal carbides (metal carbides sintered with a metal), of Section XV; or

(h) Optical elements, for example, of the halides of the alkali or alkaline-earth metals (heading 90.01).

4.- Chemically defined complex acids consisting of a non-metal acid of sub-Chapter II and a metal acid of sub-Chapter IV are to be classified in heading 28.11.

5.- Headings 28.26 to 28.42 apply only to metal or ammonium salts or peroxysalts.

Except where the context otherwise requires, double or complex salts are to be classified in heading 28.42.

6.- Heading 28.44 applies only to :

(a) Technetium (atomic No. 43), promethium (atomic No. 61), polonium (atomic No. 84) and all elements with an atomic number greater than84;

(b) Natural or artificial radioactive isotopes (including those of the precious metals or of the base metals of Sections XIV and XV), whether or not mixed together;

(c) Compounds, inorganic or organic, of these elements or isotopes, whether or not chemically defined, whether or not mixed together;

(d) Alloys, dispersions (including cermets), ceramic products and mixtures containing these elements or isotopes or inorganic or organic compounds thereof and having a specific radioactivity exceeding 74 Bq/g (0.002 µCi/g);

(e) Spent (irradiated) fuel elements (cartridges) of nuclear reactors;

(f) Radioactive residues whether or not usable.

The term “isotopes”, for the purposes of this Note and of the wording of headings 28.44 and 28.45, refers to :

- individual nuclides, excluding, however, those existing in nature in the monoisotopic state;

- mixtures of isotopes of one and the same element, enriched in one or several of the said isotopes, that is, elements of which the natural isotopic composition has been artificially modified.

7.- Heading 28.53 includes copper phosphide (phosphor copper) containing more than 15 % by weight of phosphorus.

8.- Chemical elements (for example, silicon and selenium) doped for use in electronics are to be classified in this Chapter, provided that they are in forms unworked as drawn, or in the form of cylinders or rods. When cut in the form of discs, wafers or similar forms, they fall in heading 38.18.

Subheading Note.

1.- For the purposes of subheading 2852.10, the expression “chemically defined” means all organic or inorganic compounds of mercury meeting the requirements of paragraphs (a) to (e) of Note 1 to Chapter 28 or paragraphs (a) to (h) of Note 1 to Chapter 29.

EXPLANATORY NOTES

Chapter 28

Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes

Notes.

1.- Except where the context otherwise requires, the headings of this Chapter apply only to :

(a) Separate chemical elements and separate chemically defined compounds, whether or not containing impurities;

(b) The products mentioned in (a) above dissolved in water;

(c) The products mentioned in (a) above dissolved in other solvents provided that the solution constitutes a normal and necessary method of putting up these products adopted solely for reasons of safety or for transport and that the solvent does not render the product particularly suitable for specific use rather than for general use;

(d) The products mentioned in (a), (b) or (c) above with an added stabiliser (including an anti-caking agent) necessary for their preservation or transport;

(e) The products mentioned in (a), (b), (c) or (d) above with an added anti-dusting agent or a colouring substance added to facilitate their identification or for safety reasons, provided that the additions do not render the product particularly suitable for specific use rather than for general use.

2.- In addition to dithionites and sulphoxylates, stabilised with organic substances (heading 28.31), carbonates and peroxocarbonates of inorganic bases (heading 28.36), cyanides, cyanide oxides and complex cyanides of inorganic bases (heading 28.37), fulminates, cyanates and thiocyanates, of inorganic bases (heading 28.42), organic products included in heading 28.43 to 28.46 and 28.52 and carbides (heading 28.49), only the following compounds of carbon are to be classified in this Chapter :

(a) Oxides of carbon, hydrogen cyanide and fulminic, isocyanic, thiocyanic and other simple or complex cyanogen acids (heading 28.11);

(b) Halide oxides of carbon (heading 28.12);

(c) Carbon disulphide (heading 28.13);

(d) Thiocarbonates, selenocarbonates, tellurocarbonates, selenocyanates, tellurocyanates, tetrathio- cyanatodiamminochromates (reineckates) and other complex cyanates, of inorganic bases (heading 28.42);

(e) Hydrogen peroxide, solidified with urea (heading 28.47), carbon oxysulphide, thiocarbonyl halides, cyanogen, cyanogen halides and cyanamide and its metal derivatives (heading 28.53) other than calcium cyanamide, whether or not pure (Chapter 31).

3.- Subject to the provisions of Note 1 to Section VI, this Chapter does not cover :

(a) Sodium chloride or magnesium oxide, whether or not pure, or other products of Section V;

(b) Organo-inorganic compounds other than those mentioned in Note 2 above;

(c) Products mentioned in Note 2, 3, 4 or 5 to Chapter 31;

(d) Inorganic products of a kind used as luminophores, of heading 32.06; glass frit and other glass in the form of powder, granules or flakes, of heading 32.07;

(e) Artificial graphite (heading 38.01); products put up as charges for fire-extinguishers or put up in fire-extinguishing grenades, of heading 38.13; ink removers put up in packings for retail sale, of heading 38.24; cultured crystals (other than optical elements) weighing not less than 2.5 g each, of the halides of the alkali or alkaline-earth metals, of heading 38.24;

(f) Precious or semi-precious stones (natural, synthetic or reconstructed) or dust or powder of such stones (headings 71.02 to 71.05), or precious metals or precious metal alloys of Chapter 71;

(g) The metals, whether or not pure, metal alloys or cermets, including sintered metal carbides (metal carbides sintered with a metal), of Section XV; or

(h) Optical elements, for example, of the halides of the alkali or alkaline-earth metals (heading 90.01).

4.- Chemically defined complex acids consisting of a non-metal acid of sub-Chapter II and a metal acid of sub-Chapter IV are to be classified in heading 28.11.

5.- Headings 28.26 to 28.42 apply only to metal or ammonium salts or peroxysalts.

Except where the context otherwise requires, double or complex salts are to be classified in heading 28.42.

6.- Heading 28.44 applies only to :

(a) Technetium (atomic No. 43), promethium (atomic No. 61), polonium (atomic No. 84) and all elements with an atomic number greater than84;

(b) Natural or artificial radioactive isotopes (including those of the precious metals or of the base metals of Sections XIV and XV), whether or not mixed together;

(c) Compounds, inorganic or organic, of these elements or isotopes, whether or not chemically defined, whether or not mixed together;

(d) Alloys, dispersions (including cermets), ceramic products and mixtures containing these elements or isotopes or inorganic or organic compounds thereof and having a specific radioactivity exceeding 74 Bq/g (0.002 µCi/g);

(e) Spent (irradiated) fuel elements (cartridges) of nuclear reactors;

(f) Radioactive residues whether or not usable.

The term “isotopes”, for the purposes of this Note and of the wording of headings 28.44 and 28.45, refers to :

- individual nuclides, excluding, however, those existing in nature in the monoisotopic state;

- mixtures of isotopes of one and the same element, enriched in one or several of the said isotopes, that is, elements of which the natural isotopic composition has been artificially modified.

7.- Heading 28.53 includes copper phosphide (phosphor copper) containing more than 15 % by weight of phosphorus.

8.- Chemical elements (for example, silicon and selenium) doped for use in electronics are to be classified in this Chapter, provided that they are in forms unworked as drawn, or in the form of cylinders or rods. When cut in the form of discs, wafers or similar forms, they fall in heading 38.18.

Subheading Note.

1.- For the purposes of subheading 2852.10, the expression “chemically defined” means all organic or inorganic compounds of mercury meeting the requirements of paragraphs (a) to (e) of Note 1 to Chapter 28 or paragraphs (a) to (h) of Note 1 to Chapter 29.

GENERAL

Unless the context otherwise requires, Chapter 28 is limited to separate chemical elements and separate chemically defined compounds.

A separate chemically defined compound is a substance which consists of one molecular species (e.g., covalent or ionic) whose composition is defined by a constant ratio of elements and can be represented by a definitive structural diagram. In a crystal lattice, the molecular species corresponds to the repeating unit cell.

The elements of a separate chemically defined compound combine in a specific characteristic proportion determined by the valency and the bonding requirements of the individual atoms. The proportion of each element is constant and specific to each compound and it is therefore said to be stoichiometric.

Small deviations in the stoichiometric ratios can occur because of gaps or insertions in the crystal lattice. These compounds are described as quasi-stoichiometric and are permitted as separate chemically defined compounds provided that the deviations have not been intentionally created.

(A) Chemically defined elements and compounds.

(Note 1)

Separate chemical elements and separate chemically defined compounds containing **impurities**, or **dissolved in water**, remain classified in Chapter 28.

The term “impurities” applies exclusively to substances whose presence in the single chemical compound results solely and directly from the manufacturing process (including purification). The substances may result from any of the factors involved in the process and are principally the following :

(a) Unconverted starting materials.

(b) Impurities present in the starting materials.

(c) Reagents used in the manufacturing process (including purification).

(d) By-products.

It should be noted, however, that such substances are **not** in all cases regarded as “impurities” permitted under Note 1 (a). When such substances are deliberately left in the product with a view to rendering it particularly suitable for specific use rather than for general use, they are **not** regarded as permissible impurities.

Such elements and compounds are **excluded** from Chapter 28 when they are dissolved in **solvents other than water**, unless the solution constitutes a normal and necessary method of putting up these products adopted solely for reasons of safety or for transport (in which case the solvent must not render the product particularly suitable for some types of use rather than for general use).

Thus, carbon chloride oxides dissolved in benzene, alcoholic solutions of ammonia and colloidal solutions of aluminium hydroxide are **excluded** from this Chapter and fall to be classified in **heading 38.24**. Generally speaking, colloidal dispersions fall in **heading 38.24**, **unless** covered by a more specific heading.

Separate chemically defined elements and compounds as described above, put up with an added **stabiliser** necessary for their preservation or transport, remain classified in this Chapter. For example, hydrogen peroxide stabilised by addition of boric acid remains classified in heading 28.47; but sodium peroxide mixed with catalysts (for production of hydrogen peroxide) is **excluded** from Chapter 28 and is classified in **heading 38.24**.

Products added to certain chemicals to keep them in their original physical state are also to be regarded as stabilisers, **provided** that the quantity added in no case exceeds that necessary to achieve the desired result and that the addition does not alter the character of the basic product and render it particularly suitable for specific use rather than for general use. By application of these provisions **anti-caking agents** may be added to the products of this Chapter. Such products with added **water-repellents** are, on the other hand, **excluded** since such agents modify the original characteristics of the products.

On the same condition that the additions do not render them particularly suitable for specific use rather than for general use, the products of this Chapter may also contain :

(a) Added anti-dusting agents (e.g., mineral oil added to certain poisonous chemicals to prevent dusting during handling).

(b) Colouring substances added to facilitate identification or added for safety reasons to dangerous or poisonous chemicals (e.g., lead arsenate of heading 28.42) as a “marker” or warning to those handling the products. Products to which colouring substances have been added for other reasons (e.g., silica gel with cobalt salts added for use as a humidity indicator (**heading 38.24**)) are, however, **excluded**.

(B) Distinction between the compounds of Chapter 28 and those of Chapter 29.

(Note 2)

The following is an exhaustive list of compounds containing carbon which are to be classified in Chapter 28, and of the headings in which they are to be classified :

Heading 28.11 - Oxides of carbon.

Hydrogen cyanide, hydrogen hexacyanoferrate (II) and hydrogen hexacyano-ferrate (III).

Isocyanic, fulminic, thiocyanic, cyanomolybdic and other simple or complex cyanogen acids.

Heading 28.12 - Halide oxides of carbon.

Heading 28.13 - Carbon disulphide.

Heading 28.31 - Dithionites and sulphoxylates, stabilised with organic substances.

Heading 28.36 - Carbonates and peroxocarbonates, of inorganic bases.

Heading 28.37 - Cyanides, cyanide oxides and complex cyanides (hexacyanoferrates (II), hexacyanoferrates (III), nitrosylpentacyanoferrates (II), nitrosylpentacyanoferrates (III), cyanomanganates, cyanocadmates, cyanochromates, cyanocobaltates, cyanoniccolates, cyanocuprates, etc.), of inorganic bases.

Heading 28.42 - Thiocarbonates, selenocarbonates, tellurocarbonates, selenocyanates, tellurocyanates, tetrathiocyanatodiamminochromates (reineckates) and other double or complex cyanates, of inorganic bases.

Headings 28.43 to 28.46 - Inorganic and organic compounds of :

(i) Precious metals.

(ii) Radioactive elements.

(iii) Isotopes.

(iv) Rare-earth metals, yttrium or scandium.

Heading 28.47 - Hydrogen peroxide, solidified with urea, whether or not stabilised.

Heading 28.49 - Carbides (binary carbides, borocarbides, carbonitrides, etc.), **other than** hydrogen carbides (hydrocarbons).

Heading 28.52 - Inorganic and organic compounds of mercury, whether or not chemically defined, excluding amalgams

Heading 28.53 - Carbon oxysulphide.

Thiocarbonyl halides.

Cyanogen and halogen compounds of cyanogen.

Cyanamide and its metal derivatives (**other than** calcium cyanamide, whether or not pure - see Chapter 31).

All other carbon compounds are excluded from Chapter 28.

(C) Products which remain classified in Chapter 28, even when they are not separate chemical elements nor separate chemically defined compounds.

There are certain exceptions to the rule that this Chapter is limited to separate chemical elements and separate chemically defined compounds. These exceptions include the following products :

Heading 28.02 - Colloidal sulphur.

Heading 28.03 - Carbon blacks.

Heading 28.07 - Oleum.

Heading 28.08 - Sulphonitric acids.

Heading 28.09 - Polyphosphoric acids.

Heading 28.13 - Phosphorus trisulphide.

Heading 28.18 - Artificial corundum.

Heading 28.21 - Earth colours containing 70 % or more by weight of combined iron evaluated as Fe_2O_3.

Heading 28.22 - Commercial cobalt oxides.

Heading 28.24 - Red lead and orange lead.

Heading 28.28 - Commercial calcium hypochlorite.

Heading 28.30 - Polysulphides.

Heading 28.31 - Dithionites and sulphoxylates, stabilised with organic substances.

Heading 28.35 - Polyphosphates.

Heading 28.36 - Commercial ammonium carbonate containing ammonium carbamate.

Heading 28.39 - Commercial alkali metal silicates.

Heading 28.42 - Aluminosilicates.

Heading 28.43 - Colloidal precious metals.

- Amalgams of precious metals.

- Inorganic or organic compounds of precious metals.

Heading 28.44 - Radioactive elements, radioactive isotopes, or compounds (inorganic or organic) and mixtures containing these substances.

Heading 28.45 - Other isotopes and their compounds (inorganic or organic).

Heading 28.46 - Compounds, inorganic or organic, of rare-earth metals, of yttrium or of scandium or of mixtures of these metals.

Heading 28.49 - Carbides.

Heading 28.50 - Hydrides, nitrides, azides, silicides and borides.

Heading 28.52 - Inorganic and organic compounds of mercury, excluding amalgams

Heading 28.53 - Phosphides, liquid air and compressed air.

Amalgams **other than** amalgams of precious metals - see under heading 28.43 above.

(D) Exclusion from Chapter 28 of certain separate chemical elements and of certain separate chemically defined inorganic compounds.

(Notes 3 and 8)

Certain separate chemical elements and certain separate chemically defined inorganic compounds are always excluded from Chapter 28, even when they are pure.

Examples are :

(1) Certain products of **Chapter 25** (i.e., sodium chloride and magnesium oxide).

(2) Certain inorganic salts of **Chapter 31** (viz : sodium nitrate, ammonium nitrate, double salts of ammonium sulphate and ammonium nitrate, ammonium sulphate, double salts of calcium nitrate and ammonium nitrate, double salts of calcium nitrate and magnesium nitrate, and ammonium dihydrogenorthophosphate and diammonium hydrogenorthophosphate (monoammonium or diammonium phosphates); also potassium chloride, though this may in certain cases fall in **heading 38.24** or **90.01**).

(3) Artificial graphite of **heading 38.01**.

(4) Precious or semi-precious stones (natural, synthetic or reconstructed), and dust or powder of such stones of **Chapter 71**.

(5) Precious metals and base metals, including alloys of such metals, of **Section XIV** or **XV**.

Certain other separate elements or separate chemically defined compounds, which would otherwise have been classified in Chapter 28, may be **excluded** when put up in certain forms, or if they have been subjected to certain treatments which leave their chemical composition unchanged (*).

Examples are :

(a) Products suitable for therapeutic or prophylactic uses, put up in measured doses or in forms or packings for retail sale (**heading 30.04**).

(b) Products of a kind used as luminophores (e.g., calcium tungstate) which have been treated to render them luminescent (**heading 32.06**).

(c) Perfumery, cosmetic or toilet preparations (e.g., alum), put up in packings of a kind sold by retail for such use (**headings 33.03** to **33.07**).

(d) Products suitable for use as glues or adhesives (e.g., sodium silicate dissolved in water), put up for retail sale as glues or adhesives in packages not exceeding a net weight of 1 kg (**heading 35.06**).

(e) Photographic products (e.g., sodium thiosulphate), put up in measured portions or put up for retail sale in a form ready for photographic use (**heading 37.07**).

(f) Insecticides, etc. (e.g., sodium tetraborate) put up as described in **heading 38.08**.

(g) Products (e.g., sulphuric acid) put up as charges for fire-extinguishers or put up in fire-extinguishing grenades (heading **38.13**).

(h) Chemical elements (for example, silicon and selenium) doped for use in electronics, in the form of discs, wafers or similar forms (**heading 38.18**).

(ij) Ink removers put up in packings for retail sale (**heading 38.24**).

(k) Halides of the alkali or of the alkaline-earth metals (e.g., lithium fluoride, calcium fluoride, potassium bromide, potassium bromoiodide, etc.), in the form of optical elements (**heading 90.01**) or of cultured crystals weighing not less than 2.5 g each (**heading 38.24**).

(E) Products potentially classifiable in two or more headings of Chapter 28.

Note 1 to Section VI deals with the problems of products potentially classifiable :

(a) In heading 28.44 or 28.45, and also in some other heading of Chapter 28.

(b) In heading 28.43, 28.46 or 28.52, and also in some other heading of Chapter 28 (other than heading 28.44 or 28.45).

Chemically defined complex acids consisting of a non-metal acid (of sub-Chapter II) and a metal acid (of sub-Chapter IV) are classified in heading 28.11 (see Note 4 to Chapter 28 and Explanatory Note to heading 28.11).

Except where the context otherwise requires, double or complex inorganic salts are to be classified in heading 28.42 (see Note 5 to Chapter 28 and Explanatory Note to heading 28.42).

(*) These exclusions do not affect the products classifiable in headings 28.43 to 28.46 and 28.52 (see Notes 1 and 2 to Section VI).

I.-

CHEMICAL ELEMENTS
EXPLANATORY NOTES

Sub-Chapter I

CHEMICAL ELEMENTS

GENERAL

Chemical elements can be divided into two classes, non-metals and metals. In general, this sub-Chapter includes all non-metals at least in some of their forms, whereas numerous metals are classified elsewhere : - precious metals (**Chapter 71** and **heading 28.43**), base metals (**Chapters 72** to **76** and **78** to **81**) and radioactive chemical elements and isotopes (**heading 28.44**) and stable isotopes (**heading 28.45**).

An alphabetical list of the various known elements, indicating the appropriate classification, is given below. Some elements, such as antimony, behave both as metals and as non-metals; attention is drawn to their classification in the Nomenclature.

Element	Symbol	Atomic Number	Classification
Actinium.....	Ac	89	Radioactive element (28.44).
Aluminium.....	Al	13	Base metal (Chapter 76).
Americium.....	Am	95	Radioactive element (28.44).
Antimony.....	Sb	51	Base metal (81.10).
Argon.....	Ar	18	Rare gas (28.04).
Arsenic.....	As	33	Non-metal (28.04).
Astatine.....	At	85	Radioactive element (28.44).
Barium.....	Ba	56	Alkaline-earth metal (28.05).
Berkelium.....	Bk	97	Radioactive element (28.44).
Beryllium.....	Be	4	Base metal (81.12).
Bismuth.....	Bi	83	Base metal (81.06).
Boron.....	B	5	Non-metal (28.04).
Bromine.....	Br	35	Non-metal (28.01).
Cadmium.....	Cd	48	Base metal (81.07).
Caesium.....	Cs	55	Alkali metal (28.05).

Calcium.....	Ca	20	Alkaline-earth metal (28.05).
Californium.....	Cf	98	Radioactive element (28.44).
Carbon.....	C	6	Non-metal (28.03). (But see 38.01 for artificial graphite.)
Cerium.....	Ce	58	Rare-earth metal (28.05).
Chlorine.....	Cl	17	Non-metal (28.01).
Chromium.....	Cr	24	Base metal (81.12).
Cobalt.....	Co	27	Base metal (81.05).
Copper.....	Cu	29	Base metal (Chapter 74).
Curium.....	Cm	96	Radioactive element (28.44).
Dysprosium.....	Dy	66	Rare-earth metal (28.05).
Einsteinium.....	Es	99	Radioactive element (28.44).
Erbium.....	Er	68	Rare-earth metal (28.05).
Europium.....	Eu	63	Rare-earth metal (28.05).
Fermium.....	Fm	100	Radioactive element (28.44).
Fluorine.....	F	9	Non-metal (28.01).
Francium.....	Fr	87	Radioactive element (28.44).
Gadolinium.....	Gd	64	Rare-earth metal (28.05).
Gallium.....	Ga	31	Base metal (81.12).
Germanium.....	Ge	32	Base metal (81.12).
Gold.....	Au	79	Precious metal (71.08).
Hafnium.....	Hf	72	Base metal (81.12).
Helium.....	He	2	Rare gas (28.04).

Holmium.....	Ho	67	Rare-earth metal (28.05).
Hydrogen.....	H	1	Non-metal (28.04).
Indium.....	In	49	Base metal (81.12)
Iodine.....	I	53	Non-metal (28.01).
Iridium.....	Ir	77	Precious metal (71.10).
Iron.....	Fe	26	Base metal (Chapter 72).
Krypton.....	Kr	36	Rare gas (28.04).
Lanthanum.....	La	57	Rare-earth metal (28.05).
Lawrencium.....	Lr	103	Radioactive element (28.44).
Lead.....	Pb	82	Base metal (Chapter 78).
Lithium.....	Li	3	Alkali metal (28.05).
Lutetium.....	Lu	71	Rare-earth metal (28.05).
Magnesium.....	Mg	12	Base metal (81.04).
Manganese.....	Mn	25	Base metal (81.11).
Mendelevium...	Md	101	Radioactive element (28.44).
Mercury.....	Hg	80	Metal (28.05).
Molybdenum...	Mo	42	Base metal (81.02).
Neodymium.....	Nd	60	Rare-earth metal (28.05).
Neon.....	Ne	10	Rare gas (28.04).
Neptunium.....	Np	93	Radioactive element (28.44).
Nickel.....	Ni	28	Base metal (Chapter 75).
Niobium.....	Nb	41	Base metal (81.12).
Nitrogen.....	N	7	Non- metal (28.04).

Nobelium.....	No	102	Radioactive element (28.44).
Osmium.....	Os	76	Precious metal (71.10).
Oxygen.....	O	8	Non-metal (28.04).
Palladium.....	Pd	46	Precious metal (71.10).
Phosphorus.....	P	15	Non-metal (28.04).
Platinum.....	Pt	78	Precious metal (71.10).
Plutonium.....	Pu	94	Radioactive element (28.44).
Polonium.....	Po	84	Radioactive element (28.44).
Potassium.....	K	19	Alkali metal (28.05).
Praseodymium.	Pr	59	Rare-earth metal (28.05).
Promethium.....	Pm	61	Radioactive element (28.44).
Protactinium.....	Pa	91	Radioactive element (28.44).
Radium.....	Ra	88	Radioactive element (28.44).
Radon.....	Rn	86	Radioactive element (28.44).
Rhenium.....	Re	75	Base metal (81.12).
Rhodium.....	Rh	45	Precious metal (71.10).
Rubidium.....	Rb	37	Alkali metal (28.05).
Ruthenium.....	Ru	44	Precious metal (71.10).
Samarium.....	Sm	62	Rare-earth metal (28.05).
Scandium.....	Sc	21	Classified with the rare-earth metals (28.05).
Selenium.....	Se	34	Non-metal (28.04).
Silicon.....	Si	14	Non-metal (28.04).

Silver.....	Ag	47	Precious metal (71.06).
Sodium.....	Na	11	Alkali metal (28.05).
Strontium.....	Sr	38	Alkaline-earth metal (28.05).
Sulphur.....	S	16	Non-metal (28.02). (But see 25.03 for crude sulphur).
Tantalum.....	Ta	73	Base metal (81.03).
Technetium.....	Tc	43	Radioactive element (28.44).
Tellurium.....	Te	52	Non-metal (28.04).
Terbium.....	Tb	65	Rare-earth metal (28.05).
Thallium.....	Tl	81	Base metal (81.12).
Thorium.....	Th	90	Radioactive element (28.44).
Thulium.....	Tm	69	Rare-earth metal (28.05).
Tin.....	Sn	50	Base metal (Chapter 80).
Titanium.....	Ti	22	Base metal (81.08).
Tungsten.....	W	74	Base metal (81.01).
Uranium.....	U	92	Radioactive element (28.44).
Vanadium.....	V	23	Base metal (81.12).
Xenon.....	Xe	54	Rare gas (28.04).
Ytterbium.....	Yb	70	Rare-earth metal (28.05).
Yttrium.....	Y	39	Classified with the rare-earth metals (28.05).
Zinc.....	Zn	30	Base metal (Chapter 79).
Zirconium.....	Zr	40	Base metal (81.09).

Heading 2801

Fluorine, chlorine, bromine and iodine.

EXPLANATORY NOTES

Sub-Chapter I

CHEMICAL ELEMENTS

GENERAL

Chemical elements can be divided into two classes, non-metals and metals. In general, this sub-Chapter includes all non-metals at least in some of their forms, whereas numerous metals are classified elsewhere : - precious metals (**Chapter 71** and **heading 28.43**), base metals (**Chapters 72** to **76** and **78** to **81**) and radioactive chemical elements and isotopes (**heading 28.44**) and stable isotopes (**heading 28.45**).

An alphabetical list of the various known elements, indicating the appropriate classification, is given below. Some elements, such as antimony, behave both as metals and as non-metals; attention is drawn to their classification in the Nomenclature.

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Berkelium.....	Bk	97	Radioactive element (28.44).
Beryllium.....	Be	4	Base metal (81.12).
Bismuth.....	Bi	83	Base metal (81.06).
Boron.....	B	5	Non-metal (28.04).

Bromine.....	Br	35	Non-metal (28.01).
Cadmium.....	Cd	48	Base metal (81.07).
Caesium.....	Cs	55	Alkali metal (28.05).
Calcium.....	Ca	20	Alkaline-earth metal (28.05).
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Erbium.....	Er	68	Rare-earth metal (28.05).
Europium.....	Eu	63	Rare-earth metal (28.05).
Fermium.....	Fm	100	Radioactive element (28.44).
Fluorine.....	F	9	Non-metal (28.01).
Francium.....	Fr	87	Radioactive element (28.44).
Gadolinium.....	Gd	64	Rare-earth metal (28.05).
Gallium.....	Ga	31	Base metal (81.12).

Germanium.....	Ge	32	Base metal (81.12).
Gold.....	Au	79	Precious metal (71.08).
Hafnium.....	Hf	72	Base metal (81.12).
Helium.....	He	2	Rare gas (28.04).
Holmium.....	Ho	67	Rare-earth metal (28.05).
Hydrogen.....	H	1	Non-metal (28.04).
Indium.....	In	49	Base metal (81.12)
Iodine.....	I	53	Non-metal (28.01).
Iridium.....	Ir	77	Precious metal (71.10).
Iron.....	Fe	26	Base metal (Chapter 72).
Krypton.....	Kr	36	Rare gas (28.04).
Lanthanum.....	La	57	Rare-earth metal (28.05).
Lawrencium.....	Lr	103	Radioactive element (28.44).
Lead.....	Pb	82	Base metal (Chapter 78).
Lithium.....	Li	3	Alkali metal (28.05).
Lutetium.....	Lu	71	Rare-earth metal (28.05).
Magnesium.....	Mg	12	Base metal (81.04).
Manganese.....	Mn	25	Base metal (81.11).
Mendelevium...	Md	101	Radioactive element (28.44).
Mercury.....	Hg	80	Metal (28.05).
Molybdenum...	Mo	42	Base metal (81.02).

Neodymium.....	Nd	60	Rare-earth metal (28.05).
Neon.....	Ne	10	Rare gas (28.04).
Neptunium.....	Np	93	Radioactive element (28.44).
Nickel.....	Ni	28	Base metal (Chapter 75).
Niobium.....	Nb	41	Base metal (81.12).
Nitrogen.....	N	7	Non- metal (28.04).
Nobelium.....	No	102	Radioactive element (28.44).
Osmium.....	Os	76	Precious metal (71.10).
Oxygen.....	O	8	Non-metal (28.04).
Palladium.....	Pd	46	Precious metal (71.10).
Phosphorus.....	P	15	Non-metal (28.04).
Platinum.....	Pt	78	Precious metal (71.10).
Plutonium.....	Pu	94	Radioactive element (28.44).
Polonium.....	Po	84	Radioactive element (28.44).
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Praseodymium.	Pr	59	Rare-earth metal (28.05).
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Protactinium.....	Pa	91	Radioactive element (28.44).
Radium.....	Ra	88	Radioactive element (28.44).
Radon.....	Rn	86	Radioactive element (28.44).
Rhenium.....	Re	75	Base metal (81.12).

Rhodium.....	Rh	45	Precious metal (71.10).
Rubidium.....	Rb	37	Alkali metal (28.05).
Ruthenium.....	Ru	44	Precious metal (71.10).
Samarium.....	Sm	62	Rare-earth metal (28.05).
Scandium.....	Sc	21	Classified with the rare-earth metals (28.05).
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Silver.....	Ag	47	Precious metal (71.06).
Sodium.....	Na	11	Alkali metal (28.05).
Strontium.....	Sr	38	Alkaline-earth metal (28.05).
Sulphur.....	S	16	Non-metal (28.02). (But see 25.03 for crude sulphur).
Tantalum.....	Ta	73	Base metal (81.03).
Technetium.....	Tc	43	Radioactive element (28.44).
Tellurium.....	Te	52	Non-metal (28.04).
Terbium.....	Tb	65	Rare-earth metal (28.05).
Thallium.....	Tl	81	Base metal (81.12).
Thorium.....	Th	90	Radioactive element (28.44).
Thulium.....	Tm	69	Rare-earth metal (28.05).
Tin.....	Sn	50	Base metal (Chapter 80).
Titanium.....	Ti	22	Base metal (81.08).

Tungsten.....	W	74	Base metal (81.01).
Uranium.....	U	92	Radioactive element (28.44).
Vanadium.....	V	23	Base metal (81.12).
Xenon.....	Xe	54	Rare gas (28.04).
Ytterbium.....	Yb	70	Rare-earth metal (28.05).
Yttrium.....	Y	39	Classified with the rare-earth metals (28.05).
Zinc.....	Zn	30	Base metal (Chapter 79).
Zirconium.....	Zr	40	Base metal (81.09).

28.01 - Fluorine, chlorine, bromine and iodine.

2801.10 - Chlorine

2801.20 - Iodine

2801.30 - Fluorine; bromine

This heading covers the non-metals known as halogens, with the **exception** of astatine (**heading 28.44**).

(A) FLUORINE

Fluorine is a faintly greenish-yellow gas with a pungent odour; it is dangerous to inhale as it irritates the mucous membranes and is corrosive. It is presented under pressure in steel containers; it is a very active element which ignites organic matter - in particular wood, fats and textiles.

Fluorine is used for the preparation of certain fluorides and organo-fluorine derivatives.

(B) CHLORINE

Chlorine is usually obtained by electrolysis of alkali chlorides, especially sodium chloride.

Chlorine is a greenish-yellow gas, suffocating, corrosive, two and a half times as dense as air, slightly soluble in water and readily liquefied. It is usually transported in steel cylinders, tanks, railway tank wagons or barges.

Chlorine destroys colouring and organic matter. It is used for bleaching vegetable (but not animal) fibres, and in the preparation of wood pulp. Because of its disinfecting and antiseptic properties, it is

also used for sterilising (chlorinating) water. It is used in gold, tin and cadmium metallurgy, in the manufacture of hypochlorites, metal chlorides and carbonyl chloride, in organic syntheses (e.g., synthetic dyes, artificial waxes, chlorinated rubber).

(C) BROMINE

Bromine can be obtained by the action of chlorine on the alkaline bromides contained in saline mother-liquors, or by electrolysing bromides.

It is a very dense (3.18 at 0 °C), corrosive, reddish or dark brown liquid which, even when cold, gives off suffocating red fumes irritating to the eyes. It inflames the skin, turning it yellow, and ignites organic substances such as sawdust. It is presented in glass or pottery containers. It is slightly soluble in water. The heading **excludes** solutions of bromine in acetic acid (**heading 38.24**).

It is used in the manufacture of medicaments (e.g., sedatives), dyes (e.g., eosins, brominated derivatives of indigo), photographic chemicals (silver bromide), lachrymatory products (bromo-acetone), in metallurgy, etc.

(D) IODINE

Iodine is extracted either from the mother-liquors of natural sodium nitrates by treatment with sulphur dioxide or sodium hydrogen sulphite, or from marine algae by drying, incinerating and chemical treatment of the ash.

It is a very dense solid (specific gravity 4.95 at 0 °C), with an odour reminiscent of both chlorine and bromine; it is dangerous to inhale. It sublimes at room temperature and turns starch-paste blue. When impure, it occurs in specks or as a coarse powder. When purified by sublimation, it takes the form of brilliant, greyish flakes or crystals with a metallic glint; it is then usually put up in glass.

It is used in medicine, and also in the manufacture of photographic chemicals (sodium iodide), dyes (e.g., erythrosines) and medicaments, as a catalyst in organic synthesis, as a reagent, etc.

2801.10

- Chlorine

2801.20

- Iodine

2801.30

- Fluorine; bromine

Heading 2802

Sulphur, sublimed or precipitated; colloidal sulphur.

EXPLANATORY NOTES

28.02 - Sulphur, sublimed or precipitated; colloidal sulphur.

(A) SUBLIMED OR PRECIPITATED SULPHUR

The sulphur in these two categories is usually about 99.5 % pure.

Sublimed sulphur, or **flowers of sulphur**, is obtained by slow distillation of crude or impure sulphur, followed by condensation **in the solid form** (or sublimation) as fine, very light particles. It is chiefly used in viticulture, in the chemical industry or for vulcanising high-grade rubber.

This heading also includes "washed sublimed sulphur", treated with ammonia solution to eliminate the sulphur dioxide; this product is used in medicine.

The **precipitated sulphur** classified here is always obtained by precipitating a solution of a sulphide, or of an alkaline or alkaline-earth polysulphide, with hydrochloric acid. It is more finely divided and paler yellow than sublimed sulphur; its odour is somewhat similar to that of hydrogen sulphide and it deteriorates with age. Its uses are almost entirely medicinal.

The precipitated sulphur of this heading must not be confused with certain "recovered" (triturated or micronised) sulphurs sometimes described as "precipitated" but classified in **heading 25.03**.

(B) COLLOIDAL SULPHUR

Colloidal sulphur is obtained by the action of hydrogen sulphide on a solution of sulphur dioxide containing gelatin. It may also be obtained by the action of mineral acid on sodium thiosulphate, or by cathodic pulverisation. Colloidal sulphur is a white powder which forms an emulsion with water; however it can be preserved in this state only if a protective colloid (albumin or gelatin) is added, and even then it can be kept for only a limited time. The heading includes this prepared colloidal solution. Like all colloidal dispersions, sulphur dispersions have a large surface for adsorption and can take up colouring matter; they are also very active antiseptics used internally in medicine.

The heading **excludes** unrefined sulphur as obtained by the Frasch process and refined sulphur, even though they are often very pure (**heading 25.03**).

2802.00

Sulphur, sublimed or precipitated; colloidal sulphur.

Heading 2803

Carbon (carbon blacks and other forms of carbon not elsewhere specified or included).

EXPLANATORY NOTES

28.03 - Carbon (carbon blacks and other forms of carbon not elsewhere specified or included).

Carbon is a solid non-metal.

This heading covers the following categories of carbon.

Carbon black results from the incomplete combustion or cracking (by heating, by electric arc or by electric sparks) of organic substances rich in carbon, such as :

(1) Natural gases such as methane, anthracenic gases (i.e., gases carburetted with anthracene) and acetylene. Acetylene black, a very fine and pure product, is obtained by the sudden decomposition, initiated by an electric spark, of compressed acetylene.

(2) Naphthalene, resins, oils (lamp black).

Carbon black may also be described as channel black or furnace black, according to the method of production.

Carbon black may contain oily impurities.

Carbon black is used as a pigment for the manufacture of paint, printing ink, shoe-polish, etc., in making carbon paper, and as a reinforcing agent in the rubber industry.

This heading **excludes** :

(a) Natural graphite (**heading 25.04**).

(b) Natural carbons in the form of solid fuels (anthracite, coal, lignite); coke, agglomerated fuels and gas carbon (**Chapter 27**).

(c) Certain black mineral colouring matter of **heading 32.06** (e.g., alu black, shale black, silica black).

(d) Artificial graphite; colloidal or semi-colloidal graphite (e.g., **heading 38.01**).

(e) Activated carbon and animal black (**heading 38.02**).

(f) Wood charcoal (**heading 44.02**).

(g) Crystalline carbon in the form of diamonds (**headings 71.02** and **71.04**).

2803.00

Carbon (carbon blacks and other forms of carbon not elsewhere specified or included).

Heading 2804

Hydrogen, rare gases and other non-metals.

EXPLANATORY NOTES

28.04 - Hydrogen, rare gases and other non-metals.

2804.10 - Hydrogen

- Rare gases :

2804.21 - - Argon

2804.29 - - Other

2804.30 - Nitrogen

2804.40 - Oxygen

2804.50 - Boron; tellurium

- Silicon :

2804.61 - - Containing by weight not less than 99.99 % of silicon

2804.69 - - Other

2804.70 - Phosphorus

2804.80 - Arsenic

2804.90 - Selenium

(A) HYDROGEN

Hydrogen is obtained by electrolysing water, or from water-gas, coke-oven gas or hydrocarbons.

It is generally regarded as a non-metal. It is presented under pressure in thick steel cylinders.

It is used for hydrogenating oils (preparation of solid fats), for cracking petroleum products, in the synthesis of ammonia, for cutting or welding metals (oxy-hydrogen blow lamps), etc.

The heading **excludes** deuterium (stable hydrogen isotope) which falls in **heading 28.45**, and tritium (radioactive hydrogen isotope) which falls in **heading 28.44**.

(B) RARE GASES

The term “rare gases” (inert gases) applies to the elements listed below. They are remarkable for their lack of chemical affinity and for their electrical properties - particularly that of emitting coloured rays (used, for example, in neon signs) under the action of high voltage discharges.

(1) **Helium** (non-inflammable, used, e.g., for inflating balloons).

(2) **Neon** (gives a rosy orange-yellow light or, combined with mercury vapour, “daylight” lighting).

(3) **Argon** (a colourless and odourless gas used to provide an inert atmosphere in electric lamp bulbs).

(4) **Krypton** (same use as argon, or to give a pale violet light).

(5) **Xenon** (gives a blue light).

Rare gases are obtained by fractionating liquid air, or also (in the case of helium) from certain natural gases. They are presented under pressure.

Radon is a radioactive inert gas of **heading 28.44** formed by the radioactive decay of radium.

(C) OTHER NON-METALS

The other non-metals covered by this heading are :

(1) **Nitrogen**.

Nitrogen is a gas which neither burns nor supports combustion, but extinguishes flames. It is obtained by fractional distillation of liquid air, and is presented under pressure in steel cylinders.

Nitrogen is chiefly used for the manufacture of ammonia and calcium cyanamide, but is also used to provide an inert atmosphere in electric lamp bulbs, etc.

(2) **Oxygen**.

This is a combustion-supporting gas, chiefly obtained by fractional distillation of liquid air.

It is presented under pressure in steel cylinders, or sometimes as a liquid in double-walled containers.

Compressed oxygen is used in oxyhydrogen and oxyacetylene blow lamps for welding (autogenous welding) or cutting metals such as iron. It is also used in iron or steel metallurgy and in medicine (inhalations).

This heading also includes **ozone**, an allotropic form of oxygen obtained by the action of electric sparks or discharges. It is used for sterilising water (ozonisation), for the oxidation of drying oils, for bleaching cotton, as an antiseptic and for therapeutic purposes.

(3) **Boron**.

Boron is a chestnut-coloured solid generally in powder form. It is used in metallurgy, and for the manufacture of heat regulators and highly sensitive thermometers.

Because of its very high rate of absorption of slow neutrons, boron is also used, pure or alloyed with steel, for the manufacture of mobile control rods for nuclear reactors.

(4) **Tellurium**.

A solid (specific gravity 6.2), amorphous or crystalline. It is a relatively good conductor of heat and electricity, and has certain metallic properties. It is used in certain alloys (e.g., tellurium-lead alloys), and also as a vulcanising agent.

(5) **Silicon**.

Silicon is obtained almost exclusively by carbothermal reduction of silicon dioxide using electric arc-furnaces. It is a poor conductor of heat and electricity, is harder than glass, and is put up as a chestnut-coloured powder or, more often, in shapeless lumps. It crystallises as grey needles with a metallic lustre.

Silicon is one of the most important materials used in electronics. Very pure silicon, obtained by, for example, crystal pulling, may be in forms unworked as drawn, or in the form of cylinders or rods; when doped with boron, phosphorus, etc., it is used for the manufacture of, for example, diodes, transistors and other semi-conductor devices and solar cells.

Silicon is also used in metallurgical industries (e.g., ferrous or aluminium alloys), and in chemistry for the preparation of silicon compounds (e.g., silicon tetrachloride).

(6) **Phosphorus**.

Phosphorus is a soft flexible solid obtained by treating mineral phosphates mixed with sand and carbon in an electric furnace.

There are two main varieties of phosphorus :

(a) **"White" phosphorus**, transparent and yellowish, toxic, dangerous to handle, highly inflammable. This is put up as moulded rods packed in water-filled containers of black glass, stoneware or, more often, metal; these containers should not be exposed to frost.

(b) **Red phosphorus**, known as "amorphous", but which can actually be crystallised. This is an opaque solid, non-toxic, non-phosphorescent, denser and less active than white phosphorus. Red phosphorus is used for the manufacture of match compounds, in pyrotechnics, or as a catalyst (e.g., in the chlorination of acyclic acids).

Certain medicaments contain phosphorus (e.g., phosphorised cod liver oil). It is also used as rat poison, or in the preparation of phosphoric acids, phosphinates (hypophosphites), calcium phosphide, etc.

(7) **Arsenic**.

Arsenic (regulus of arsenic) is a solid extracted from natural arsenical pyrites.

It exists in two main forms :

(a) Common, so-called "metallic" arsenic, in brilliant, steelgrey crystals, brittle, insoluble in water.

(b) Yellow arsenic, crystalline, rather unstable.

Arsenic is used in the manufacture of arsenic disulphide, buck-shot, hard bronzes and various other alloys (of tin, copper, etc.).

(8) **Selenium**.

Selenium, which is rather similar to sulphur, exists in several forms :

(a) Amorphous selenium, in reddish flakes (flowers of selenium).

(b) Vitreous selenium, a poor conductor of heat and electricity. It has a brilliant fracture, brown or reddish.

(c) Crystallised selenium, grey or red crystals. It is a relatively good conductor of heat and electricity, especially when exposed to light. It is used in the manufacture of photoelectric cells and, when doped, of semi-conductor devices, in photography, in powder form (red selenium), for the manufacture of rubber, of special lenses, etc.

The heading **excludes** selenium in colloidal suspension (used in medicine) (**Chapter 30**).

In the Nomenclature, antimony is classified as a metal (**heading 81.10**).

Some of the non-metals in this group (for example, silicon and selenium) may be doped with elements such as boron, phosphorus, etc., in a proportion generally of the order of one part per million, with a view to their use in electronics. They are classified in this heading **provided** that they are in forms unworked as drawn, or in the form of cylinders or rods. When cut in the form of discs, wafers or similar forms, they are classified in **heading 38.18**.

2804.10

- Hydrogen
2804.2

- Rare gases :
2804.21

-- Argon
2804.29

-- Other
2804.30

- Nitrogen
2804.40

- Oxygen
2804.50

- Boron; tellurium
2804.6

- Silicon :
2804.61

-- Containing by weight not less than 99.99 % of silicon
2804.69

-- Other
2804.70

- Phosphorus
2804.80

- Arsenic
2804.90

- Selenium
Heading 2805

Alkali or alkaline-earth metals; rare-earth metals, scandium and yttrium, whether or not intermixed or interalloyed; mercury.
EXPLANATORY NOTES

28.05 - Alkali or alkaline-earth metals; rare-earth metals, scandium and yttrium, whether or not intermixed or interalloyed; mercury.

- Alkali or alkaline-earth metals :

2805.11 - - Sodium

2805.12 - - Calcium

2805.19 - - Other

2805.30 - Rare-earth metals, scandium and yttrium whether or not intermixed or interalloyed

2805.40 - Mercury

(A) ALKALI METALS

The five alkali metals are soft and rather light. They decompose cold water; they deteriorate in air, forming hydroxides.

(1) **Lithium**.

This is the lightest (specific gravity 0.54) and hardest of the group. It is kept in mineral oil or inert gases.

Lithium helps to improve the qualities of metals, and is used in various alloys (e.g., anti-friction alloys). Because of its great affinity for other elements, it is also used, *inter alia*, to obtain other metals in the pure state.

(2) **Sodium**.

A solid (specific gravity 0.97) with a metallic lustre, readily tarnishing after cutting. It is preserved in mineral oil or in airtight welded tins.

Sodium is obtained by electrolysing molten sodium chloride or sodium hydroxide.

It is used in the manufacture of sodium peroxide ("dioxide"), sodium cyanide, sodamide, etc., the indigo industry, the manufacture of explosives (chemical primers and fuses), the polymerisation of butadiene, anti-friction alloys, or titanium or zirconium metallurgy.

The heading **excludes** sodium amalgam (**heading 28.53**).

(3) **Potassium**.

A silvery-white metal (specific gravity 0.85), which can be cut with an ordinary knife. It is preserved in mineral oil or in sealed ampoules.

Potassium is used for the preparation of certain photoelectric cells, and in anti-friction alloys.

(4) **Rubidium**.

A silvery-white solid (specific gravity 1.5), more fusible than sodium. It is preserved in sealed ampoules or in mineral oil.

Like sodium, it is employed in anti-friction alloys.

(5) **Caesium**.

A silvery-white or yellowish metal (specific gravity 1.9), which ignites on contact with air; the most readily oxidising metal; presented in sealed ampoules or in mineral oil.

The radioactive alkali metal francium is **excluded** (**heading 28.44**).

(B) ALKALINE-EARTH METALS

The three alkaline-earth metals are malleable and decompose cold water fairly readily; they deteriorate in damp air.

(1) **Calcium**.

Obtained by the alumino thermal reduction of calcium oxide or by electrolysing molten calcium chloride. It is a white metal (specific gravity 1.57), used in the purification of argon, the refining of copper or steel, the manufacture of zirconium, calcium hydride (hydrolith), anti-friction alloys, etc.

(2) **Strontium**.

White or pale yellow metal, ductile (specific gravity 2.5).

(3) **Barium**.

White metal (specific gravity 4.2); used in certain anti-friction alloys and in the preparation of getters for vacuum tubes (**heading 38.24**).

This heading **does not include** radium, a radioactive element (**heading 28.44**), magnesium (**heading 81.04**), or beryllium (**heading 81.12**); these all resemble alkaline-earth metals in certain respects.

(C) RARE-EARTH METALS; SCANDIUM AND YTTRIUM, WHETHER OR NOT INTERMIXED OR INTERALLOYED

Rare-earth metals (the term “rare-earth” applies to their oxides) or lanthanons comprise the elements with atomic numbers (*) from 57 to 71 in the periodic system, i.e. :

Cerium group	**Terbium group**	**Erbium group**
57 Lanthanum	63 Europium	66 Dysprosium
58 Cerium	64 Gadolinium	67 Holmium
59 Praseodymium	65 Terbium	68 Erbium

60 Neodymium 62 Samarium		69 Thulium 70 Ytterbium 71 Lutetium

Promethium (element 61), which is radioactive, is classified in **heading 28.44**.

The rare-earth metals are generally greyish or yellowish, and ductile or malleable.

Cerium, the most important of the group, is obtained from monazite (rare-earth phosphate) or thorite (rare-earth silicate), after the removal of thorium. Cerium is obtained by metallothermic reduction of the halides using calcium or lithium as the reductant or by electrolysis of the fused chloride. It is a grey ductile metal, a little harder than lead, and gives off sparks when rubbed on rough surfaces.

Lanthanum, which exists in the impure state in ceric salts, is used in the manufacture of blue glass.

This heading also covers **scandium** and **yttrium** which resemble the rare-earth metals quite closely - **scandium** in addition resembles the metals of the iron group. These two metals are extracted from the ore thortveitite, a silicate of scandium containing yttrium and other elements.

These elements remain classified here whether or not intermixed or interalloyed. For instance, the heading covers “Mischmetal”, which is an alloy containing 45 to 55 % cerium, 22 to 27 % lanthanum, other lanthanons, yttrium and various impurities (up to 5 % iron, traces of silicon, calcium, aluminium). “Mischmetal” is used mainly in metallurgy and for the manufacture of lighter flints. When alloyed with more than 5 % iron or with magnesium or other metals it falls elsewhere (e.g., if it has the character of a pyrophoric alloy, in **heading 36.06**).

The heading **excludes** the salts and compounds of rare-earth metals, of yttrium and of scandium (**heading 28.46**).

(D) MERCURY

Mercury (quicksilver) is the only metal which is liquid at room temperature.

It is obtained by roasting natural mercury sulphide (cinnabar) and is separated from the other metals contained in the ore (lead, zinc, tin, bismuth) by filtration, distillation in a vacuum, and treatment with dilute nitric acid.

Mercury is a very brilliant silver-coloured liquid, heavy (specific gravity 13.59), toxic and liable to attack precious metals. At room temperature, pure mercury is unaffected by exposure to air, but the impure metal takes on a coating of brownish mercuric oxide. Mercury is presented in special iron containers (“flasks”).

Mercury is used for preparing the amalgams of heading 28.43 or 28.53. It is used in gold or silver metallurgy, in the gold- or silver-plating industries, and in the manufacture of chlorine, sodium hydroxide, mercury salts, vermilion or fulminates. It is also used for making mercury vapour lamps and in various physical instruments, in medicine, etc.

(*) The atomic number of an element is the total number of orbital electrons contained in an atom of that element.

2805.1

- Alkali or alkaline-earth metals :

2805.11

-- Sodium

2805.12

-- Calcium

2805.19

-- Other

2805.30

- Rare-earth metals, scandium and yttrium, whether or not intermixed or interalloyed

2805.40

- Mercury

II.-

INORGANIC ACIDS AND INORGANIC OXYGEN COMPOUNDS OF NON-METALS

EXPLANATORY NOTES

Sub-Chapter II

INORGANIC ACIDS AND INORGANIC OXYGEN COMPOUNDS OF NON-METALS

GENERAL

Acids contain hydrogen which can be wholly or partly replaced by metals (or by ions with analogous properties, e.g., the ammonium ion (NH_4^+)) as a result salts are formed. Acids react with bases to form salts, and with alcohols to form esters. In the liquid state or in solution, they are electrolytes which produce hydrogen at the cathode. When one or more molecules of water are eliminated from those acids containing oxygen, anhydrides are obtained. Most oxides of non-metals are anhydrides.

This sub-Chapter covers **inorganic oxygen compounds of non-metals** (anhydrides and other), and also **inorganic acids, the anode radical of which is a non-metal**.

On the other hand it **excludes** anhydrides and acids formed, respectively, by metal oxides or hydroxides; these generally fall in **sub-Chapter IV** (e.g., metal oxides, hydroxides and peroxides, such as acids or anhydrides of chromium, molybdenum, tungsten and vanadium). In certain cases, however, they fall elsewhere, e.g., in **heading 28.43** (compounds of precious metals), **heading 28.44** or **28.45** (compounds of radioactive elements and isotopes) or **heading 28.46** (compounds of rare-earth metals, of scandium or yttrium).

Oxygen compounds of hydrogen are also **excluded** and are classified under **heading 22.01** (water), **heading 28.45** (heavy water), **heading 28.47** (hydrogen peroxide) or **heading**

28.53 (distilled and conductivity water and water of similar purity, including water treated with ion-exchange media).

Heading 2806

Hydrogen chloride (hydrochloric acid); chlorosulphuric acid.

EXPLANATORY NOTES

Sub-Chapter II

INORGANIC ACIDS AND INORGANIC OXYGEN COMPOUNDS OF NON-METALS

GENERAL

Acids contain hydrogen which can be wholly or partly replaced by metals (or by ions with analogous properties, e.g., the ammonium ion (NH_4^+)) as a result salts are formed. Acids react with bases to form salts, and with alcohols to form esters. In the liquid state or in solution, they are electrolytes which produce hydrogen at the cathode. When one or more molecules of water are eliminated from those acids containing oxygen, anhydrides are obtained. Most oxides of non-metals are anhydrides.

This sub-Chapter covers **inorganic oxygen compounds of non-metals** (anhydrides and other), and also **inorganic acids, the anode radical of which is a non-metal**.

On the other hand it **excludes** anhydrides and acids formed, respectively, by metal oxides or hydroxides; these generally fall in **sub-Chapter IV** (e.g., metal oxides, hydroxides and peroxides, such as acids or anhydrides of chromium, molybdenum, tungsten and vanadium). In certain cases, however, they fall elsewhere, e.g., in **heading 28.43** (compounds of precious metals), **heading 28.44** or **28.45** (compounds of radioactive elements and isotopes) or **heading 28.46** (compounds of rare-earth metals, of scandium or yttrium).

Oxygen compounds of hydrogen are also **excluded** and are classified under **heading 22.01** (water), **heading 28.45** (heavy water), **heading 28.47** (hydrogen peroxide) or **heading 28.53** (distilled and conductivity water and water of similar purity, including water treated with ion-exchange media).

28.06 - Hydrogen chloride (hydrochloric acid); chlorosulphuric acid.

2806.10 - Hydrogen chloride (hydrochloric acid)

2806.20 - Chlorosulphuric acid

(A) HYDROGEN CHLORIDE (HYDROCHLORIC ACID)

Hydrogen chloride (HCl) is a colourless fuming gas with a suffocating odour, obtained by the action of hydrogen (or of water and coke) on chlorine, or by the action of sulphuric acid on sodium chloride.

It is easily liquefied under pressure and very soluble in water. It is presented under pressure in liquid form in steel cylinders. It is also presented in concentrated aqueous solutions (usually 28 to 38 %) (hydrochloric acid, muriatic acid, spirits of salt) in glass or earthenware containers or in rubber-lined

tank wagons or tank trucks. These pungent-smelling solutions are yellowish if the product contains impurities (ferric chloride, arsenic, sulphur dioxide, sulphuric acid), and colourless if pure. The concentrated solutions give off white fumes in damp air.

Hydrochloric acid has many uses, e.g., pickling iron, zinc or other metals, extracting gelatin from bones, purifying animal black, preparing metal chlorides, etc. Hydrogen chloride gas is often employed in organic syntheses (e.g., in the manufacture of chloroprene, vinyl chloride, artificial camphor, rubber hydrochloride).

(B) CHLOROSULPHURIC ACID (CHLOROSULPHONIC ACID)

Chlorosulphuric acid, commercially designated as chlorosulphonic acid ("sulphuric chlorohydrin") and having the chemical formula $ClSO_2OH$, results from the dry combination of hydrogen chloride with sulphur trioxide or oleum.

It is a highly corrosive, colourless or brownish liquid with an irritating odour; it fumes in a humid atmosphere and decomposes on contact with water or if heated.

It is used in organic syntheses (manufacture of saccharin, thioindigo, indigosols, etc.).

The heading **excludes** hypochlorous, chloric or perchloric acids (**heading 28.11**). The heading also excludes sulphur dichloride dioxide (sulphuryl chloride) (**heading 28.12**), which is sometimes erroneously referred to as "chlorosulphuric acid".

2806.10

- Hydrogen chloride (hydrochloric acid)

2806.20

- Chlorosulphuric acid

Heading 2807

Sulphuric acid; oleum.

EXPLANATORY NOTES

28.07 - Sulphuric acid; oleum.

(A) SULPHURIC ACID

Sulphuric acid (H_2SO_4) is mainly obtained by passing oxygen and sulphur dioxide over a catalyst (platinum, ferric oxide, vanadium pentoxide, etc.). It is freed from impurities (nitrogen compounds, arsenical or seleniferous products, lead sulphate) by treatment with hydrogen sulphide or ammonium sulphide.

Sulphuric acid is a very strong corrosive. It is a dense, oily liquid, colourless (if it does not contain impurities) or yellow or brown (in other cases). It reacts violently on contact with water and destroys the skin and most organic substances by carbonising them.

Commercial sulphuric acid contains between 77 and 100 % H_2SO_4. It is presented in containers or carboys of glass, in steel drums, tank trucks, railway tank wagons or tank ships.

This acid is used in a great number of industries : it is used in particular in the preparation of fertilisers, explosives and inorganic pigments and, *inter alia*, in the petroleum and steel industries.

(B) OLEUM

Oleum (fuming sulphuric acid) is sulphuric acid charged with an excess (up to 80 %) of sulphur trioxide. Oleums can be liquid or solid, very brown in colour; they react violently with water, attack the skin and clothing, give off dangerous fumes (in particular, free sulphur trioxide). They are presented in glass, earthenware or sheet iron containers.

Oleum is largely used in sulphonation reactions in organic chemistry (preparation of naphthalenesulphonic acid, hydroxyanthraquinone, thioindigo, alizarin derivatives, etc.).

The heading **does not include :**

(a) Chlorosulphuric acid ("sulphuric chlorohydrin") and sulphonitric acid (**headings 28.06** and **28.08**, respectively).

(b) Sulphur trioxide, hydrogen sulphide, peroxosulphuric (persulphuric) acids, sulphamic acid and the mineral acids of the thionic series (polythionic acids) (**heading 28.11**).

(c) Thionyl or sulphuryl chlorides (**heading 28.12)**.

2807.00

Sulphuric acid; oleum.

Heading 2808

Nitric acid; sulphonitric acids.

EXPLANATORY NOTES

28.08 - Nitric acid; sulphonitric acids.

(A) NITRIC ACID

Nitric acid (HNO_3) is mainly obtained by oxidising ammonia in the presence of a catalyst (platinum, iron, chromium, bismuth or manganese oxides, etc.). Alternatively, nitrogen and oxygen may be directly combined in an electric-arc furnace and the resulting nitric oxide oxidised. It can also be prepared by the action of sulphuric acid (alone or associated with sodium disulphate) on natural sodium nitrate; the impurities (sulphuric or hydrochloric acids, nitrous fumes) are eliminated by distillation and hot air.

Nitric acid is a colourless or yellowish toxic liquid. In concentrated form (fuming nitric acid), it gives off clouds of yellowish nitrous fumes. It attacks the skin and destroys organic matter; it is a powerful oxidising agent. It is presented in glass or earthenware carboys or aluminium containers.

Its uses include the manufacture of nitrates (of silver, mercury, lead, copper, etc.), organic dyes, explosives (nitroglycerol, collodion cotton, trinitrotoluene, picric acid, mercury fulminate, etc.); the pickling of metals (especially for pickling cast iron); copperplate engraving; gold or silver refining.

(B) SULPHONITRIC ACIDS

Sulphonitric acids are mixtures in definite proportions (e.g., equal parts) of concentrated nitric and sulphuric acids. They are highly corrosive, viscous liquids, generally presented in sheet-iron drums.

They are used, in particular, for nitrating organic compounds in the synthetic dyestuffs industry, and in the manufacture of nitrocellulose and explosives.

The heading **does not cover** :

(a) Aminosulphonic acid (sulphamic acid) (**heading 28.11**) (not to be confused with the sulphonitric acids above).

(b) Hydrogen azide, nitrous acid and the various oxides of nitrogen (also **heading 28.11**).

2808.00

Nitric acid; sulphonitric acids.

Heading 2809

Diphosphorus pentaoxide; phosphoric acid; polyphosphoric acids, whether or not chemically defined.

EXPLANATORY NOTES

28.09 - Diphosphorus pentaoxide; phosphoric acid; polyphosphoric acids, whether or not chemically defined.

2809.10 - Diphosphorus pentaoxide

2809.20 - Phosphoric acid and polyphosphoric acids

This heading covers diphosphorus pentaoxide, phosphoric acid (orthophosphoric acid or common phosphoric acid), pyrophosphoric (diphosphoric) acid, metaphosphoric and other polyphosphoric acids.

(A) DIPHOSPHORUS PENTAOXIDE

Diphosphorus pentaoxide (phosphorus (V) oxide, phosphorus pentoxide, phosphoric anhydride) (P_2O_5) is obtained by combustion, in dry air, of phosphorus extracted from natural phosphates. It is a very corrosive white powder, absorbs water avidly, and is transported in airtight packings. It is used for drying gases, and in organic synthesis.

Diphosphorus pentaoxide exists in crystalline, amorphous or vitreous form. These three varieties mixed together give “phosphoric snow”, classified here.

(B) PHOSPHORIC ACID

Phosphoric acid (orthophosphoric acid or common phosphoric acid) (H_3PO_4) is obtained by the action of sulphuric acid on natural tricalcium phosphate. The commercial acid thus prepared contains as impurities diphosphorus pentaoxide, calcium dihydrogenorthophosphate, sulphur trioxide, sulphuric acid, fluorosilicic acid, etc. Pure phosphoric acid is obtained by controlled hydration of diphosphorus pentaoxide.

Phosphoric acid may be in the form of deliquescent prismatic crystals, but, as it is difficult to preserve in the solid state, it is usually put up in aqueous solutions (e.g., 65 %, 90 %). The concentrated solution, which remains supersaturated at room temperature, is sometimes known as “syrupy phosphoric acid”.

Phosphoric acid is used to prepare concentrated (triple) superphosphates; it is also employed in the textile industries and as a pickling (rust-removing) agent.

Phosphoric acid by condensation at high temperature gives rise to several polymeric acids : pyrophosphoric (diphosphoric) acid, metaphosphoric acids and other polyphosphoric acids.

(C) POLYPHOSPHORIC ACIDS

(I) **Acids characterised by alternating P-O-P atoms are classified here**.

They may be derived formally by condensing two or more molecules of orthophosphoric acid with elimination of the elements of water. In this way, a series of linear acids of general formula $H_{n+2}P_nO_{3n+1}$, where n is 2 or more, and a cyclic series of general formula $(HPO_3)_n$, where n is 3 or more, can be generated.

(1) Pyrophosphoric acid (diphosphoric acid, $H_4P_2O_7$) is formed by controlled heating of orthophosphoric acid. It is unstable in moist air and readily reconverts to the orthoacid.

(2) Metaphosphoric acids. These are the cyclic acids exemplified by **cyclo**-triphosphoric acid $(HPO_3)_3$and **cyclo**-tetraphosphoric acid $(HPO_3)_4$, which occur as minor components of mixed polyphosphoric acids containing more than 86 % P_2O_5. Glacial polyphosphoric acid (commercial metaphosphoric acid) is a non-chemically defined mixture of polyphosphoric acids (mainly linear), which may also contain sodium salts thereof. Such mixtures, which are classified here, occur as vitreous masses, volatilising at red heat and are uncrystallisable.

They are highly absorbent of water and are used for drying gases.

(3) Other polyphosphoric acids of the P-O-P type. These are normally mixtures, marketed under the names “polyphosphoric” or “superphosphoric” acids, which contain higher members of the series such as triphosphoric acid ($H_5P_3O_{10}$) and tetraphosphoric acid ($H_6P_4O_{13}$). These mixtures are also classified here.

(II) **Other polyphosphoric acids**.

This part includes, *inter alia*, hypophosphoric acid (diphosphoric (IV) acid) ($H_4P_2O_6$). This compound is in the form of a crystalline dihydrate which must be kept in a dry place. It is more stable in weak solutions.

The heading **does not include** :

(a) Other phosphorus acids and anhydrides (phosphonic acid and its anhydrides, phosphinic acid) (**heading 28.11**).

(b) Hydrogen phosphides (**heading 28.53**).

2809.10

- Diphosphorus pentaoxide

2809.20

- Phosphoric acid and polyphosphoric acids

Heading 2810

Oxides of boron; boric acids.

EXPLANATORY NOTES

28.10 - Oxides of boron; boric acids.

(A) OXIDES OF BORON

Diboron trioxide (Boron sesquioxide) (B_2O_3) exists as transparent vitreous masses, crystals or white flakes.

It has been used for making synthetic precious or semi-precious stones (corundum, sapphire, etc.) by action on volatile metal fluorides.

The heading also includes all other oxides of boron.

(B) BORIC ACIDS

Boric acid (orthoboric acid) (H_3BO_3) is obtained either by acid decomposition of natural borates, or by physico-chemical treatment of crude boric acid.

It exists in the form of powder or small scales, micaceous flakes or vitrified lumps, with transparent edges, ash-grey or bluish (crystallised acid). It is odourless, greasy to the touch.

Its uses include : as an antiseptic (boracic water); for the manufacture of borosilicate glass (low coefficient of expansion), vitrifiable compounds, Guignet's green (hydrated chromic oxide), artificial borates (borax), hydroxy- and amino-anthraquinones; for impregnating candle wicks; for fire-proofing cloth.

Crude natural boric acid falls in **heading 25.28** when containing not more than 85 % of H_3BO_3, calculated on the dry weight; when the H_3BO_3 content exceeds 85 %, the acid is classified in this heading. Metaboric acid $(HBO_2)_n$ is also classified here.

The heading **does not include :**

(a) Tetrafluoroboric acid (fluoroboric acid) (**heading 28.11**).

(b) Glyceroboric acid (**heading 29.20**).

2810.00

Oxides of boron; boric acids.

Heading 2811

Other inorganic acids and other inorganic oxygen compounds of non-metals.

EXPLANATORY NOTES

28.11 - Other inorganic acids and other inorganic oxygen compounds of non-metals.

- Other inorganic acids :

2811.11 - - Hydrogen fluoride (hydrofluoric acid)

2811.12 - - Hydrogen cyanide (hydrocyanic acid)

2811.19 - - Other

- Other inorganic oxygen compounds of non-metals :

2811.21 - - Carbon dioxide

2811.22 - - Silicon dioxide

2811.29 - - Other

This heading covers mineral acids and anhydrides and other oxides of non-metals. The most important are listed below according to their non-metal component (*) :

(A) COMPOUNDS OF FLUORINE

(1) **Hydrogen fluoride** (HF). Obtained by the action of sulphuric acid on natural calcium fluoride (fluorite) or on cryolite. It is purified by treatment with potassium carbonate or by distillation (it sometimes contains small quantities of silicates and of fluorosilicic acid as impurities). In the anhydrous state, hydrogen fluoride is an extremely hygroscopic liquid (boiling point 18/20 °C); it fumes in a humid atmosphere. In the anhydrous state and in concentrated solution (hydrofluoric acid) it burns deeply into the skin and carbonises organic matter. It is presented in metal bottles lined with lead, gutta-percha or ceresine wax, or in rubber or plastic containers; the very pure acid is kept in silver flasks.

Its uses include etching on glass, manufacturing ashless filter paper, preparation of tantalum, of fluorides, scouring and pickling foundry pieces, in organic synthesis, or as a control in fermenting processes.

(2) **Fluoroacids**. These include :

(a) **Tetrafluoroboric acid** (fluoroboric acid) (HBF_4).

(b) **Hexafluorosilicic acid** (fluorosilicic acid) (H_2SiF_6), e.g., in aqueous solutions obtained as by-products in the manufacture of superphosphates, or from silicon fluorides. It is used for the electrolytic refining of tin and lead, for preparing fluorosilicates, etc.

(B) COMPOUNDS OF CHLORINE

The most important of these compounds are powerful oxidising and chlorinating agents, used in bleaching and in organic synthesis. They are, as a rule, unstable. They include :

(1) **Hypochlorous acid** (HClO). A product dangerous to inhale, exploding on contact with organic matter. The gas is presented in aqueous solutions, yellow or occasionally reddish.

(2) **Chloric acid** ($HClO_3$). This acid exists only as colourless or yellowish aqueous solutions.

(3) **Perchloric acid** ($HClO_4$). This product, more or less highly concentrated, gives various hydrates. It attacks the skin. Used in analyses.

(C) COMPOUNDS OF BROMINE

(1) **Hydrogen bromide** (HBr). A colourless gas with a strong, pungent odour. It may be put up under pressure, or in the form of aqueous solutions (hydrobromic acid) which decompose slowly in the air (especially under the action of light). Hydrobromic acid is used to prepare bromides and in organic synthesis.

(2) **Bromic acid** ($HBrO_3$). Exists only in aqueous solutions; used in organic synthesis.

(D) COMPOUNDS OF IODINE

(1) **Hydrogen iodide** (HI). A colourless, suffocating gas, readily decomposed. It is presented in corrosive, aqueous solutions (hydriodic acid) which fume in damp air when concentrated. Used in organic synthesis as a reducing agent or as a medium for fixing iodine.

(2) **Iodic acid** (HIO_3) and **its anhydride** (I_2O_5), prismatic crystals or in aqueous solutions. Used in medicine or as an absorbent agent in gas masks.

(3) **Periodic acid** (HIO_4. $2H_2O$). Similar properties to iodic acid.

(E) SULPHUR COMPOUNDS

(1) **Hydrogen sulphide** (H_2S). A highly toxic, colourless gas with the foetid odour of rotten eggs. Presented under pressure in steel cylinders or in aqueous solution (hydrosulphuric acid). It is used in analysis, for purifying sulphuric or hydrochloric acids, for obtaining sulphur dioxide or regenerated sulphur, etc.

(2) **Peroxosulphuric acids** (persulphuric acids), presented in crystalline form :

(a) Peroxodisulphuric acid ($H_2S_2O_8$) and its anhydride (S_2O_7).

(b) Peroxomonosulphuric acid (Caro's acid) (H_2SO_5), extremely hygroscopic; a powerful oxidising agent.

(3) **Thionic acids**. These exist only in aqueous solution : dithionic acid ($H_2S_2O_6$); trithionic acid ($H_2S_3O_6$); tetrathionic acid ($H_2S_4O_6$); pentathionic acid ($H_2S_5O_6$).

(4) **Aminosulphonic acid** (sulphamic acid) ($SO_2(OH)NH_2$). Obtained by dissolving urea in sulphuric acid, sulphur trioxide or oleum; crystalline, slightly soluble in water but readily soluble in alcohol. Used for the manufacture of fire-proof textile dressings, in tanning and electroplating and in organic synthesis.

(5) **Sulphur dioxide** (SO_2). Obtained by combustion of sulphur, by roasting natural sulphides (particularly iron pyrites), or by roasting natural calcium sulphate (e.g., anhydrite) with clay and coke. It is a colourless, suffocating gas.

Sulphur dioxide is presented either liquefied under pressure in steel bottles, or in aqueous solution; in the latter commercial form it is often wrongly called “sulphurous acid”.

A powerful reducing and bleaching agent, sulphur dioxide has many uses, e.g., bleaching animal textiles, straw, feathers or gelatin, the sulphite process in sugar refining, preservation of fruit or vegetables, the preparation of acid sulphites for the treatment of wood pulp, manufacture of sulphuric acid, or as a disinfectant (for wine mutage). Liquid sulphur dioxide, which lowers the temperature on evaporation, is used in refrigerating plant.

(6) **Sulphur trioxide** (sulphuric anhydride) (SO_3). A white solid in needle-shaped crystals somewhat similar to asbestos in appearance. Fumes in damp air; absorbs and reacts violently with water. It is presented in airtight sheet-iron containers or in glass or stoneware carboys, which are fitted with a device containing inorganic absorbent matter. It is used for preparing oleums (heading 28.07) and alums (heading 28.33).

(7) **Disulphur trioxide** (S_2O_3). Deliquescent green crystals, decomposed by water and soluble in alcohol; used as a reducing agent in the manufacture of synthetic dyes.

(F) SELENIUM COMPOUNDS

(1) **Hydrogen selenide** (H_2Se). A nauseous gas, dangerous to inhale because it paralyses the olfactory nerve. Presented in unstable aqueous solutions.

(2) **Selenious acid** (H_2SeO_3) **and its anhydride** (SeO_2). Hexagonal white crystals, deliquescent, very soluble in water; used in the enamel industry.

(3) **Selenic acid** (H_2SeO_4). White crystals, anhydrous or hydrated.

(G) TELLURIUM COMPOUNDS

These are hydrogen telluride (H_2Te) (in aqueous solutions), tellurous acid (H_2TeO_3) and its anhydride (TeO_2) (white solids), and telluric acid (H_2TeO_4) (colourless crystals) and its anhydride (TeO_3) (orange-coloured solid).

(H) NITROGEN COMPOUNDS

(1) **Hydrogen azide** (hydrazoic acid) (HN_3). Colourless, toxic liquid with a suffocating odour; very soluble in water; unstable, with explosive properties. Its salts (azides) fall in **heading 28.50**, and not in sub-Chapter V.

(2) **Dinitrogen oxide** (nitrous oxide) (N_2O). Sweet-tasting gas, soluble in water and presented in liquid form. Used in the gaseous state as an anaesthetic, and in the liquid or solid state as a refrigerating agent.

(3) **Nitrogen dioxide** (nitroxyl, nitrous vapours, "nitrogen peroxide") (NO_2). Colourless liquid at 0 °C, orange-brown at higher temperatures; boiling point about 22 °C (when it gives off red fumes). This is the most stable nitrogen oxide. A powerful oxidising agent.

(IJ) PHOSPHORUS COMPOUNDS

(1) **Phosphinic acid** (hypophosphorous acid) (H_3PO_2). Lamellar crystals, melting at about 25 °C, oxidising on exposure to air; a powerful reducing agent.

(2) **Phosphonic acid** (phosphorous acid) (H_3PO_3). Deliquescent crystals melting at about 71 °C, soluble in water. Also **its anhydride** (P_2O_3 or P_4O_6), crystals which melt at about 24 °C, and turn first yellow then red when exposed to light, gradually decomposing.

(K) ARSENIC COMPOUNDS

(1) **Diarsenic trioxide** (arsenic sesquioxide, arsenious oxide, white arsenic) (As_2O_3). Wrongly known as "arsenious acid". Obtained by roasting arseniferous ores of nickel and silver or arsenical pyrites. It may sometimes contain impurities (arsenic sulphide, sulphur, antimonous oxide, etc.).

Commercial arsenic (III) oxide is generally a crystalline white powder, odourless and highly poisonous (flowers of arsenic). The vitreous anhydride takes the form of transparent, amorphous masses; the porcelanic anhydride is in opaque, interlocking, octahedral crystals.

Its uses include preserving hides or zoological specimens (sometimes it is used mixed together with soap); as a rat poison; for the manufacture of fly-papers; preparation of certain opacifiers, vitrifiable enamels or mineral greens such as Scheele's green (copper arsenite) or Schweinfurt green (copper acetoarsenite); in small doses, as a medicament (in the treatment of dermatitis, malaria or asthma).

(2) **Diarsenic pentaoxide** (As_2O_5). Obtained by the oxidation of arsenic trioxide or by the dehydration of arsenic acid; it is a highly poisonous white powder which dissolves slowly in water, giving arsenic acid. It is used for the manufacture of arsenic acid, as an oxidising agent, etc.

(3) **Arsenic acids**. The name "arsenic acid" is given to ortho-arsenic acid ($H_3AsO_4.½H_2O$) and other hydrates of arsenic pentaoxide (pyro- or meta-arsenic acids, etc.). They crystallise in colourless needles and are deadly poisons.

Arsenic acid is used for the manufacture of synthetic dyes (fuchsine, etc.), arsenates and organic derivatives of arsenic used as medicaments or insecticides.

The heading **excludes** arsenic hydrides (e.g., AsH_3) (**heading 28.50**).

(L) CARBON COMPOUNDS

(1) **Carbon monoxide** (CO). Toxic, colourless and tasteless gas; put up under pressure. Its reducing properties are utilized, *inter alia*, in metallurgy.

(2) **Carbon dioxide** (CO_2). Incorrectly called "carbonic acid". Obtained by the combustion of carbon, or by heating calcareous substances or treating them with acids.

It is a colourless gas, one and a half times heavier than air; it extinguishes flames. Carbon dioxide can be presented either as a liquid (compressed in steel cylinders), or as a solid (compressed cubes in insulated containers, “carbonic snow” or “carbonic ice”).

It is used in metallurgy, in sugar manufacture or for aerating beverages. Liquid CO_2 is used for raising beer, for the preparation of salicylic acid, in fire extinguishers, etc. Solid CO_2 is used as a coolant (down to -80 °C).

(3) **Hydrogen cyanide** (hydrocyanic acid, prussic acid) (HCN). Obtained by the action of sulphuric acid on a cyanide, or by the action of catalysts on mixtures of ammonia and hydrocarbons.

It is a very toxic, colourless liquid with an odour of bitter almonds. Miscible with and less dense than water; it keeps badly when impure or in weak solution.

Hydrocyanic acid is used in organic synthesis (e.g., for the production of acrylonitrile by reaction with acetylene) and as a parasiticide.

(4) **Isocyanic, thiocyanic or fulminic acids**.

(M) SILICON COMPOUNDS

Silicon dioxide (pure silica, silicic anhydride, etc.) (SiO_2). Obtained by treating silicate solutions with acids, or by decomposing silicon halides by the action of water and heat.

It can be either in amorphous form (as a white powder “silica white”, “flowers of silica”, “calcined silica”; as vitreous granules – “vitreous silica”; in gelatinous condition – “silica frost”, “hydrated silica”), or in crystals (tridymite and cristobalite forms).

Silica resists the action of acids; fused silica is therefore used to make laboratory glassware and industrial equipment which can be suddenly heated or cooled without breaking (see General Explanatory Note to Chapter 70). Finely powdered silica is used, e.g., as a filler for various types of natural and synthetic rubber and other elastomers, as a thickening or thixotropic agent for various plastics, printing ink, paints, coatings and adhesives. Fumed (pyrogenic) silica (made by combustion of silicon tetrachloride or trichlorosilane in hydrogen-oxygen furnaces) is also used in chemi-mechanical polishing of silicon wafers and as a free-flow or anti-settling agent for a variety of materials. Silica fume (collected as a by-product from silicon, ferrosilicon and zirconia production) is also generally used as a pozzolanic additive in concrete, fibre cement, or refractory castables, and as an additive in polymers. Activated silica gel is employed to dry gases.

The heading **excludes** :

(a) Natural silica, e.g. quartz and diatomaceous earth (**Chapter 25**, except varieties constituting precious or semi-precious stones - see the Explanatory Notes to headings **71.03** and **71.05**).

(b) Colloidal suspensions of silica are generally classified in **heading 38.24** unless specially prepared for specific purposes (e.g., as textile dressings of **heading 38.09**).

(c) Silica gel with added cobalt salts (used as a humidity indicator) (**heading 38.24**).

(N) COMPLEX ACIDS

This heading also covers chemically defined complex acids consisting of two or more non-metal mineral acids (e.g., chloro-acids), or of a non-metal acid and a metal acid (e.g., tungstosilicic, tungstoboric acids), not specified or included in other headings of this Chapter.

Since antimony is deemed in the Nomenclature to be a metal, antimonic acid and antimony oxides fall in **heading 28.25**.

_____

(*) In the following order: fluorine, chlorine, bromine, iodine, sulphur, selenium, tellurium, nitrogen, phosphorus, arsenic, carbon, silicon.

2811.1

- Other inorganic acids :

2811.11

-- Hydrogen fluoride (hydrofluoric acid)

2811.12

-- Hydrogen cyanide (hydrocyanic acid)

2811.19

-- Other

2811.2

- Other inorganic oxygen compounds of non-metals :

2811.21

-- Carbon dioxide

2811.22

-- Silicon dioxide

CLASSIFICATION OPINIONS

1. Silica fume, composed of ultrafine amorphous silicon dioxide particles (not less than 80 % by weight), formed as a by-product during the manufacture of silicon or ferrosilicon alloys. The main impurities include carbon, silicon, silicon carbide and oxides of alkaline metals. The product typically contains more than 90 % silica. Depending on the operational parameters, lower grades of silica are available. The total amount of impurities will not exceed 20 % by weight.
Application of GIRs 1 (Note 1 (a) to Chapter 28) and 6.
Adoption : 2018

2811.29

-- Other

III.-

HALOGEN OR SULPHUR COMPOUNDS OF NON-METALS

EXPLANATORY NOTES

Sub-Chapter III

HALOGEN OR SULPHUR COMPOUNDS OF NON-METALS

GENERAL

This sub-Chapter covers products which, although known by names (chlorides, sulphides, etc.) similar to those of the metal salts of hydracids classified in sub-Chapter V, are actually **non-metal** combinations such as :

(1) A halogen with a non-metal other than oxygen or hydrogen **(halogen compounds**).

(2) The same compounds as under (1) above, combined with oxygen (**halide oxides**).

or (3) Sulphur with a non-metal other than oxygen or hydrogen (**sulphur compounds**).

Sulphide oxides of non-metals (sulphur + oxygen + non-metal) are **excluded** from this sub-Chapter; they fall in **heading 28.53**.

Halides, halide oxides, and sulphides of metals (see the General Explanatory Note to sub-Chapter I) or of the ammonium ion (NH_4^+) fall in sub-Chapter V except in the case of compounds of precious metals (**heading 28.43**) and the compounds of **heading 28.44**, **28.45, 28.46** or **28.52**.

Heading 2812

Halides and halide oxides of non-metals.

EXPLANATORY NOTES

Sub-Chapter III

HALOGEN OR SULPHUR COMPOUNDS OF NON-METALS

GENERAL

This sub-Chapter covers products which, although known by names (chlorides, sulphides, etc.) similar to those of the metal salts of hydracids classified in sub-Chapter V, are actually **non-metal** combinations such as :

(1) A halogen with a non-metal other than oxygen or hydrogen **(halogen compounds**).

(2) The same compounds as under (1) above, combined with oxygen (**halide oxides**).

or (3) Sulphur with a non-metal other than oxygen or hydrogen (**sulphur compounds**).

Sulphide oxides of non-metals (sulphur + oxygen + non-metal) are **excluded** from this sub-Chapter; they fall in **heading 28.53**.

Halides, halide oxides, and sulphides of metals (see the General Explanatory Note to sub-Chapter I) or of the ammonium ion (NH_4^+) fall in sub-Chapter V except in the case of compounds of precious metals (**heading 28.43**) and the compounds of **heading 28.44**, **28.45, 28.46** or **28.52**.

28.12 - Halides and halide oxides of non-metals.

- Chlorides and chloride oxides :

2812.11 - - Carbonyl dichloride (phosgene)

2812.12 - - Phosphorus oxychloride

2812.13 - - Phosphorus trichloride

2812.14 - - Phosphorus pentachloride

2812.15 - - Sulphur monochloride

2812.16 - - Sulphur dichloride

2812.17 - - Thionyl chloride

2812.19 - - Other

2812.90 - Other

(A) CHLORIDES OF NON-METALS

The most important of these binary compounds are :

(1) **Iodine chlorides**.

(a) **Iodine chloride** (ICl) results from direct action of chlorine on iodine. Dark brown liquid above 27 °C; below that temperature, reddish crystals. Specific gravity about 3. Decomposed by water; it burns the skin badly. Used in organic synthesis as an iodinating agent.

(b) **Iodine trichloride** (ICl_3). Obtained by the same process as the monochloride, or from hydriodic acid. Yellow needles soluble in water. Specific gravity about 3. Used for the same purposes as the monochloride and also in medicine.

(2) **Sulphur chlorides**.

(a) **Sulphur monochloride** (S_2Cl_2) (an alternative name is “disulphur dichloride”, the name implied by its structural formula Cl-S-S-Cl). Obtained by the action of chlorine on sulphur. This is the commercial sulphur chloride, a yellow or reddish liquid, giving off fumes of a suffocating odour when exposed to air; decomposed by water. Specific gravity about 1.7. A solvent for sulphur, it is used in the cold vulcanisation of rubber or of gutta-percha.

(b) **Sulphur dichloride** (SCl_2). Prepared from monochloride. Reddish-brown liquid, also decomposed by water; rather unstable. Specific gravity about 1.6. Uses include : the cold vulcanisation of rubber, as a chlorinating agent in the manufacture of synthetic dyes (in particular thioindigo).

(3) **Phosphorus chlorides**.

(a) **Phosphorus trichloride** (PCl_3). Obtained by the direct action of chlorine on phosphorus. Colourless liquid, specific gravity about 1.6; corrosive, with an irritating odour, lachrymatory.

Fumes in a humid atmosphere and decomposes on contact with water. Mainly used as a chlorinating agent in organic synthesis (e.g., manufacture of acid chlorides, dyes, etc.); also used in the manufacture of ceramics to produce a lustrous effect.

(b) **Phosphorus pentachloride** (PCl_5). Obtained from trichloride in the form of white or yellowish crystals. Specific gravity about 3.6. Like the trichloride, it fumes in a humid atmosphere; decomposes on contact with water and is lachrymatory. Used in organic chemistry as a chlorinating agent or a catalyst (e.g., to prepare isatin chloride).

Phosphonium chloride (PH_4Cl) is **excluded** (**heading 28.53**).

(4) **Arsenic chlorides**.

Arsenic trichloride ($AsCl_3$). Obtained by the action of chlorine on arsenic or of hydrochloric acid on arsenic trioxide. Colourless liquid of oily appearance. Fumes in moist air; very toxic.

(5) **Silicon chlorides**.

Silicon tetrachloride ($SiCl_4$). Obtained by the action of chlorine gas on a mixture of silica and coal, or on silicon, silicon bronze or ferro-silicon. Colourless liquid, specific gravity of about 1.5. Liberates suffocating white fumes (hydrogen chloride (HCl)) in the presence of atmospheric moisture. Decomposes in water with formation of gelatinous silica and liberation of HCl fumes. Used for preparing silica and very pure silicon, silicones and smoke screens.

Substitution products of hydrogen silicides, such as trichlorosilane ($SiHCl_3$) are **excluded** (**heading 28.53**).

The heading **does not include** carbon tetrachloride (tetrachloromethane) (CCl_4) hexachloroethane (carbon hexachloride) (C_2Cl_6), hexachlorobenzene (ISO) (C_6Cl_6), octachloronaphthalene ($C_{10}Cl_8$) and similar carbon chlorides; these are chlorinated derivatives of hydrocarbons (**heading 29.03**).

(B) CHLORIDE OXIDES OF NON-METALS

These ternary combinations include, *inter alia* :

(1) **Sulphur chloride oxides.**

(a) **Thionyl chloride** (sulphur dichloride oxide, sulphinyl chloride) ($SOCl_2$). Obtained by the oxidation of sulphur dichloride with either sulphur trioxide or sulphuryl chloride. Colourless liquid; specific gravity about 1.7. Gives off suffocating vapours; decomposed by water. Used in the manufacture of organic chlorides.

(b) **Sulphur dichloride dioxide** (sulphonyl chloride, sulphuryl chloride) ("dichlorosulphonic acid") (SO_2Cl_2). Obtained by the action of chlorine on sulphur dioxide either on exposure to sunlight or in the presence of a catalyst (camphor or activated carbon). Colourless liquid, specific gravity about 1.7. Fumes in the air; decomposed by water; corrosive. Used as a chlorinating and sulphonating agent in organic synthesis, e.g., in the manufacture of acid chlorides.

The heading **excludes** chlorosulphuric acid ("sulphuric chlorohydrin") ($ClSO_2.OH$) (**heading 28.06**).

(2) **Selenium dichloride oxide.**

Selenium dichloride oxide, generally called "selenyl chloride" ($SeOCl_2$) is similar to thionyl chloride. Produced by the action of selenium tetrachloride on selenium dioxide. Above 10 °C it is a yellow liquid, fuming in the air; below that temperature it forms colourless crystals; specific gravity is about 2.4. Decomposed by water. Used in organic synthesis or for decarbonising the cylinders of internal combustion engines.

(3) **Nitrosyl chloride** (nitrogen chloride oxide) (NOCl).

Orange yellow gas with a suffocating smell; toxic; used as an oxidising agent.

(4) **Phosphorus oxychloride** (phosphorus trichloride oxide, phosphoryl chloride) ($POCl_3$).

Obtained from phosphorus trichloride treated with potassium chlorate, from phosphorus pentachloride treated with boric acid, or by the action of carbonyl chloride on tricalcium phosphate. Colourless liquid, specific gravity about 1.7. It has an irritating odour, fumes in a humid atmosphere and is decomposed by water. Used as a chlorinating agent in organic synthesis and also in the manufacture of acetic anhydride or chlorosulphonic acid.

(5) **Carbonyl dichloride** (phosgene, carbon chloride oxide, carbonyl chloride) ($COCl_2$).

Produced by the action of chlorine on carbon monoxide in the presence of animal black or charcoal, or by the action of oleum on carbon tetrachloride. Colourless product, liquid up to 8 °C and gaseous above that temperature; it is presented liquefied or under pressure in heavy steel containers. When dissolved in toluene or benzene, it is classified in **heading 38.24**.

A lachrymatory and very toxic product. It is a chlorinating agent, widely used in organic synthesis (e.g., in the manufacture of acid chlorides, amino derivatives, Michler's ketone and of intermediates in the organic dyestuff industry).

(C) OTHER HALIDES AND HALIDE OXIDES OF NON-METALS

This group includes all other halides of non-metals (fluorides, bromides and iodides).

(1) **Fluorides.**

(a) **Iodine pentafluoride** (IF_5), a fuming liquid.

(b) **Phosphorus fluorides and silicon fluorides**.

(c) **Boron trifluoride** (BF_3). Obtained by heating natural calcium fluoride and powdered boric oxide in the presence of sulphuric acid. Colourless gas. Fumes in moist air; carbonises organic products. Highly absorbent of water forming fluoroboric acid. Used as a dehydrating agent and as a catalyst in organic synthesis. It forms complex compounds with organic compounds (e.g., diethyl ether, acetic acid or phenol); these compounds, which are also used as catalysts, fall in **heading 29.42**.

(2) **Bromides**.

(a) **Iodine bromide** (monobromide) (IBr). Prepared by combining the constituent elements. Blackish-red crystalline mass, resembling iodine. Soluble in water. Used in organic synthesis.

(b) **Phosphorus bromides**.

Phosphorus tribromide (PBr_3). Obtained by the action of bromine on phosphorus dissolved in carbon disulphide. Colourless liquid. Fumes in moist air; decomposes in water. Specific gravity about 2.8. Used in organic synthesis.

The heading **excludes** phosphonium bromide (PH_4Br) (**heading 28.53**) and carbon bromides (**heading 29.03**).

(3) **Iodides**.

(a) **Phosphorus iodides.**

Phosphorus di-iodide (P_2I_4). Results from the action of iodine on phosphorus dissolved in carbon disulphide. Orange-coloured crystals, giving off coloured vapour.

Phosphorus tri-iodide (PI_3). Obtained by a similar method; crystallises into dark red tablets.

Phosphonium iodide (PH_4I) falls in **heading 28.53**.

(b) **Arsenic iodides.**

Arsenic tri-iodide (AsI_3). Red crystals; obtained from the constituent elements. Toxic and volatile. Used in medicine or as a reagent in laboratories.

(c) **Combinations of iodine with other halogens**. See paragraphs A (1), C (1) (a), C (2) (a) above.

(4) **Halide oxides other than chloride oxides**.

(a) **Fluoride oxides**, e.g., phosphorus trifluoride oxide (phosphoryl fluoride) (POF_3).

(b) **Bromide oxides**, e.g., sulphur dibromide oxide (thionyl bromide) ($SOBr_2$), an orange-coloured liquid, and phosphorus tribromide oxide (phosphoryl bromide) ($POBr_3$) in lamellar crystals.

(c) **Iodide oxides**.

2812.1

- Chlorides and chloride oxides :
2812.11

-- Carbonyl dichloride (phosgene)
2812.12

-- Phosphorus oxychloride
2812.13

-- Phosphorus trichloride
2812.14

-- Phosphorus pentachloride
2812.15

-- Sulphur monochloride
2812.16

-- Sulphur dichloride
2812.17

-- Thionyl chloride
2812.19

-- Other
2812.90

- Other
Heading 2813

Sulphides of non-metals; commercial phosphorus trisulphide.
EXPLANATORY NOTES

28.13 - Sulphides of non-metals; commercial phosphorus trisulphide.

2813.10 - Carbon disulphide

2813.90 - Other

The most important of these binary compounds are :

(1) **Carbon disulphide** (CS_2).

Results from the action of sulphur vapours on burning carbon. Colourless, toxic liquid (specific gravity about 1.3). Not miscible with water. Smells of rotten eggs when impure. Very volatile and highly inflammable, it is dangerous to inhale and to handle. It is presented in stoneware, metal or glass containers encased in straw or osier, and very tightly stoppered.

It is used as a solvent for numerous purposes, e.g., for extracting oils, fats or essential oils, for defatting bones, in medicine, or in the man-made textile or rubber industries. It is also used in agriculture where it is injected into the soil for destroying insects, phylloxera, etc. For the latter use, the derived product potassium thiocarbonate (**heading 28.42**) is sometimes used. (See the Explanatory Note to heading 38.08.)

(2) **Silicon disulphide** (SiS_2).

Obtained by the action of sulphur vapour on strongly heated silicon. White solid; crystallises in volatile needles. Decomposes water with formation of gelatinous silica.

(3) **Arsenic sulphides**.

This heading covers artificial sulphides obtained either from natural sulphides, or from arsenic or arsenous oxide by treatment with sulphur or hydrogen sulphide.

(a) **Diarsenic disulphide** (artificial realgar, false realgar, red sulphide) (As_2S_2 or As_4S_4). Toxic product, occurring in vitreous red or orange-coloured crystals, specific gravity about 3.5. Volatilises without melting. Used for the manufacture of fireworks (mixed with potassium nitrate and sulphur), in paints (ruby arsenic), or in leather dressing for dehairing hides.

(b) **Diarsenic trisulphide** (artificial orpiment, false auripigment, yellow sulphide) (As_2S_3). Toxic yellow powder, specific gravity about 2.7; odourless and insoluble in water. Similar uses to the disulphide, and also as a pigment for leather or rubber, as a parasiticide or in medicine (because it destroys morbid growths). With alkali sulphides, it forms thioarsenites of **heading 28.42**.

(c) **Diarsenic pentasulphide** (As_2S_5). This product, which does not occur in nature, is a light yellow amorphous solid, insoluble in water. Used as a pigment. With alkali sulphides, it also forms thioarsenates of **heading 28.42**.

The heading **excludes** natural arsenic sulphides (disulphide or realgar, trisulphide or orpiment) (**heading 25.30**).

(4) **Phosphorus sulphides**.

(a) **Tetraphosphorus trisulphide** (P_4S_3). Obtained from the constituent elements. Grey or yellow solid. Specific gravity of about 2.1. Occurs either as an amorphous mass or in crystals. Smells of garlic and is not very toxic, though the dust is rather dangerous to inhale. It is decomposed by boiling water, but is not affected by air. It is the most stable phosphorus sulphide. Used in the manufacture of the pentasulphide, and in place of phosphorus in the manufacture of safety matches; also in organic synthesis.

(b) **Diphosphorus pentasulphide** (P_2S_5 or P_4S_{10}). Occurs in yellow crystals; specific gravity 2.03 to 2.09. Used for the same purposes as tetraphosphorus trisulphide or for the preparation of flotation agents for ores.

(c) **Commercial phosphorus trisulphide**. The product known as phosphorus trisulphide is a mixture whose formula approximates to P_2S_3; it occurs in yellowish grey crystalline masses, decomposed by water. Used in organic synthesis.

The heading **excludes** :

(a) The binary combinations of sulphur with halogens (e.g., sulphur chlorides) (**heading 28.12**).

(b) Oxysulphides (e.g., of arsenic, carbon and silicon), and the thiohalides of non-metals (e.g., phosphorus chlorosulphide and thiocarbonyl chloride) (**heading 28.53**).

2813.10

- Carbon disulphide

2813.90

- Other

IV.-

INORGANIC BASES AND OXIDES, HYDROXIDES AND PEROXIDES OF METAL
EXPLANATORY NOTES

Sub-Chapter IV

INORGANIC BASES AND OXIDES, HYDROXIDES AND PEROXIDES OF METAL

GENERAL

Bases are compounds characterised by a hydroxyl radical (OH) and which react with acids to form salts. In the liquid state or in solution, they are electrolytes giving a metal or an analogous ion (ammonium (NH_4^+)) at the cathode.

Metal oxides are compounds of a metal with oxygen. Many can combine with one or more molecules of water to form hydroxides.

Most oxides are **basic** since their hydroxides act as bases. Certain oxides (anhydride oxides), however, react only with alkaline or other bases to form salts, while another more common class (amphoteric oxides) can behave both as anhydride oxides or as bases. These classes of oxides must be regarded as **anhydrides** of acids, real or hypothetical, corresponding to their hydroxides.

Certain oxides (**saline oxides**) may be regarded as resulting from the combination of a basic oxide with an anhydride oxide.

This sub-Chapter covers :

(1) Oxides, hydroxides and peroxides of metal, whether basic, acidic, amphoteric or saline.

(2) Other inorganic bases containing no oxygen, such as ammonia (heading 28.14), or hydrazine (heading 28.25), and those containing no metal, such as hydroxylamine (heading 28.25).

The sub-Chapter **excludes** :

(a) The oxides and hydroxides of **Chapter 25**, particularly magnesia (magnesium oxide), whether or not pure, and quicklime and slaked lime (crude calcium oxide and hydroxide).

(b) Oxides and hydroxides constituting ores (**headings 26.0**1 to **26.17**), scalings, ash, slag, dross, scum or other metalliferous residues (**headings 26.18** to **26.20**).

(c) Oxides, peroxides and hydroxides of precious metals (**heading 28.43**), of radioactive elements (**heading 28.44**), of rare-earth metals, of yttrium or of scandium or of mixtures of these metals (**heading 28.46**), or of mercury (**heading 28.52**).

(d) Oxygen compounds of hydrogen of **heading 22.01** (water), **heading 28.45** (heavy water), **heading 28.47** (hydrogen peroxide), or **heading 28.53** (distilled and conductivity water and water of similar purity, including water treated with ion-exchange media).

(e) Colouring matter with a basis of metal oxides (**heading 32.06**), prepared pigments, prepared opacifiers and prepared colours, vitrifiable enamels and glazes and similar products of the kind used in the ceramic, enamelling or glass industries (**heading 32.07**), and other preparations of **Chapter 32**, constituted by oxides, hydroxides or bases mixed with other products.

(f) Opacifying preparations for de-lustring man-made fibres (**heading 38.09**) and pickling preparations for metal surfaces (**heading 38.10**).

(g) Natural or synthetic precious or semi-precious stones (**headings 71.02** to **71.05**).

Heading 2814

Ammonia, anhydrous or in aqueous solution.

EXPLANATORY NOTES

Sub-Chapter IV

INORGANIC BASES AND OXIDES, HYDROXIDES AND PEROXIDES OF METAL

GENERAL

Bases are compounds characterised by a hydroxyl radical (OH) and which react with acids to form salts. In the liquid state or in solution, they are electrolytes giving a metal or an analogous ion (ammonium (NH_4^+)) at the cathode.

Metal oxides are compounds of a metal with oxygen. Many can combine with one or more molecules of water to form hydroxides.

Most oxides are **basic** since their hydroxides act as bases. Certain oxides (anhydride oxides), however, react only with alkaline or other bases to form salts, while another more common class (amphoteric oxides) can behave both as anhydride oxides or as bases. These classes of oxides must be regarded as **anhydrides** of acids, real or hypothetical, corresponding to their hydroxides.

Certain oxides (**saline oxides**) may be regarded as resulting from the combination of a basic oxide with an anhydride oxide.

This sub-Chapter covers :

(1) Oxides, hydroxides and peroxides of metal, whether basic, acidic, amphoteric or saline.

(2) Other inorganic bases containing no oxygen, such as ammonia (heading 28.14), or hydrazine (heading 28.25), and those containing no metal, such as hydroxylamine (heading 28.25).

The sub-Chapter **excludes** :

(a) The oxides and hydroxides of **Chapter 25**, particularly magnesia (magnesium oxide), whether or not pure, and quicklime and slaked lime (crude calcium oxide and hydroxide).

(b) Oxides and hydroxides constituting ores (**headings 26.0**1 to **26.17**), scalings, ash, slag, dross, scum or other metalliferous residues (**headings 26.18** to **26.20**).

(c) Oxides, peroxides and hydroxides of precious metals (**heading 28.43**), of radioactive elements (**heading 28.44**), of rare-earth metals, of yttrium or of scandium or of mixtures of these metals (**heading 28.46**), or of mercury (**heading 28.52**).

(d) Oxygen compounds of hydrogen of **heading 22.01** (water), **heading 28.45** (heavy water), **heading 28.47** (hydrogen peroxide), or **heading 28.53** (distilled and conductivity water and water of similar purity, including water treated with ion-exchange media).

(e) Colouring matter with a basis of metal oxides (**heading 32.06**), prepared pigments, prepared opacifiers and prepared colours, vitrifiable enamels and glazes and similar products of the kind used in the ceramic, enamelling or glass industries (**heading 32.07**), and other preparations of **Chapter 32**, constituted by oxides, hydroxides or bases mixed with other products.

(f) Opacifying preparations for de-lustring man-made fibres (**heading 38.09**) and pickling preparations for metal surfaces (**heading 38.10**).

(g) Natural or synthetic precious or semi-precious stones (**headings 71.02** to **71.05**).

28.14 - Ammonia, anhydrous or in aqueous solution.

2814.10 - Anhydrous ammonia

2814.20 - Ammonia in aqueous solution

Ammonia is obtained either from impure ammoniacal gas liquors produced in coal gas purification or coke works (see Explanatory Note to heading 38.25, Item (A) (3)), or by synthesis from hydrogen and nitrogen.

This heading includes :

(1) **Anhydrous ammonia** (NH_3), a colourless gas. It is less dense than air and easily liquefied by pressure. Presented in metal cylinders.

(2) **Ammonia in aqueous solution** (NH_4OH), hydroxide of a hypothetical “element” ammonium (NH_4). These solutions (generally containing 20, 27 or 34 % of NH_3) are colourless or yellowish liquids presented in tightly-stoppered containers. Alcoholic solutions of ammonia are **excluded** (**heading 38.24**).

Ammonia has many uses, for example, in the manufacture of nitric acid and nitrates, ammonium sulphate, other ammonium salts and nitrogenous fertilisers, sodium carbonate, cyanides, amines (e.g., naphthylamine). It emulsifies fatty matter and resins, and it acts as a detergent for removing stains, preparing polishing compounds, treating latex, removing varnish, etc. Liquefied ammonia is used in refrigerating plant.

2814.10

- Anhydrous ammonia

2814.20

- Ammonia in aqueous solution

Heading 2815

Sodium hydroxide (caustic soda); potassium hydroxide (caustic potash); peroxides of sodium or potassium.

EXPLANATORY NOTES

28.15 - Sodium hydroxide (caustic soda); potassium hydroxide (caustic potash); peroxides of sodium or potassium.

- Sodium hydroxide (caustic soda) :

2815.11 - - Solid

2815.12 - - In aqueous solution (soda lye or liquid soda)

2815.20 - Potassium hydroxide (caustic potash)

2815.30 - Peroxides of sodium or potassium

(A) SODIUM HYDROXIDE (CAUSTIC SODA)

Sodium hydroxide (caustic soda) (NaOH) should not be confused with commercial soda, which is sodium carbonate (**heading 28.36**).

Sodium hydroxide is obtained, for example, by causticising sodium carbonate with milk of lime or by electrolysing sodium chloride. It may be presented as an aqueous solution or an anhydrous solid. Evaporation of the sodium hydroxide aqueous solution produces solid sodium hydroxide in the form of flakes or lumps. The pure product is presented in pellets or cubes in glass jars.

Solid sodium hydroxide attacks the skin and destroys the mucous membranes. It is deliquescent and very soluble in water; it must therefore be kept in well-sealed steel containers.

It is a powerful base with many industrial uses : preparation of certain chemical wood pulps by elimination of the lignin, manufacture of regenerated cellulose, mercerising of cotton, tantalum or niobium metallurgy, production of hard soaps, manufacture of many chemical products, including phenolic compounds (phenol, resorcinol, alizarin, etc.).

The heading **excludes** residual lyes (soda lyes) obtained as residual products from the manufacture of wood pulp by the alkali or sulphate processes (**heading 38.04**); from these lyes the tall oil of **heading 38.03** can be obtained and sodium hydroxide regenerated.

The heading also **excludes** the mixtures of sodium hydroxide and lime known as “soda lime” (**heading 38.24**).

(B) POTASSIUM HYDROXIDE (CAUSTIC POTASH)

Potassium hydroxide (caustic potash) (KOH) is very similar to the sodium hydroxide described above. It must be distinguished from potassium carbonate (**heading 28.36**) or commercial potash (a name applied loosely in certain countries to any potassium salt, particularly the chloride).

It is usually obtained by electrolysing solutions of natural potassium chloride (heading 31.04), but can also be obtained from potassium carbonate by causticising with milk of lime (giving “lime potash”). Pure potassium hydroxide is obtained by treatment with alcohol, or by double decomposition of barium hydroxide and potassium sulphate.

Potassium hydroxide may be presented as an aqueous solution (potash lye), more or less highly concentrated (usually around 50 %), or as a solid containing (amongst other impurities) potassium chloride. It is stored in the same way as sodium hydroxide and has similar properties.

It is used in the manufacture of soft soaps, for pickling of parts to be metallised or repainted, for bleaching, in the manufacture of potassium permanganate, etc. It is also used in medicine as a cauterising agent (in sticks), for this purpose it is sometimes mixed with lime and is then classified in **heading 30.03** or **30.04**.

(C) SODIUM PEROXIDE

Sodium peroxide (disodium dioxide) (Na_2O_2), obtained by combustion of sodium, is a very deliquescent white or yellowish powder, specific gravity about 2.8. It is decomposed by water, generating heat and forming hydrogen peroxide. It is also presented in the form of cakes packed in welded metal containers.

It is used in soap manufacture, for bleaching fabrics, as an oxidising agent in organic synthesis, or for purifying confined air (e.g., in submarines). When mixed with catalysts (traces of copper or nickel salts, etc.) for rapid production of hydrogen peroxide, it constitutes a preparation of **heading 38.24**.

(D) POTASSIUM PEROXIDE

Potassium peroxide (dipotassium dioxide) (K_2O_2) is very similar to sodium peroxide as regards manufacturing processes, properties and uses.

2815.1

- Sodium hydroxide (caustic soda) :

2815.11

-- Solid

2815.12

-- In aqueous solution (soda lye or liquid soda)

2815.20

- Potassium hydroxide (caustic potash)

2815.30

- Peroxides of sodium or potassium

Heading 2816

Hydroxide and peroxide of magnesium; oxides, hydroxides and peroxides, of strontium or barium.

EXPLANATORY NOTES

28.16 - Hydroxide and peroxide of magnesium; oxides, hydroxides and peroxides, of strontium or barium.

2816.10 - Hydroxide and peroxide of magnesium

2816.40 - Oxides, hydroxides and peroxides, of strontium or barium

(A) MAGNESIUM HYDROXIDE AND PEROXIDE

(1) **Magnesium hydroxide** ($Mg(OH)_2$). White powder, heavier than magnesium oxide; stable but forming the carbonate slowly when exposed to air. Used in pharmacy.

(2) **Magnesium peroxide** (MgO_2). Prepared by the action of hydrogen peroxide on magnesium hydroxide. White powder, containing oxide as impurity; almost insoluble in water. Used for bleaching feathers, in preparing dentifrices or as a gastro-intestinal antiseptic.

Magnesium oxide is **excluded** (**heading 25.19** or if in the form of cultured crystals weighing not less than 2.5 g each, **heading 38.24**).

(B) STRONTIUM OXIDE, HYDROXIDE AND PEROXIDE

(1) **Strontium oxide** (anhydrous or caustic strontia) (SrO). Prepared by calcining precipitated strontium carbonate. Porous white, hygroscopic powder, soluble in water. Forms the carbonate when exposed to air. Used in pyrotechnics or medicine and for preparing strontium hydroxide and pigments.

(2) **Strontium hydroxide** ($Sr(OH)_2$). Exists in the anhydrous amorphous state or crystallised with 8 H_2O; forms the carbonate when exposed to air. Used in glass manufacture, and for the preparation of strontium salts and luminous pigments.

(3) **Strontium peroxide** (SrO_2). Prepared by the action of oxygen on strontium oxide. White powder, decomposed by hot water. Used in pyrotechnics.

(C) BARIUM OXIDE, HYDROXIDE AND PEROXIDE

(1) **Barium oxide** (anhydrous baryta) (BaO). This product must not be confused with natural barium sulphate, sometimes known as barytes. It is obtained by calcining precipitated barium nitrate or precipitated barium carbonate, or by hydrolysing barium silicate. Barium oxide resembles strontium oxide in appearance, but is heavier (specific gravity about 5.5) and can crystallise. Used for preparing barium hydroxide and peroxide and barium metal.

The heading **excludes** the crude product obtained by merely calcining witherite (**heading 25.11**).

(2) **Barium hydroxide** ($Ba(OH)_2$). Usually in the form of whitish and efflorescent lamellar crystals (with 8 H_2O) or as an aqueous solution (baryta water). Used in : the glass industry; for producing glass X-ray shields; in pottery; for purifying water; manufacture of potassium hydroxide and of various barium compounds.

(3) **Barium peroxide** (BaO_2). Prepared by heating barium oxide in air freed of carbon dioxide. White powder or insoluble greyish lumps (specific gravity about 5). When decomposed by water it produces hydrogen peroxide; used for the manufacture of the latter.

2816.10

- Hydroxide and peroxide of magnesium

2816.40

- Oxides, hydroxides and peroxides, of strontium or barium

Heading 2817

Zinc oxide; zinc peroxide.

EXPLANATORY NOTES

28.17 - Zinc oxide; zinc peroxide.

(A) ZINC OXIDE

Zinc oxide(zinc white) (ZnO) is obtained by burning zinc vapour with oxygen from air. The zinc vapour is obtained by vaporising metallic zinc (indirect or French process) or by the reduction of oxidic zinc raw materials like zinc ores (roasted blende, calamine – **heading 26.08**) with carbon (direct or American process). In these processes, the oxide is collected in bag houses or chambers forming deposits of increasingly pure oxides.

In the wet process, zinc is leached from zinc containing raw materials and then precipitated as zinc hydroxide or carbonate. The precipitate is filtered, washed, dried and calcinated to ZnO. Zinc oxide is a fine white powder which turns yellow on heating. It is of amphoteric nature, soluble in acids and alkalis.

Zinc oxide is mainly used in industrial paints. It is also used in the rubber industry, ceramic, glass manufacturing, electronics and pharmaceuticals. Zinc oxide is also a precursor of a wide variety of inorganic or organic salts used in the manufacture of plastics.

The zincates of heading 28.41 correspond to this amphoteric oxide.

(B) ZINC PEROXIDE

Zinc peroxide (ZnO_2) White powder, insoluble in water. Used in medicine, either pure or with zinc oxide as impurity, and also for preparing cosmetics.

This heading **does not include** :

(a) Natural zinc oxide or zincite (**heading 26.08**).

(b) Residues of zinc metallurgy known as zinc scurf, skimmings or dross, which also consist of impure oxides (**heading 26.20**).

(c) Zinc hydroxide ($Zn(OH)_2$) or gelatinous white, or the hydroperoxide (**heading 28.25**).

(d) The impure zinc oxide, sometimes known as zinc grey (**heading 32.06**).

2817.00

Zinc oxide; zinc peroxide.

Heading 2818

Artificial corundum, whether or not chemically defined; aluminium oxide; aluminium hydroxide.

EXPLANATORY NOTES

28.18 - Artificial corundum, whether or not chemically defined; aluminium oxide; aluminium hydroxide.

2818.10 - Artificial corundum, whether or not chemically defined

2818.20 - Aluminium oxide, other than artificial corundum

2818.30 - Aluminium hydroxide

(A) ARTIFICIAL CORUNDUM, WHETHER OR NOT CHEMICALLY DEFINED

Artificial corundum is formed by fusing aluminium oxide in an electric furnace. The aluminium oxide may contain small proportions of other oxides (e.g., titanium oxide, chromium oxide) either deriving from the natural starting material (bauxites) or added to improve, for example, the hardness of the fused grain or to modify the colour. However, mechanical mixtures of artificial corundum and other substances, such as zirconium dioxide, are **excluded** (**heading 38.24**).

Artificial corundum is put up in small pieces or masses, crushed or in grains; it is more resistant than ordinary aluminium oxide to the action of air and acids, and is very hard. It is used, e.g., as an abrasive, in the manufacture of refractory conglomerates (such as mullite and sillimanite, mixtures of corundum with pure refractory clay and with anhydrous aluminium silicates, respectively) or of laboratory utensils and in the electrical industry.

(B) ALUMINIUM OXIDE, OTHER THAN ARTIFICIAL CORUNDUM

Aluminium oxide (anhydrous or calcined alumina) (Al_2O_3) is obtained by calcining the aluminium hydroxide described below, or from ammonium alum. It is a light white powder, insoluble in water, specific gravity about 3.7.

Uses include, e.g., in aluminium metallurgy, as a filler for paints, in the manufacture of abrasives and synthetic precious or semi-precious stones (rubies, sapphires, emeralds, amethysts, aquamarines, etc.), as a dehydrating agent (for drying gases), or as a catalyst (manufacture of acetone and acetic acid, cracking operations, etc.).

(C) ALUMINIUM HYDROXIDE

Aluminium hydroxide (hydrated alumina) ($Al_2O_3 . 3H_2O$) is obtained from bauxite (a mixture containing aluminium hydroxide) during aluminium metallurgy (see the General Explanatory Note to Chapter 76).

The dry hydroxide is an amorphous, friable white powder, insoluble in water; when damp it is in gelatinous masses (alumina gel, gelatinous alumina).

Aluminium hydroxide is used for the manufacture of ceramic glazes, printing inks, medicinal products, alums, the artificial corundum described above and for clarifying liquids; it is mixed with carbon for the manufacture of anti-rust paints and is also used, due to its affinity for organic colouring matter, for preparing the colour lakes of heading 32.05 and textile mordants.

The aluminates of heading 28.41 correspond to this amphoteric hydroxide.

This heading also covers activated alumina, obtained by controlled heat treatment of hydrated alumina, in which process the latter loses most of its constitutional water; activated alumina is used primarily as an adsorption agent or as a catalyst.

This heading **does not include** :

(a) Natural corundum (native aluminium oxide) and emery (aluminium oxide containing iron oxide) (**heading 25.13**).

(b) Bauxite, whether or not washed and calcined, but not chemically purified (e.g., by treatment with soda) for use as an electrolyte (**heading 26.06**).

(c) Activated bauxite (**heading 38.02**).

(d) Colloidal solutions of aluminium hydroxide (soluble alumina) (**heading 38.24**).

(e) Artificial corundum on a backing of paper, paperboard or other materials (**heading 68.05**) or agglomerated as grinding wheels, whetstones, hones or other goods of **heading 68.04**.

(f) Natural precious or semi-precious stones with a basis of aluminium oxide (**heading 71.03** or **71.05**).

(g) Synthetic precious or semi-precious stones with a basis of aluminium oxide (e.g., artificial rubies) (**heading 71.04** or **71.05**).

2818.10

- Artificial corundum, whether or not chemically defined

2818.20

- Aluminium oxide, other than artificial corundum

2818.30

- Aluminium hydroxide

Heading 2819

Chromium oxides and hydroxides.

EXPLANATORY NOTES

28.19 - Chromium oxides and hydroxides.

2819.10 - Chromium trioxide

2819.90 - Other

(A) CHROMIUM OXIDES

(1) **Chromium trioxide** (chromium (VI) oxide) or chromic anhydride (CrO_3) (wrongly known as "chromic acid", because it can give the chromates of heading 28.41). Orange or red slabs or needles; deliquescent; very soluble in water; specific gravity about 2.8. When combined with alcohol it gives explosive mixtures. An oxidising agent in organic chemistry (manufacture of isatin, indigo dyes, etc.); also used in medicine and, when mixed with kieselguhr ("epurite"), for purifying acetylene.

(2) **Dichromium trioxide**, chromium (III) oxide (chromium sesquioxide) (Cr_2O_3). Obtained by calcining chromates with an ammonium salt or by reducing dichromates. A very hard, olive green product, in powder or in crystals; insoluble in water; specific gravity about 5. The pure oxide is used as a pigment known as "chromium oxide green", not to be confused with mixtures of lead chromate and iron blues known as "chrome green". It is also used for the preparation of paints and printing inks, and in the porcelain, glass (coloured optical glass) or rubber industries. Because of its hardness and its resistance to heat, it serves for the preparation of abrasive compounds and refractory bricks for metal furnaces. It is also used for obtaining anti-rust products, and in chromium metallurgy.

Chromite, natural chromium oxide containing iron (chrome iron ore, iron chromite) is **excluded** (**heading 26.10**).

(B) CHROMIUM HYDROXIDES

The term "chromium hydroxide" applies to the various hydrates of the oxides described above and, in particular, the green hydrate of chromic oxide ($Cr_2O_3.2H_2O$), obtained by treating potassium dichromate with boric acid; this is used as colouring matter under the name of "chrome green" or in the manufacture of Guignet's green. There is also a violet chromium hydroxide.

2819.10

- Chromium trioxide

2819.90

- Other

Heading 2820

Manganese oxides.

EXPLANATORY NOTES

28.20 - Manganese oxides.

2820.10 - Manganese dioxide

2820.90 - Other

(1) **Manganese dioxide** (manganous anhydride) (MnO_2). The most important manganese oxide. Prepared by the action of a slightly nitric solution of potassium permanganate on a manganous salt (e.g., the sulphate). Brown or blackish masses or powder (specific gravity about 5), insoluble in water.

A very powerful oxidising agent. Uses include pyrotechnics, organic synthesis (preparation of hydroxyanthraquinones, aminoanthraquinones, etc.), in gas-masks, as a depolarising agent in batteries, in the ceramics industry, in the manufacture of driers, printers' ink (manganese black), colours (brown pigments known as mineral bistre, manganese bitumen), certain mastics, and synthetic semi-precious stones (artificial garnet). It is also used in the glass industry (glassmakers' soap) generally to correct the yellow tint of glass.

This oxide has the character of an anhydride from which the manganites of heading 28.41 are derived.

This heading **does not include** the anhydrous natural manganese dioxide (pyrolusite) and hydrated natural manganese dioxide (psilomelane) (**heading 26.02**).

(2) **Manganese oxide** (MnO). Greyish or greenish powder, insoluble in water. Specific gravity about 5.1. Used in textile printing.

Manganous hydroxide is **excluded** (**heading 28.25**).

(3) **Dimanganese trioxide** (manganese sesquioxide, manganic oxide) (Mn_2O_3). This oxide is basic. Brown or black powder (specific gravity about 4.8), insoluble in water. Uses include : in textile printing, as a ceramic colour, in the glass industry, the manufacture of driers (manganese linoleate), as a catalyst in chemistry, inorganic (manufacture of nitric acid) or organic.

The heading **does not include** natural manganic oxide (braunite - **heading 26.02**), nor manganic hydroxide (**heading 28.25**).

(4) **Manganomanganic oxide** (manganese saline oxide) (Mn_3O_4). Resembles saline iron oxide in some respects.

Natural saline oxide of manganese (hausmannite) is **excluded** (**heading 26.02**).

(5) **Permanganic anhydride** (Mn_2O_7). Dark brown liquid which absorbs moisture and detonates towards 40 °C.

This anhydride gives the permanganates of heading 28.41.

Permanganic acid is **excluded** (**heading 28.25**).

2820.10

- Manganese dioxide

2820.90

- Other

Heading 2821

Iron oxides and hydroxides; earth colours containing 70 % or more by weight of combined iron evaluated as Fe2O3.

EXPLANATORY NOTES

28.21 - Iron oxides and hydroxides; earth colours containing 70 % or more by weight of combined iron evaluated as Fe_2O_3.

2821.10 - Iron oxides and hydroxides

2821.20 - Earth colours

Earth colours with a basis of **natural** iron oxides, **containing 70 % or more** by weight of combined iron calculated as Fe_2O_3, fall in this heading. For the purposes of assessing whether the 70 % limit has been reached, account must be taken of the total iron content expressed as ferric oxide; thus a natural ferrous earth colour containing 84 % of ferric oxide (representing 58.8 % of pure iron) remains classified in the heading.

The heading also includes the following **artificial** oxides and hydroxides :

(A) IRON OXIDES

Ferric oxide (Fe_2O_3). Obtained from dehydrated ferrous sulphate or natural iron oxide. Finely divided powder, usually red but sometimes violet, yellowish or black (violet, yellow or black oxide). Used as a pigment (iron minium, jewellers' rouge or colcothar), either in the pure state (in which case it is classified in this heading), or mixed with clay, calcium sulphate (Venetian red), etc. (it then falls in **Chapter 32**). It is used for making ordinary or anti-rust paints, compounds for burnishing metal or polishing glass, and vitrifiable compounds used to render the mass fusible in the manufacture of bottle-glass. It also serves for preparing thermite (mixed with aluminium powder), and for purifying coal gas, etc.

(B) IRON HYDROXIDES

(1) **Ferrous hydroxide** ($Fe(OH)_2$). Obtained by the action of an alkali base on a ferrous salt. White solid which discolours in the presence of oxygen, turning into ferric hydroxide.

(2) **Ferric hydroxide** (brown oxide) ($Fe(OH)_3$). Prepared by the action of an alkali base on a ferric salt. A rust-coloured, reddish brown or violet-glinting product used as a pigment, either alone - in which case it is classified here - or mixed with carbon, Prussian brown, etc. (saffron or Mars yellow), when it falls in **heading 32.06**. Ferric hydroxide is used in the manufacture of complex colours (Van Dyck brown, Van Dyck red, "English brown", "Swedish brown"). It is used in the pure state as an antidote to arsenic poisoning.

It is an amphoteric hydroxide which, after oxygenation, gives the ferrates of heading 28.41.

This heading **excludes** :

(a) Ferrous earth colours containing less than 70 % by weight of combined iron calculated as Fe_2O_3, or mixed together with other earth colours; micaceous iron oxide (**heading 25.30**).

(b) Iron ores of **heading 26.01**, e.g., red haematite (including the oxides specular iron ore and martite), brown haematite (*minettes*, the hydrated oxide containing iron and calcium carbonates), limonite (hydrated oxide), magnetite (magnetic oxide).

(c) Iron scalings, crude oxides which become detached from the surface of iron brought to red heat or hammered (**heading 26.19**).

(d) Alkaline iron oxide for the purification of gas (**heading 38.25**).

(e) Iron oxide (haematite) in the form of semi-precious stones (**heading 71.03** or **71.05**).

2821.10

- Iron oxides and hydroxides

2821.20

- Earth colours

Heading 2822

Cobalt oxides and hydroxides; commercial cobalt oxides.

EXPLANATORY NOTES

28.22 - Cobalt oxides and hydroxides; commercial cobalt oxides.

(A) COBALT OXIDES

(1) **Cobalt oxide** (cobalt monoxide, cobaltous oxide, grey oxide) (CoO). A grey, brown or greenish powder.

(2) **Dicobalt trioxide** (cobalt sesquioxide, cobaltic oxide) (Co_2O_3). Black powder.

(3) **Tricobalt tetraoxide** (cobalt saline oxide) (Co_3O_4). Black powder.

(4) **Commercial cobalt oxides**. Generally greyish or black powder consisting of cobalt monoxide and cobalt saline oxide in various ratios.

These products serve in enamel works for preparing brilliant blue colours, and in the glass industry for colouring optical glass. They are converted into silicates (e.g., cobalt potassium silicates) for the manufacture of the vitrifiable colours of heading 32.07; these compounds are known as smalt, opaque glass, azure, enamel blue and Sèvres blue. The term “smalt” is applied indiscriminately to the oxides and to their silicates, both being obtained from a natural cobalt arsenide, smaltite, an ore classified in heading 26.05. A certain number of blue, green and violet artists’ paints are composed of cobalt oxides, aluminates, zincates and phosphates (sky blue, cerulean blue, cobalt green, cobalt violet).

The heading **excludes** crude cobalt oxides obtained from the treatment of argentiferous ores (**heading 26.20**).

(B) COBALT HYDROXIDES

The term “cobalt hydroxide” covers not only cobaltous hydroxide ($Co(OH)_2$), used for the preparation of driers, and cobaltic hydroxide (e.g., $Co(OH)_3$), obtained in cobalt metallurgy, but also saline oxide hydrates. They are used for similar purposes to cobalt oxides.

Natural hydrated oxide of cobalt (heterogenite) is **excluded** (**heading 26.05**).

2822.00

Cobalt oxides and hydroxides; commercial cobalt oxides.

Heading 2823

Titanium oxides.

EXPANATORY NOTES

28.23 - Titanium oxides.

The only titanium oxide of commercial interest is titanium dioxide or titanic anhydride (TiO_2), which gives the titanates of heading 28.41.

It is an amorphous powder, specific gravity about 4; white but turns yellow when heated.

This heading covers titanium dioxide that is not mixed or surface-treated, but it **excludes** titanium dioxide to which compounds have been intentionally added during the production process in order to obtain certain physical properties rendering it suitable for use as a pigment **(heading 32.06)** or for other purposes (e.g., **headings 38.15, 38.24**).

The heading further **excludes** :

(a) Natural titanium dioxide (rutile, anatase, brookite), an ore (**heading 26.14**).

(b) Orthotitanic acid ($Ti(OH)_4$) and metatitanic acid ($TiO(OH)_2$) (**heading 28.25**).

2823.00

Titanium oxides.

Heading 2824

Lead oxides; red lead and orange lead.

EXPLANATORY NOTES

28.24 - Lead oxides; red lead and orange lead.

2824.10 - Lead monoxide (litharge, massicot)

2824.90 - Other

(1) **Lead oxide** (Lead monoxide, litharge, massicot) (PbO). Lead or cerussite (lead hydrocarbonate) oxidised by heating in air produces first unmelted lead oxide or massicot, in the form of a pale yellow powder, and then, when the temperature passes the blood-red heat point, the fused oxide, in orange-yellow or reddish powder or scales. The term “litharge” covers both these products, but is applied more particularly to the latter. They are also obtained as by-products of the extraction of silver from argentiferous lead. Lead oxide is used in the glass industry (manufacture of lead and crystal glass), in the enamel industry, and in the manufacture of matches, colours, driers, etc.

(2) **Trilead tetraoxide** (Lead saline oxide, red lead, minium) (approximate formula Pb_3O_4). Obtained from unmelted lead monoxide (massicot). A toxic, orange-red powder (specific gravity 8 to 9). The term **orange lead** is applied either to a very pure saline oxide, more highly coloured and less dense than the common variety, or to lead oxides still containing lead carbonate from the cerussite used in their preparation. **Red lead** is used for extending other colours (Saturn red), for preparing

anti-rust paints or mastics and for colouring sealing-wax. It is also used as a pottery glaze. It is employed in the manufacture of crystal glass and optical glass even more widely than the monoxide, because it gives a fusible glass of remarkable brilliance arising from a high refractive index.

(3) **Lead dioxide** (puce oxide, plumbic anhydride) (PbO_2). Prepared by treating the lead saline oxide with nitric acid or by electrolysing lead nitrate. A brown powder, insoluble in water, capable of igniting organic matter on contact. It is an oxidising agent used in pyrotechnics; also for manufacturing matches or accumulator plates, and as a mordant in the textile industry.

This amphoteric oxide gives the plumbates of heading 28.41.

2824.10

- Lead monoxide (litharge, massicot)

2824.90

- Other

Heading 2825

Hydrazine and hydroxylamine and their inorganic salts; other inorganic bases; other metal oxides, hydroxides and peroxides.

EXPLANATORY NOTES

28.25 - Hydrazine and hydroxylamine and their inorganic salts; other inorganic bases; other metal oxides, hydroxides and peroxides.

2825.10 - Hydrazine and hydroxylamine and their inorganic salts

2825.20 - Lithium oxide and hydroxide

2825.30 - Vanadium oxides and hydroxides

2825.40 - Nickel oxides and hydroxides

2825.50 - Copper oxides and hydroxides

2825.60 - Germanium oxides and zirconium dioxide

2825.70 - Molybdenum oxides and hydroxides

2825.80 - Antimony oxides

2825.90 - Other

This heading covers :

(A) **Hydrazine and hydroxylamine and their inorganic salts**.

(B) **The metal oxides, hydroxides and peroxides of this Chapter not included in preceding headings**.

The most important products are :

(1) **Hydrazine and its inorganic salts**.

Hydrazine ($NH_2.NH_2$), a basic product prepared by the oxidation of ammonia with sodium hypochlorite. Also exists as the hydrate ($NH_2.NH_2.H_2O$). Colourless, lachrymatory liquid which fumes in the air. A powerful reducing agent, used in the manufacture of a priming explosive or in chemical synthesis.

Inorganic salts of hydrazine, obtained by reaction with mineral acids, are also classified here. The most important is **hydrazine sulphate**, colourless crystals which are slightly soluble in cold water and decompose violently when heated; this sulphate is used as a reagent in analysis, and in metallurgy (to separate polonium from tellurium).

Organic derivatives of hydrazine are **excluded** (**heading 29.28**).

(2) **Hydroxylamine and its inorganic salts**.

Hydroxylamine (NH_2OH) is a basic product obtained by hydrolysis of nitromethane; colourless, deliquescent crystals, very soluble in water, melting at 33 °C, decomposing violently at 130 °C.

Inorganic salts of hydroxylamine, obtained by reaction with mineral acids, also fall in this heading. The most important are hydroxyammonium **chloride**, **sulphates** and nitrate, white or colourless crystals soluble in water. They are used as reducing agents in organic synthesis, as anti-oxidants for fatty acids, in the bleaching, dyeing or printing of textiles, and as reagents, etc.

Organic derivatives of hydroxylamine are **excluded** (**heading 29.28**).

(3) **Lithium oxide and hydroxide**. The oxide (Li_2O) and its hydroxide (LiOH) are obtained from lithium nitrate. They are white powders, soluble in water, used in photography and for the preparation of lithium salts.

(4) **Vanadium oxides and hydroxides**. The most important vanadium oxide is divanadium pentaoxide (vanadium anhydride) (V_2O_5), obtained from the natural vanadates, vanadinite (heading 26.15) and carnotite (heading 26.12). It may be either amorphous or crystalline, in lumps or in powder. Colour ranges from yellow to reddish-brown; it turns red when exposed to heat and is almost insoluble in water. Used for preparing vanadium salts, certain inks, and as a catalyst (manufacture of sulphuric acid, phthalic anhydride or synthetic ethanol).

There are several hydroxides, constituting acids, from which the various vanadates of heading 28.41 are derived.

(5) **Nickel oxides and hydroxides**.

(a) **Nickelous oxide** (NiO) is obtained by thoroughly calcining the nitrate or the carbonate. A greenish-grey powder, the density and shade of which vary with the method of preparation. It is used in the enamel industry, in the glass industry as colouring matter and in organic synthesis as a catalyst. It is a basic oxide.

(b) **Nickelic oxide** (sesquioxide) (Ni_2O_3). A black powder used as colouring matter in the enamel industry and for the manufacture of alkaline accumulator grid plates.

(c) **Nickelous hydroxide** ($Ni(OH)_2$). A fine green powder used in electroplating, as a constituent of plates in alkaline accumulators and in the manufacture of nickel catalysts.

The heading **excludes** :

(a) Natural nickel oxide (bunsenite) (**heading 25.30**).

(b) Impure nickel oxides, e.g., nickel oxide sinters, nickel oxide in granular form ("green nickel oxide") (**heading 75.01**).

(6) **Copper oxides and hydroxides**.

(a) **Cuprous oxide** (red copper oxide) (Cu_2O). Obtained from copper acetate or sulphate; a crystalline red powder, insoluble in water. Used for colouring glass red (glass for signals), manufacturing antifouling paints or synthetic precious stones (artificial emeralds), and as a fungicide in agriculture.

(b) **Cupric oxide** (black copper oxide) (CuO). Prepared from copper nitrate or carbonate or by oxidising the metal. Black powder or grains with chestnut sheen, insoluble in water. Pigment used in the enamel, glass (green glass) or ceramic industries and in the preparation of paints. Also used for depolarising electric batteries and as an oxidising agent or catalyst in organic chemistry.

(c) **Copper hydroxides**. The most common of these is cupric hydroxide ($Cu(OH)_2$). Blue solid which, alone or mixed, constitutes a pigment (Bremen blue). It is also used in the manufacture of pigments (e.g., Peligot blue, permanent in artificial light) and of the ammoniacal solution known as "Schweitzer's reagent", a solvent in the cuprammonium process of rayon manufacture.

Natural cuprous oxide (cuprite) and natural cupric oxide (tenorite) are **excluded** (**heading 26.03**).

(7) **Germanium oxides**. The most important germanium oxide is the dioxide (GeO_2) obtained in the metallurgy of the metal from natural copper germano-sulphide (germanite) (heading 26.17), or by hydrolysing the chloride. It is a white powder, slightly soluble in water. It is used for preparing germanium metal (for transistors, etc.), in medicine and in the manufacture of special glass.

(8) **Molybdenum oxides and hydroxides**. The most important molybdenum oxide is the trioxide (MoO_3), obtained from the natural sulphide, molybdenite (heading 26.13). It is a white crystalline product which turns yellow on heating; practically insoluble in water. Used as a catalyst in organic synthesis (manufacture of phthalic anhydride).

There are also blue oxides which are still used as such or in mixture (in the latter case, they fall in **Chapter 32**) by artists, under the names of molybdenum blue and mineral indigo.

Hydroxides include molybdic acid (H_2MoO_4), a white or yellowish powder, slightly soluble in water, used in the ceramic industry (glazes) or as a catalyst. The molybdates of heading 28.41 are derived from these hydroxides.

Natural molybdenum oxide (molybdenum ochre, molybdite) is **excluded** (**heading 25.30**).

(9) **Antimony oxides**.

(a) **Trioxide or antimonous anhydride** (Sb_2O_3). Obtained by oxidising the metal or from the natural sulphide (stibnite). White powder or needle-shaped crystals; practically insoluble in water. The term "antimony white" is used in reference both to the pure oxide of this heading, and to a mixture of that oxide with zinc oxide, which is classified in **Chapter 32**. Antimony trioxide is used in paints, as an opacifier in the enamel industry (enamelling of iron) and pottery industry (glazes), in the manufacture of glass with a low coefficient of expansion (lamp glass), and for producing synthetic precious or semi-precious stones (artificial rubies, topazes, garnets). It gives the antimonites of heading 28.41.

(b) **Pentaoxide or antimonic anhydride** (Sb_2O_5). Obtained by oxidising the metal or calcining the nitrate. A yellow powder, also used as an opacifier in the enamel industry. Gives the antimonates of heading 28.41.

(c) **Tetraoxide** (Sb_2O_4). White powder obtained by heating the pentaoxide.

The heading **excludes** ores, i.e., natural antimony trioxides (senarmontite and valentinite) and natural tetraoxide (cervantite) (**heading 26.17**).

(10) **Beryllium oxide and hydroxide**.

(a) **Oxide** (BeO). Prepared from beryllium nitrate or sulphate. White powder, insoluble in water; can be crystallised. Used for making beryllium salts, synthetic precious or semi-precious stones and as a catalyst.

(b) **Hydroxide** ($Be(OH)_2$). White powder resembling alumina in appearance.

(11) **Calcium oxide, hydroxide and peroxide**. This heading covers only the oxide (CaO) and the hydroxide ($Ca(OH)_2$), in the pure state (i.e., containing practically no clay, iron oxide, manganese oxide, etc.), such as the product obtained by calcining precipitated calcium carbonate.

The heading also covers fused lime obtained by fusing ordinary quicklime in an electric furnace. This product has a high degree of purity (approximately 98 % calcium oxide); it is crystalline and generally colourless. It is used, in particular, for refractory linings for furnaces, in the manufacture of crucibles and for addition to concrete, in small pieces, to increase its resistance to wear.

Calcium peroxide (CaO_2) is a white or yellowish powder, hydrated (usually with 8 H_2O), sparingly soluble in water. Used as a bactericide and as a detergent, in medicine and in the preparation of cosmetics.

Quicklime (calcium oxide) and slaked lime (calcium hydroxide) are **excluded** (**heading 25.22**).

(12) **Manganese hydroxides**.

(a) **Manganous hydroxide** ($Mn(OH)_2$). A whitish powder, insoluble in water.

(b) **Manganic hydroxide** ($Mn(OH)_3$). Derived from manganic oxide (Mn_2O_3). A brown powder used for preparing colours (manganese brown) and manganese linoleate.

(c) **Manganese saline hydroxide**. Derived from the saline oxide Mn_3O_4.

The heading **excludes** natural hydrated manganese oxide (natural manganic hydroxide) (manganite) which is an ore of **heading 26.02** and non-hydrated manganese oxides (**heading 28.20**).

(13) **Zirconium dioxide** (zirconia) (ZrO_2), not to be confused with zircon (**heading 26.15** or **71.03**), which is a crystallised natural zirconium silicate.

The artificial oxide is obtained from the above-mentioned ore or from zirconium salts. It is a refractory whitish powder with a melting point of about 2,600 °C. Zirconia is used as a refractory product resistant to the action of chemical agents, a pigment and ceramic opacifier (zirconium white), an abrasive, a constituent of glass and a catalyst.

Natural zirconium oxide or baddeleyite is an ore of **heading 26.15**.

(14) **Cadmium oxide and hydroxide**.

(a) **Oxide** (CdO). Powder of a more or less brownish-yellow colour according to the calcination temperature during the preparation from the carbonate or the hydroxide. Used in the ceramic industry and as a catalyst.

(b) **Hydroxide** ($Cd(OH)_2$). White powder.

(15) **Tin oxides and hydroxides**.

(a) **Stannous oxide** (brown oxide) (SnO). Insoluble in water. It may be grey or black crystals, or olive-brown powder with bluish, reddish or greenish glints, according to the process of preparation.

This oxide is amphoteric and gives the stannites of heading 28.41. It is used in organic synthesis as a reducing agent or catalyst.

(b) **Stannic oxide** (stannic anhydride, dioxide) (SnO_2), also insoluble in water, is a powder, white (tin white) or grey (tin ash). The white oxide is used in the ceramic or glass industries as an opacifier, whereas the grey powder is used for polishing metal, mirrors, etc., and also for obtaining vitrifiable compounds. This oxide is sometimes known as “putty powder”, but this term also covers mixtures of this oxide with lead oxide, which fall in **heading 38.24**.

Stannic oxide is amphoteric and gives the stannates of heading 28.41.

(c) **Stannic acid** or **stannic hydroxide** ($Sn(OH)_4$). Obtained by the action of an alkali hydroxide on a stannic salt. A white powder which turns into meta-stannic acid.

(d) **Meta-stannic acid**. Obtained from stannic acid; a powder, insoluble in water. Used as an opacifying colour in ceramics and an abrasive in the glass industry.

These stannic acids give the stannates of heading 28.41.

This heading **does not include** :

(a) Natural tin oxide (cassiterite), an ore (**heading 26.09**).

(b) Tin dross, a mixture of tin oxide and tin obtained during the melting of the metal (**heading 26.20**).

(16) **Tungsten oxides and hydroxides**. The most important tungsten oxide is tungstic oxide (tungstic anhydride, tungsten trioxide) (WO_3), obtained in the metallurgy of this metal by treating the natural tungstates (wolframite or scheelite) (heading 26.11). It is a lemon-yellow, crystalline product which turns orange on heating and is insoluble in water. Used for preparing the tungsten for electric bulb filaments and in ceramic paints.

There are several hydroxides, including tungstic acid (H_2WO_4) (yellow hydrate), which gives the normal tungstates of heading 28.41.

Natural tungsten oxide (tungsten ochre, tungstite) is **excluded** (**heading 25.30**).

(17) **Bismuth oxides and hydroxides**.

(a) **Dibismuth trioxide** (Bi_2O_3). Prepared from bismuth nitrate or carbonate. Pale yellow powder, insoluble in water and turning red when heated. Used in the glass or ceramic industries.

(b) **Dibismuth pentaoxide** (red oxide) (Bi_2O_5). Brownish-red powder.

(c) **Bismuth hydroxide** ($Bi(OH)_3$).

Natural bismuth ochre, which mainly consists of the trioxides, is **excluded** (**heading 26.17**).

This heading **does not include** mercury oxides **(heading 28.52)**.

2825.10

- Hydrazine and hydroxylamine and their inorganic salts

2825.20

- Lithium oxide and hydroxide

2825.30

- Vanadium oxides and hydroxides

CLASSIFICATION OPINIONS

1. Products with a high content of vanadium pentoxide, commercially known as "fused vanadium oxides", obtained by roasting mechanically concentrated ores such as carnotite with sodium carbonate and sodium chloride, lixiviation of the sodium vanadates thus produced with water, precipitation with sulphuric acid of the vanadium pentoxide; filtration and fusion.
Adoption : 1963

2825.40

- Nickel oxides and hydroxides

2825.50

- Copper oxides and hydroxides

2825.60

- Germanium oxides and zirconium dioxide

2825.70

- Molybdenum oxides and hydroxides

2825.80

- Antimony oxides

2825.90

- Other

V.-

SALTS AND PEROXYSALTS, OF INORGANIC ACIDS AND METALS

EXPLANATORY NOTES

Sub-Chapter V

SALTS AND PEROXYSALTS, OF INORGANIC ACIDS AND METALS

GENERAL

Metal salts are obtained by replacing the hydrogen element in an acid by a metal or by the ammonium ion (NH_4^+). In the liquid state or in solution, they are electrolytes giving a metal (or a metal ion) at the cathode.

In **neutral** salts all the hydrogen atoms are replaced by the metal, but **acid** salts still contain part of the hydrogen replaceable by metal; **basic** salts contain a greater quantity of basic oxide than is necessary to neutralise the acid (e.g., basic sulphate of cadmium ($CdSO_4.CdO$)).

Sub-Chapter V covers metal salts of the acids classified in sub-Chapter II (acids derived from non-metals) or in sub-Chapter IV (acid-function metal hydroxides).

Double or complex salts.

Certain double or complex salts are specifically referred to in headings 28.26 to 28.41; for example, fluorosilicates, fluoroborates and other complex fluorine salts (heading 28.26), alums (heading 28.33), complex cyanides (heading 28.37). As regards double or complex salts not so specified, see the Explanatory Note to heading 28.42.

This sub-Chapter **excludes**, *inter alia* :

(a) Salts of **Chapter 25** (e.g., sodium chloride).

(b) Salts constituting ores or other products of **Chapter 26**.

(c) Compounds of precious metals (**heading 28.43**), of radioactive elements (**heading 28.44**), of rare-earth metals, of yttrium or of scandium or of mixtures of these metals (**heading 28.46**), or of mercury (**heading 28.52**).

(d) Phosphides, carbides, hydrides, nitrides, azides, silicides and borides (**headings 28.49, 28.50 and 28.53**) and ferrophosphorus (**Section XV**).

(e) Salts of **Chapter 31**.

(f) Pigments, colours, opacifiers, enamels and other preparations included in **Chapter 32**. This sub-Chapter covers **unmixed** metal salts (except luminophores), suitable for direct use as pigments; when mixed either together or with other products to form pigments, such salts fall in **Chapter 32**. Luminophores, mixed or not, fall in **heading 32.06**.

(g) Disinfectants, insecticides, fungicides, weed killers, etc., of **heading 38.08**.

(h) Fluxes and other auxiliary preparations for soldering, etc. (**heading 38.10**).

(ij) Cultured crystals (other than optical elements) weighing not less than 2.5 g each, of the halides of the alkali or alkaline-earth metals (**heading 38.24**); when they are in the form of optical elements they are classified in **heading 90.01**.

(k) Precious or semi-precious stones, natural or synthetic (**headings 71.02** to **71.05**).

Heading 2826

Fluorides; fluorosilicates, fluoroaluminates and other complex fluorine salts.
EXPLANATORY NOTES

Sub-Chapter V

SALTS AND PEROXYSALTS, OF INORGANIC ACIDS AND METALS

GENERAL

Metal salts are obtained by replacing the hydrogen element in an acid by a metal or by the ammonium ion (NH_4^+). In the liquid state or in solution, they are electrolytes giving a metal (or a metal ion) at the cathode.

In **neutral** salts all the hydrogen atoms are replaced by the metal, but **acid** salts still contain part of the hydrogen replaceable by metal; **basic** salts contain a greater quantity of basic oxide than is necessary to neutralise the acid (e.g., basic sulphate of cadmium ($CdSO_4.CdO$)).

Sub-Chapter V covers metal salts of the acids classified in sub-Chapter II (acids derived from non-metals) or in sub-Chapter IV (acid-function metal hydroxides).

Double or complex salts.

Certain double or complex salts are specifically referred to in headings 28.26 to 28.41; for example, fluorosilicates, fluoroborates and other complex fluorine salts (heading 28.26), alums (heading 28.33), complex cyanides (heading 28.37). As regards double or complex salts not so specified, see the Explanatory Note to heading 28.42.

This sub-Chapter **excludes**, *inter alia* :

(a) Salts of **Chapter 25** (e.g., sodium chloride).

(b) Salts constituting ores or other products of **Chapter 26**.

(c) Compounds of precious metals (**heading 28.43**), of radioactive elements (**heading 28.44**), of rare-earth metals, of yttrium or of scandium or of mixtures of these metals (**heading 28.46**), or of mercury (**heading 28.52**).

(d) Phosphides, carbides, hydrides, nitrides, azides, silicides and borides (**headings 28.49, 28.50 and 28.53**) and ferrophosphorus (**Section XV**).

(e) Salts of **Chapter 31**.

(f) Pigments, colours, opacifiers, enamels and other preparations included in **Chapter 32**. This sub-Chapter covers **unmixed** metal salts (except luminophores), suitable for direct use as pigments; when mixed either together or with other products to form pigments, such salts fall in **Chapter 32**. Luminophores, mixed or not, fall in **heading 32.06**.

(g) Disinfectants, insecticides, fungicides, weed killers, etc., of **heading 38.08**.

(h) Fluxes and other auxiliary preparations for soldering, etc. (**heading 38.10**).

(ij) Cultured crystals (other than optical elements) weighing not less than 2.5 g each, of the halides of the alkali or alkaline-earth metals (**heading 38.24**); when they are in the form of optical elements they are classified in **heading 90.01**.

(k) Precious or semi-precious stones, natural or synthetic (**headings 71.02** to **71.05**).

28.26 - Fluorides; fluorosilicates, fluoroaluminates and other complex fluorine salts.

- Fluorides :

2826.12 - - Of aluminium

2826.19 - - Other

2826.30 - Sodium hexafluoroaluminate (synthetic cryolite)

2826.90 - Other

(A) FLUORIDES

Subject to the **exclusions** specified in the introduction to this Sub-Chapter, this heading covers the fluorides (i.e., the metal salts of hydrofluoric acid of heading 28.11).

The most important fluorides are :

(1) **Ammonium fluorides :** the neutral fluoride (NH_4F) and the acid fluoride ($NH_4F.HF$). These occur in deliquescent, colourless, toxic crystals, soluble in water. Uses include : as antiseptics (for preserving hides or wood); to control fermentations, (in lieu of hydrofluoric acid); in dyeing (mordants); for etching glass (mainly acid fluoride); for scouring copper; in metallurgy (to disintegrate ores, to prepare platinum), etc.

(2) **Sodium fluorides :** the neutral fluoride(NaF) and the acid fluoride (NaF.HF). Obtained by calcining natural calcium fluoride of heading 25.29 (fluorspar or fluorite) with a sodium salt. Colourless crystals, not very soluble in water, toxic. Like ammonium fluorides, they are used as antiseptics (for preserving hides, wood, eggs), to control fermentations, and for etching or frosting glass. They are also used in the manufacture of vitrifiable enamels or of parasiticides.

(3) **Aluminium fluoride** (AlF_3). Prepared from bauxite and hydrofluoric acid. Colourless crystals, insoluble in water. It is used as a flux in the enamel or ceramic industries and for purifying hydrogen peroxide.

(4) **Potassium fluorides**. Neutral potassium fluoride ($KF.2H_2O$) occurs in colourless, deliquescent, toxic crystals, very soluble in water. Also an acid fluoride (KF.HF). Same uses as sodium fluorides. In addition, the acid fluoride is used in the metallurgy of zirconium or of tantalum.

(5) **Calcium fluoride** (CaF_2). Prepared from the natural calcium fluoride (fluorite, fluorspar) of **heading 25.29**. Colourless crystals, insoluble in water; or may be in the gelatinous state. Used as a flux in metallurgy (particularly in the electrolytic preparation of magnesium from carnallite), and in the manufacture of glass or of ceramics.

(6) **Chromium trifluoride** ($CrF_3.4H_2O$). Dark green powder, soluble in water. In aqueous solution it attacks glass. Used as a mordant in dyeing.

(7) **Zinc fluoride** (ZnF_2). White powder, insoluble in water. Used for impregnating wood, in the preparation of enamels and in galvanising.

(8) **Antimony fluorides**. The action of hydrofluoric acid on antimony oxides gives antimony trifluoride (SbF_3), crystallising in deliquescent white needles, soluble in water, and antimony pentafluoride (SbF_5), a viscous liquid which dissolves in water with a hissing sound to form a hydrate (with 2 H_2O). These salts are used in ceramics, as mordants in dyeing or textile printing.

(9) **Barium fluoride** (BaF_2). Prepared from hydrofluoric acid and barium oxide, sulphide or carbonate. A white powder, sparingly soluble in water; toxic. Used as a pigment in ceramics or enamels, as an antiseptic in embalming, as an insecticide, etc.

This heading **excludes** non-metal fluorides (**heading 28.12**).

(B) FLUOROSILICATES

Fluorosilicates are the salts of the hexafluorosilicic acid (H_2SiF_6) of heading 28.11.

(1) **Disodium hexafluorosilicate** (sodium fluorosilicate) (Na_2SiF_6). Prepared from silicon fluoride, a by-product of the manufacture of superphosphates. White powder, only sparingly soluble in cold water. Uses include the manufacture of opaque glass and enamels, synthetic stones, anti-acid cements, rat poisons, insecticides; the extraction of beryllium metal (electrolytic); the refining of tin by electrolysis; coagulating latex; as an antiseptic.

(2) **Dipotassium hexafluorosilicate** (potassium fluorosilicate) (K_2SiF_6). White, odourless, crystalline powder, slightly soluble in water, soluble in hydrochloric acid. Uses include the manufacture of vitreous enamel frits, ceramics, insecticides, synthetic mica; in metallurgy of aluminium and magnesium.

(3) **Calcium hexafluorosilicate** (calcium fluorosilicate) ($CaSiF_6$). White, crystalline powder; very slightly soluble in water; used as white pigment in ceramics.

(4) **Copper hexafluorosilicate** (copper fluorosilicate) ($CuSiF_6.6H_2O$). Blue, crystalline powder, soluble in water and toxic. Used for the production of mottled effects or as a fungicide.

(5) **Zinc hexafluorosilicate** (zinc fluorosilicate) ($ZnSiF_6.6H_2O$). Crystalline powder, soluble in water; reacts with calcium compounds to give a coating of calcium fluorides. Used for hardening concrete, for zinc electroplating, as an antiseptic or fungicide (wood infections).

(6) **Barium hexafluorosilicate** (barium fluorosilicate) ($BaSiF_6$). White powder used against the Colorado beetle and other insects, and to exterminate noxious animals.

(7) **Other fluorosilicates**. Magnesium fluorosilicate and aluminium fluorosilicate; like zinc fluorosilicate, these are used for hardening concrete. Chromium fluorosilicate and iron fluorosilicate are used in the dyestuff industry.

The heading **does not include** topaz, a natural aluminium fluorosilicate (**Chapter 71**).

(C) FLUOROALUMINATES AND OTHER COMPLEX FLUORINE SALTS

(1) **Trisodium hexafluoroaluminate** (sodium hexafluoroaluminate) (Na_3AlF_6), synthetic cryolite, obtained as a precipitate on mixing aluminium oxide dissolved in hydrofluoric acid with sodium chloride, or by fusion of aluminium sulphate together with sodium fluoride. Occurs in whitish crystalline masses. It is used as a substitute for natural cryolite (**heading 25.30**) in the metallurgy of aluminium, in pyrotechnics, in enamels, in glass-making or as an insecticide.

(2) **Fluoroborates**. Sodium fluoroborate (disinfectant), potassium fluoroborate (used in enamels), chromium fluoroborate and nickel fluoroborate (used in electro-plating), etc.

(3) **Fluorosulphates**. In particular ammonium antimony fluorosulphate ($(NH_4)_2SO_4SbF_3$) or "Haen salt"; soluble crystals which corrode glass and metal. Used as a mordant in dyeing.

(4) **Fluorophosphates**, for example, those obtained from natural magnesium fluorophosphate (wagnerite) (**heading 25.30**) or aluminium lithium fluorophosphate (amblygonite) (**heading 25.30**).

(5) **Fluorotantalates** (obtained in the metallurgy of tantalum); **fluorotitanates**, **fluorogermanates**, **fluoroniobates**, **fluorozirconates** (obtained in the metallurgy of zirconium), **fluorostannates**, etc.

This heading includes metal fluoride oxides (of beryllium, etc.) and complex fluoride oxide salts but it **excludes** fluoride oxides of non-metals (**heading 28.12**).

Fluoroformates, fluoroacetates or other organic complex fluorine salts are **excluded** (**Chapter 29**).

2826.1

- Fluorides :
2826.12

-- Of aluminium
2826.19

-- Other
2826.30

- Sodium hexafluoroaluminate (synthetic cryolite)
2826.90

- Other
Heading 2827

Chlorides, chloride oxides and chloride hydroxides; bromides and bromide oxides; iodides and iodide oxides.
EXPLANATORY NOTES

28.27 - Chlorides, chloride oxides and chloride hydroxides; bromides and bromide oxides; iodides and iodide oxides.

2827.10 - Ammonium chloride

2827.20 - Calcium chloride

- Other chlorides :

2827.31 - - Of magnesium

2827.32 - - Of aluminium

2827.35 - - Of nickel

2827.39 - - Other

- Chloride oxides and chloride hydroxides :

2827.41 - - Of copper

2827.49 - - Other

- Bromides and bromide oxides :

2827.51 - - Bromides of sodium or of potassium

2827.59 - - Other

2827.60 - Iodides and iodide oxides

Subject to the **exclusions** specified in the introduction to this sub-Chapter, this heading covers chlorides, chloride oxides (oxychlorides), chloride hydroxides (hydroxychlorides), bromides, bromide oxides (oxybromides), iodides and iodide oxides (oxyiodides) of metals or of the ammonium ion (NH_4^+). Halides and halide oxides of non-metals are **excluded** (**heading 28.12**).

(A) CHLORIDES

This group covers the salts of hydrogen chloride (heading 28.06).

The main chlorides included here are :

(1) **Ammonium chloride** (sal ammoniac, ammonium muriate) (NH_4Cl). Results from the neutralisation of hydrogen chloride with ammonia. It may be in crystalline masses or in powder, flowers or cakes obtained by sublimation. Colourless when pure, otherwise yellowish; soluble in water. Its uses include the pickling of metals, in the textile dyeing or printing industry, in tanning, as a fertiliser, in the manufacture of Leclanché cells, for hardening varnishes or glues, in electroplating, in photography (fixing solutions), etc.

See Explanatory Note to heading 31.02 regarding fertilisers containing ammonium chloride.

(2) **Calcium chloride** ($CaCl_2$). This compound is either extracted from natural Stassfurt salts, or obtained as a by-product of the manufacture of sodium carbonate. It is white, yellowish or brown in colour, according to the degree of purity. A hygroscopic product, it may be in cast or melted form, in porous masses or in flakes, or may be hydrated with 6 H_2O (crystalline or granulated). It is used in refrigerating mixtures, for cold weather concrete work, as an anti-dust dressing for roads or for hard-earth floorings, as a catalyst, as a dehydrating or condensation agent in organic synthesis (e.g., preparation of amines from phenol) and for drying gases. It is also used in medicine.

(3) **Magnesium chloride** ($MgCl_2$). A by-product of the extraction of potassium salts. Occurs either in anhydrous translucent masses, cylinders, tablets or prisms, or hydrated in colourless needles. Soluble in water. Used in the manufacture of very hard cement (e.g., for floor coverings cast in one piece), of cotton or other textile dressings, as a disinfectant or antiseptic in medicine and for fire-proofing wood.

The heading **excludes** natural magnesium chloride (bischofite) (**heading 25.30**).

(4) **Aluminium chloride** ($AlCl_3$). Obtained by the action of chlorine on aluminium, or of hydrogen chloride on aluminium oxide. Anhydrous or crystalline; or in aqueous solutions of syrupy consistency. The anhydrous salt fumes on exposure to air. The solid chloride is used in organic synthesis, as a mordant in dyeing, etc. In aqueous solutions it is used for preserving wood, pickling wool, as a disinfectant, etc.

(5) **Iron chlorides**.

(a) **Ferrous chloride** ($FeCl_2$). Anhydrous (scales, flakes or greenish-yellow powder) or hydrated with, for example, 4 H_2O (green or bluish crystals); or may be in green aqueous solutions. Oxidises in the air and becomes yellow. Usually presented in carefully stoppered bottles with a few drops of alcohol added to prevent oxidation. A reducing agent and a mordant.

(b) **Ferric chloride** ($FeCl_3$). Prepared by dissolving iron oxide or carbonate or iron metal in hydrochloric acid or in *aqua regia*, or by passing gaseous chlorine over red-hot iron. Anhydrous, in yellow, brown or garnet-coloured masses, deliquescent and soluble in water, or hydrated (with 5 or 12 H_2O) in orange-coloured, red or purple crystals; the liquid iron chloride on the market is a dark red aqueous solution. More widely employed than ferrous chloride, e.g., for purifying industrial water, as a mordant, in photography and photo-engraving, to give a patina to iron, in medicine (haemostatic or vasoconstrictive preparations), and, principally, as an oxidising agent.

(6) **Cobalt dichloride** (cobaltous chloride) ($CoCl_2.6H_2O$). In pink, red or purple crystals turning blue when heated; soluble in water. Used in the manufacture of hygrometers, as a sympathetic ink or as an absorbent in gas masks.

(7) **Nickel dichloride** ($NiCl_2$). Anhydrous, in yellow scales or flakes, or hydrated (with 6 H_2O) in deliquescent green crystals; very soluble in water. Used as a mordant in dyeing, in electrolysis (nickel-plating baths) or as an absorbent in gas masks.

(8) **Zinc chloride** ($ZnCl_2$). Zinc chloride is obtained by passing hydrogen chloride over roasted zinc ores (blende or calamine) (heading 26.08); or it can be extracted from the ashes and residues classified in heading 26.20. White crystalline masses (butter of zinc), fused or granulated. It is highly deliquescent, soluble in water, caustic and very toxic. Used as an antiseptic, fungicide, dehydrating agent, for fire-proofing wood, preserving hides, hardening cellulose (preparation of vulcanised fibre), and in organic synthesis. Also used as a flux in soldering, as a mordant in dyeing or printing, for purifying oils, and in the manufacture of dental cements or of medicaments (cauterising antiseptics).

(9) **Tin chlorides**.

(a) **Stannous chloride** (tin dichloride) ($SnCl_2$). Masses with a resinous fracture, or in white or yellowish crystals (with 2 H_2O). Also in solutions of the same colours. Corrosive; deteriorates in the air. Used as a reducing agent or mordant in textile dyeing, in vat dyes (dyers' tin salt), as tin size for silk or in electrolytic tin-plating.

(b) **Stannic chloride** (tin tetrachloride) ($SnCl_4$). In the anhydrous state this is a colourless or yellowish liquid, giving off white fumes in a humid atmosphere. Hydrated it gives colourless crystals; it also occurs in gelatinous masses (butter of tin). Used as a textile mordant or size (tin size for silk), or, mixed with stannous chloride and gold salts, in the preparation of purple of Cassius for decorating porcelain.

(10) **Barium chloride** ($BaCl_2$). Prepared from natural barium carbonate (witherite) or sulphate (barytes). Soluble in water; may be anhydrous or fused (yellow powder), or hydrated with 2 H_2O (in lamellar crystals or tablets). Used in dyeing, in ceramics, as a parasiticide or rat-poison, for purifying industrial water, etc.

(11) **Titanium chlorides**. The most important is titanium tetrachloride ($TiCl_4$) obtained in the metallurgy of titanium by the action of chlorine on a mixture of carbon and native titanium dioxide (rutile, brookite, anatase). Colourless or yellowish liquid with a pungent odour; fumes in moist air; absorbs and is hydrolysed by water. Used in the manufacture of mordants for dyeing (titanium mordants), for giving ceramics an iridescent appearance, for making smoke-screens or in organic synthesis.

(12) **Chromium chlorides**.

(a) **Chromous chloride** ($CrCl_2$). Needle-shaped crystals or azure-blue solutions. Reducing agent.

(b) **Chromic chloride** ($CrCl_3$). Pink or orange crystalline scales, or hydrated (with 6 or 12 H_2O) in green or purple crystals. Used as a mordant in textile dyeing, in tanning, in electrolytic chromium plating, in organic synthesis and for preparing sintered chromium.

(13) **Manganese dichloride** ($MnCl_2$). Obtained by treating the natural carbonate, rhodocrosite or dialogite (heading 26.02) with hydrogen chloride. Rose-coloured, crystalline masses when anhydrous; or hydrated (e.g., with 4 H_2O) in rose-coloured crystals, deliquescent and soluble in water. Used in the manufacture of brown colouring agents or of certain medicaments, as a catalyst and in textile printing.

(14) **Copper chlorides**.

(a) **Cuprous chloride** (copper monochloride) (CuCl). Crystalline powder or colourless crystals, practically insoluble in water, oxidising in the air. Used in the metallurgy of nickel and silver, or as a catalyst.

(b) **Cupric chloride** ($CuCl_2.2H_2O$). Deliquescent green crystals, soluble in water. Used in textile printing, photography or electrolysis; as a catalyst, an antiseptic, disinfectant or insecticide; in the dyestuff industry and in pyrotechnics (Bengal fires).

Nantokite, natural copper chloride, falls in **heading 25.30**.

(15) **Antimony chlorides**.

(a) **Antimony trichloride** (butter of antimony) ($SbCl_3$). Prepared by treating natural sulphide (stibnite) (heading 26.17) with hydrogen chloride. Occurs in colourless, translucent lumps; absorbs atmospheric moisture to take on an unctuous appearance; it is caustic. Used for “bronzing” or pickling metals, as a mordant, for making lakes, for leather dressing, and in the preparation of antimony oxide or veterinary remedies.

(b) **Antimony pentachloride**($SbCl_5$). Colourless liquid, fuming in moist air; decomposed by water. Used as a chlorine carrier in organic synthesis and as a fumigant.

This group **excludes** sodium chloride and potassium chloride which, even in the pure state, fall in **headings 25.01** and **31.04** or **31.05**, respectively. The heading also **excludes** the compound wrongly known as "chloride of lime" which is commercial calcium hypochlorite (**heading 28.28**). Mercury chlorides (mercurous chloride and mercuric chloride) fall in **heading 28.52**.

(B) CHLORIDE OXIDES AND CHLORIDE HYDROXIDES

This group covers chloride oxides (oxychlorides) and chloride hydroxides (hydroxychlorides) of metals.

It includes :

(1) **Copper chloride oxides and chloride hydroxides**. Crystalline, blue powders, used as insecticides, fungicides or pigments.

The heading **excludes** natural copper chloride hydroxide (atacamite) (**heading 26.03**).

(2) **Aluminium chloride hydroxide** ($Al_2Cl(OH)_5.xH_2O$). Yellowish-white powder. Used as anti-perspirant in cosmetics.

(3) **Chromium chloride oxide** (chromyl chloride) ($CrCl_2O_2$). Red liquid with an irritating odour; fumes in moist air and decomposed by water. Used in tanning, as a mordant and as an oxidising agent.

(4) **Tin chloride oxide**. Grey or white amorphous lumps, soluble in water. Used as a mordant.

(5) **Antimony chloride oxide** (SbClO). A white powder used in the manufacture of smokes, pigments, medicaments.

(6) **Lead chloride oxides and chloride hydroxides**. White powders obtained by treating lead oxide (litharge) with an alkaline chloride. Used for preparing lead chromates, as pigments (Cassel yellow) for water paints, oil paints or distempers, and in the preparation of other more complex pigments.

(7) **Bismuth chloride oxide** (bismuthyl chloride) (BiClO). White powder used as a pigment ("pearl white") in the manufacture of artificial pearls.

(C) BROMIDES AND BROMIDE OXIDES

This group covers the salts of hydrogen bromide (heading 28.11) and bromide oxides (oxybromides).

(1) **Sodium bromide** (NaBr). Prepared in a similar way to ammonium bromide, or by treating with a sodium salt the iron bromide obtained by direct action of bromine on iron turnings. It can be obtained in the rather unstable anhydrous state by crystallisation above 51 °C. When crystallised below that temperature it is hydrated (with 2 H_2O), in large cubic crystals. Colourless, hygroscopic, soluble in water. Used in medicine and in photography.

(2) **Potassium bromide** (KBr). Similar manufacturing processes and same uses as sodium bromide. Anhydrous, in large crystals.

(3) **Ammonium bromide** (NH_4Br). Produced by the action of hydrogen bromide on ammonia. Colourless crystals, soluble in water, turning yellow and slowly disintegrating when exposed to air, and volatilised by heat. Used in medicine as a sedative, in photography (as a restrainer in developing solutions), and as a fire-proofing material.

(4) **Calcium bromide** ($CaBr_2.6H_2O$). Prepared from calcium carbonate and hydrogen bromide; deliquescent colourless crystals, very soluble in water. Used in medicine and in photography.

(5) **Copper bromides**.

(a) **Cuprous bromide** (CuBr). Obtained by reduction of cupric bromide; colourless crystals, insoluble in water. Used in organic synthesis.

(b) **Cupric bromide** ($CuBr_2$). Prepared by direct action of bromine on copper. Deliquescent crystals, soluble in water. Used in organic synthesis and in photography.

(6) **Other bromides and bromide oxides**. These include strontium bromide (used in medicine), and barium bromide.

(D) IODIDES AND IODIDE OXIDES

This group covers the salts of hydrogen iodide (heading 28.11) and iodide oxides (oxyiodides).

(1) **Ammonium iodide** (NH_4I). Obtained by the action of hydrogen iodide on ammonia or ammonium carbonate. White, crystalline, hygroscopic powder, very soluble in water. Used in medicine (for circulatory ailments or emphysema) and in photography.

(2) **Sodium iodide** (NaI). Obtained by the action of hydrogen iodide on sodium hydroxide or carbonate, or by treating with a sodium salt the iron iodide obtained by the direct action of iodine on iron filings; also prepared by calcining iodates. Crystalline, anhydrous. Deliquescent and very soluble in water, decomposing on exposure to air and light. Used in medicine, to iodise table or kitchen salt and in photography.

(3) **Potassium iodide** (KI). Similar manufacturing processes and similar uses, but keeps better than sodium iodide. Anhydrous, colourless or opaque crystals.

(4) **Calcium iodide** (CaI_2). Prepared from calcium carbonate and hydrogen iodide. Colourless shiny crystals or pearly white scales. Soluble in water and turns yellow in the air. Used in photography.

(5) **Other iodides and iodide oxides**. These include :

(a) Iodides of lithium (used in medicine), of strontium, of antimony, of zinc or of iron (both used in medicine and as antiseptics), of lead (with a metallic glint, used in the preparation of rubber colours), of bismuth (reagent).

(b) Antimony iodide oxide, copper iodide oxide and lead iodide oxide.

Mercury iodides (mercurous iodide and mercuric iodide) are **excluded (heading 28.52)**.

2827.10

- Ammonium chloride

2827.20

- Calcium chloride

2827.3

- Other chlorides :

2827.31

-- Of magnesium

2827.32

-- Of aluminium

2827.35

-- Of nickel

2827.39

-- Other

2827.4

- Chloride oxides and chloride hydroxides :

2827.41

-- Of copper

2827.49

-- Other

2827.5

- Bromides and bromide oxides :

2827.51

-- Bromides of sodium or of potassium

2827.59

-- Other

2827.60

- Iodides and iodide oxides

Heading 2828

Hypochlorites; commercial calcium hypochlorite; chlorites; hypobromites.

EXPLANATORY NOTES

28.28 - Hypochlorites; commercial calcium hypochlorite; chlorites; hypobromites.

2828.10 - Commercial calcium hypochlorite and other calcium hypochlorites

2828.90 - Other

Subject to the **exclusions** specified in the introduction to this sub-Chapter, this heading covers hypochlorites, chlorites and hypobromites of metals and commercial calcium hypochlorite.

(A) HYPOCHLORITES

These are the most important; they are mainly used for bleaching ("bleaching chlorites"). They are unstable salts, which deteriorate in the air; they give hypochlorous acid on contact even with weak acids. Hypochlorous acid, readily giving off chlorine, is a very powerful oxidising and bleaching agent.

(1) **Sodium hypochlorite** ($NaClO.6H_2O$). Put up in aqueous solutions, is nowadays commercially known as "eau de Javel". It is prepared by electrolysing an aqueous solution of sodium chloride, or by the action of sodium sulphate or sodium carbonate on calcium hypochlorite, or by treating sodium hydroxide (caustic soda) with chlorine. This salt, very soluble in water, does not exist in the anhydrous state; it is rather unstable and sensitive to heat and light. Aqueous solutions of sodium hypochlorite are colourless or yellowish, smelling of chlorine. They generally contain as impurities a small quantity of sodium chloride. Used for bleaching vegetable fibres or wood pulp, disinfecting premises, purifying water or preparing hydrazine. It is also used in photography as a rapid developer for antihalation plates, and in medicine as an antiseptic (mixed with boric acid, it is known as Dakin's solution).

(2) **Potassium hypochlorite** ($KClO.6H_2O$). The aqueous solution of this salt was previously known as "eau de Javel"; it is similar in all respects to the sodium compound.

(3) **Other hypochlorites**. These include hypochlorites of ammonium (a disinfectant more powerful than calcium hypochlorite), of barium, of magnesium or of zinc; all are bleaching agents or disinfectants.

(B) COMMERCIAL CALCIUM HYPOCHLORITE

Calcium hypochlorite. The product, improperly known in commerce as "chloride of lime", consists mainly of impure calcium hypochlorite and calcium chloride and, sometimes, calcium oxide or hydroxide. It is obtained by saturating calcium hydroxide with chlorine. It is a white, amorphous, powdery substance, hygroscopic when containing calcium chloride, soluble in water, and sensitive to the action of light, heat and carbon dioxide. It affects animal fibres and organic matter, and destroys colouring matter. It is used for bleaching vegetable textiles or wood pulp, as a disinfectant or antiseptic (to purify water by "javellisation"), for spreading over ground contaminated by lethal gases. Pure calcium hypochlorite occurs in crystalline masses or in solutions smelling of chlorine; it is slightly more stable than the impure product.

Calcium chloride ($CaCl_2$) is **excluded** (**heading 28.27**).

(C) CHLORITES

This group covers the salts of chlorous acid ($HClO_2$) :

(1) **Sodium chlorite** ($NaClO_2$). Anhydrous or hydrated (with 3 H_2O) masses, or aqueous solutions. Stable up to 100 °C. Powerful oxidising agent, very corrosive. Used in dyeing or bleaching.

(2) **Aluminium chlorite**. Same uses as sodium chlorite.

(D) HYPOBROMITES

This group covers the salts of hypobromous acid (HBrO) (heading 28.11).

Potassium hypobromite is used for measuring the nitrogen content of certain organic compounds.

2828.10

- Commercial calcium hypochlorite and other calcium hypochlorites

2828.90

- Other

Heading 2829

Chlorates and perchlorates; bromates and perbromates; iodates and periodates.

EXPLANATORY NOTES

28.29 - Chlorates and perchlorates; bromates and perbromates; iodates and periodates.

- Chlorates :

2829.11 - - Of sodium

2829.19 - - Other

2829.90 - Other

Subject to the **exclusions** specified in the introduction to this sub-Chapter, this heading covers chlorates and perchlorates, bromates and perbromates, and iodates and periodates of metals.

(A) CHLORATES

This group covers the salts of chloric acid ($HClO_3$) (heading 28.11).

(1) **Sodium chlorate** ($NaClO_3$). Obtained by electrolysing an aqueous solution of sodium chloride. Shiny colourless crystals (tablets); very soluble in water; readily gives off its oxygen. Often contains impurities (e.g., chlorides of the alkali metals). Used as an oxidising agent, in organic synthesis, in textile printing (aniline black dyes), for the manufacture of fulminating primers and preparations for match heads, as a weed-killer, etc.

(2) **Potassium chlorate** ($KClO_3$). Prepared in a similar manner to sodium chlorate. Colourless crystals, sparingly soluble in water. Its other properties are similar to those of sodium chlorate. It is also used in medicine and in the manufacture of blasting explosives (e.g., cheddite).

(3) **Barium chlorate** ($Ba(ClO_3)_2$). Obtained by electrolysing a solution of barium chloride; colourless crystals, soluble in water. Used as green colouring matter in pyrotechnics and in the manufacture of explosives and certain other chlorates.

(4) **Other chlorates**. These include ammonium chlorate, used in the manufacture of explosives; strontium chlorate, used in the manufacture of explosives and in pyrotechnics to produce red lights; chromium chlorate, used as a mordant in dyeing; copper chlorate, green crystals used in dyeing, in the manufacture of explosives and in pyrotechnics to produce green lights.

(B) PERCHLORATES

This group covers the salts of perchloric acid ($HClO_4$) (heading 28.11). These powerful oxidising agents are used in pyrotechnics and in the manufacture of explosives.

(1) **Ammonium perchlorate** (NH_4ClO_4). Prepared from sodium perchlorate. Colourless crystals, soluble in water especially when hot; decomposed by heat, sometimes explosively.

(2) **Sodium perchlorate** ($NaClO_4$). Obtained by electrolysing cold solutions of sodium chlorate; deliquescent, colourless crystals.

(3) **Potassium perchlorate** ($KClO_4$). Obtained from sodium perchlorate. Colourless crystalline powder of comparatively low solubility, exploding on shock. Used in the chemical industry as an oxidising agent more powerful than chlorates.

(4) **Other perchlorates**. These include : barium perchlorate (hydrated powder) and lead perchlorate; the saturated solution of the latter is a heavy liquid (specific gravity 2.6) used in the flotation process.

(C) BROMATES AND PERBROMATES

This group covers the salts of bromic acid ($HBrO_3$) (heading 28.11), for example potassium bromate ($KBrO_3$), and the salts of perbromic acid ($HBrO_4$).

(D) IODATES AND PERIODATES

This group covers the salts of iodic acid (HIO_3) (heading 28.11) and the salts of periodic acid (heading 28.11).

Sodium iodate ($NaIO_3$), potassium iodate (KIO_3) and potassium hydrogen di-iodate ($KH(IO_3)_2$) are employed in medicine and as reagents in chemical analysis. Barium iodate, in crystals, is used for manufacturing iodic acid.

Sodium periodates (monosodium and disodium) are obtained by the action of chlorine on an alkaline solution of sodium iodate.

2829.1

- Chlorates :
2829.11

-- Of sodium
2829.19

-- Other
2829.90

- Other
Heading 2830

Sulphides; polysulphides, whether or not chemically defined.
EXPLANATORY NOTES

28.30 - Sulphides; polysulphides, whether or not chemically defined.

2830.10 - Sodium sulphides

2830.90 - Other

Subject to the **exclusions** mentioned in the introduction of this sub-Chapter, this heading covers metal sulphides (salts of hydrogen sulphide (H_2S) of heading 28.11). The old name "sulphydrates" (hydrosulphides) is sometimes applied to the acid sulphides. Sulphides of non-metals are **excluded** (**heading 28.13**).

(1) **Sodium sulphides**.

(a) **Sodium sulphide** (Na_2S). Prepared by reducing sodium sulphate by means of coal. Either anhydrous, in whitish masses or plates (concentrated or melted sulphide), soluble in water, sulphating in the air, or in hydrated crystals (with 9 H_2O), colourless or greenish, according to their degree of purity. Mild reducing agent used in the preparation of organic compounds. In flotation processes, this sulphide promotes the absorption of oil on the surface of ores by sulphiding. Also used as a hair-remover (in tanning or in toilet preparations), and as a parasiticide.

(b) **Sodium hydrogen sulphide** (hydrosulphide) (NaHS). Obtained by the action of hydrogen sulphide on the neutral sulphide. Colourless crystals, soluble in water. Used as a de-hairing agent in tanning, in dyeing, as a copper absorbent in nickel refining, as a reducing agent in organic synthesis, etc.

(2) **Zinc sulphide** (ZnS). Artificial zinc sulphide is obtained in the hydrated form by precipitating an alkali zincate by means of sodium sulphide. White paste or powder often containing zinc oxide or other impurities. It is used, either pure or mixed with magnesia, as a pigment in the rubber industry. Co-precipitated with barium sulphate it forms lithopone (**heading 32.06**). Activated with silver, copper, etc., it gives a luminophore of **heading 32.06**. It should, however, be noted that zinc sulphide is classified in this heading **only when unmixed and non-activated**.

The heading **excludes** zinc blende (a natural zinc sulphide) (**heading 26.08**), and wurzite (also a natural zinc sulphide) (**heading 25.30**).

(3) **Cadmium sulphide** (CdS). The artificial sulphide is obtained by precipitation from a cadmium salt (e.g., sulphate) solution by hydrogen sulphide or an alkali sulphide. Yellow pigment (cadmium yellow) used by artists and in the manufacture of anti-glare glass; co-precipitated with barium sulphate, it forms the bright yellow colouring matter employed in paints or ceramics (**heading 32.06**).

The heading **excludes** natural cadmium sulphide (greenockite) (**heading 25.30**).

(4) **Ammonium hydrogen sulphide** (ammonium hydrosulphide) (NH_4.HS). Crystalline flakes or needles; very volatile. Used in photography and in organic synthesis.

(5) **Calcium sulphide** (CaS). Obtained by calcining a mixture of calcium sulphate and carbon. Greyish or yellowish masses, sometimes luminescent, almost insoluble in water. Often contains sulphate or other impurities. Used either alone, or treated with arsenous oxide or with lime for de-hairing hides. Used also as a hair-remover in toilet preparations, as a microbicide in medicine, in metallurgy and in the preparation of luminescent paints.

(6) **Iron sulphides**. The most important artificial iron sulphide is the ferrous sulphide (FeS) obtained by fusion of a mixture of sulphur and iron filings. Blackish plates, sticks or lumps, with a metallic glint. Used in the manufacture of hydrogen sulphide and in ceramics.

Natural iron sulphides are **excluded** - see **heading 25.02** (unroasted pyrites), or **71.03** or **71.05** (marcasite). Natural double sulphides of iron with arsenic (mispickel) or copper (bornite, chalcopyrite) fall in **headings 25.30** and **26.03**, respectively.

(7) **Strontium sulphide** (SrS). Greyish product, turning yellow on contact with air. Used as a hair-remover in the tanning industry, in cosmetic products and in the preparation of luminescent paints.

(8) **Tin sulphides**. Artificial stannic sulphide (tin disulphide) (SnS_2) is obtained by heating a mixture of sulphur and ammonium chloride with a tin oxide or amalgam. Golden yellow flakes or powder, insoluble in water and subliming when heated. Used for bronzing wood, plaster, etc.

(9) **Antimony sulphides**.

(a) **Artificial trisulphide** (Sb_2S_3). The action of an acid on the natural sulphide dissolved in sodium hydroxide gives a red or orange-coloured powder (precipitated trisulphide). Used either alone or mixed with pentasulphide or other products as a pigment in the rubber industry (antimony vermilion, antimony crimson). Melted natural sulphide gives black trisulphide, employed in pyrotechnics, in the manufacture of match head mixtures, of fulminating primers or caps (with potassium chlorate), of flashlight powder for photography (with potassium chromate), etc. Hot treatment with sodium carbonate gives “kermes mineral”, consisting essentially of antimony trisulphide and sodium pyro-antimonate and used in medicine (**heading 38.24**).

(b) **Pentasulphide** (golden antimony sulphide) (Sb_2S_5). Prepared by acidifying a solution of antimony sodium sulphide (Schlippe’s salt). Orange-coloured powder, decomposing in course of time, even in the dark. Used for manufacturing primers, for vulcanising or colouring rubber, and in medicaments for human (expectorant) or veterinary uses.

Natural antimony sulphide (stibnite) and oxysulphide (kermesite) are **excluded** (**heading 26.17**).

(10) **Barium sulphide** (BaS). Obtained by reducing the natural sulphate (barytes, heading 25.11) by means of coal. White powder or lumps when pure, greyish or yellowish when impure. Toxic. Similar uses to strontium sulphide.

(11) **Other sulphides**. These include :

(a) **Potassium sulphides** (**neutral and acid**). Potassium hydrogen sulphide is used in the manufacture of mercaptans.

(b) **Copper sulphides**, used in the preparation of electrodes or of paints resisting the action of sea water; natural copper sulphide (covellite, chalcocite) is **excluded** (**heading 26.03**).

(c) **Lead sulphide**, used in ceramics; natural lead sulphide (galena) is **excluded** (**heading 26.07**).

Natural mercury sulphide (cinnabar, natural vermilion) and artificial mercury sulphides are **excluded** and fall in **headings 26.17** and**28.52**, respectively.

(12) **Polysulphides** which are also classified here, are mixtures of sulphides of the same metal.

(a) **Sodium polysulphide** is obtained by heating sulphur with sodium carbonate or neutral sodium sulphide. Contains mainly sodium disulphide (Na_2S_2), trisulphide and tetrasulphide and impurities (sulphate, sulphite, etc.). It occurs in greenish plates, soluble, oxidising in the air and very hygroscopic; it is kept in well-stoppered containers. Used mainly as a reducing agent in organic synthesis (preparation of sulphur dyes); in flotation processes; in the preparation of ethylene polysulphides, of artificial mercury sulphide, sulphur baths or mixtures for the treatment of scabies.

(b) **Potassium polysulphide** ("liver of sulphur") is used for the same purposes as sodium polysulphide and more particularly for sulphur baths.

The heading also **excludes** the following natural sulphides :

(a) Nickel sulphide (millerite) (**heading 25.30**).

(b) Molybdenum sulphide (molybdenite) (**heading 26.13**).

(c) Vanadium sulphide (patronite) (**heading 26.15**).

(d) Bismuth sulphide (bismuthinite) (**heading 26.17**).

2830.10

- Sodium sulphides

2830.90

- Other

Heading 2831

Dithionites and sulphoxylates.

EXPLANATORY NOTES

28.31 - Dithionites and sulphoxylates.

2831.10 - Of sodium

2831.90 - Other

Dithionites (hydrosulphites) are the salts of dithionous ("hydrosulphurous") acid ($H_2S_2O_4$) which has not been isolated in the free state. They are obtained by reducing (with zinc powder) solutions of hydrogen sulphites saturated with sulphur dioxide. They are reducing agents employed in the chemical, textile or sugar industries, mainly for bleaching.

The most important is **sodium dithionite** ($Na_2S_2O_4$), anhydrous white powder, soluble in water, or hydrated (with 2 H_2O) in colourless crystals. It is used in organic synthesis, in the dyeing industry and for paper-making. It deteriorates rather rapidly, even when crystallised. For certain uses (e.g., as a discharge in the textile industry), sodium dithionite must therefore be stabilised with formaldehyde, sometimes with the addition of zinc oxide or glycerol. It may also be stabilised with acetone.

Dithionites of potassium, calcium, magnesium and zinc, which may be stabilised by similar processes, are products similar to sodium dithionite, with similar properties and uses.

The heading **includes all these stabilised dithionites** and also formaldehyde sulphoxylate which is a similar product.

Sulphites and thiosulphates are **excluded** (**heading 28.32**).

2831.10

- Of sodium

CLASSIFICATION OPINIONS

1. Sodium acetaldehyde sulphoxylate containing about 8 to 10 % sodium sulphite and about 4 to 7 % sodium sulphate, whether or not treated with ammonia.
Adoption : 1961

2831.90

- Other

Heading 2832

Sulphites; thiosulphates.

EXPLANATORY NOTES

28.32 - Sulphites; thiosulphates.

2832.10 - Sodium sulphites

2832.20 - Other sulphites

2832.30 - Thiosulphates

Subject to the **exclusions** mentioned in the introduction to this sub-Chapter, this heading covers :

(A) **Metal sulphites** - salts of sulphurous acid (H_2SO_3) (which exists only in aqueous solution and corresponds to the sulphur dioxide of heading 28.11).

(B) **Metal thiosulphates** - salts of thiosulphuric acid ($H_2S_2O_3$) which does not exist in the pure state.

The heading **excludes** concentrated sulphite lye (**heading 38.04**), and the industrial products known as “hydrosulphites” stabilised by organic substances (**heading 28.31**).

(A) SULPHITES

This heading covers both neutral and acid sulphites.

(1) **Sodium sulphites**. These include sodium hydrogen sulphite ($NaHSO_3$), disodium disulphite ($Na_2SO_3.SO_2$ or $Na_2S_2O_5$) or and sodium sulphite (Na_2SO_3).

(a) **Sodium hydrogen sulphite** (“sodium bisulphite”, sodium acid sulphite) results from the action of sulphur dioxide on an aqueous solution of sodium carbonate. Colourless powder or crystals, rather unstable, with a smell of sulphur dioxide and very soluble in water; also presented in concentrated solution, yellowish in colour. Used as a reducing agent in organic synthesis, in the manufacture of indigo, for bleaching wool or silk, as a vulcanising agent for

the treatment of latex, in tanning, in oenology (as an antiseptic to preserve wine) and to reduce the buoyancy of minerals in flotation processes.

(b) **Disodium disulphite** (sodium metabisulphite, pyrosulphite, dry sulphite and, in some languages, incorrectly referred to as "sodium bisulphite crystals"). Obtained from the hydrogen sulphite; oxidises rather rapidly, especially in a humid atmosphere. Used for the same purposes as the acid sulphite and in viticulture and photography.

(c) **Sodium sulphite** (neutral sodium sulphite), prepared by neutralising a solution of the hydrogen sulphite by means of sodium carbonate. Anhydrous (in powder) or crystallised (with 7 H_2O) colourless, soluble in water. Used in photography, in breweries, for treating rosin, as an antiseptic or bleaching agent, in the manufacture of other sulphites or thiosulphates and of organic dyes, etc.

(2) **Ammonium sulphite** ($(NH_4)_2SO_3.H_2O$). Results from the action of sulphur dioxide on ammonia. Colourless crystals, soluble in water, oxidising in the air. Used in organic synthesis.

(3) **Potassium sulphites**. Appear in the same forms as sodium sulphites.

(a) **Potassium hydrogen sulphite**, crystalline, used in dyeing and in oenology.

(b) **Dipotassium disulphite** (potassium metabisulphite), a white powder or in scales, used in photography, for the carroting of hair in the felt hat industry or as an antiseptic.

(c) **Neutral sulphite**, crystallised (with 2 H_2O) used in textile printing.

(4) **Calcium sulphites**, which include :

(a) **Calcium dihydrogen bis(sulphite)** (calcium bisulphite) ($Ca(HSO_3)_2$), obtained by the action of sulphur dioxide on calcium hydroxide. Used to dissolve lignin in the preparation of chemical pulp, for bleaching (e.g., sponges), as an antichlor and to prevent cloudiness in beer.

(b) **Neutral calcium sulphite** ($CaSO_3$), a white crystalline powder or hydrated needles (with 2 H_2O), sparingly soluble in water, efflorescing in the air. Used in medicine or in oenology.

(5) **Other sulphites**. These include magnesium sulphites (same uses as calcium sulphites), zinc sulphite (antiseptic and mordant), or chromium hydrogen sulphite (mordant).

(B) THIOSULPHATES

(1) **Ammonium thiosulphate** ($(NH_4)_2S_2O_3$). Prepared from sodium thiosulphate. Colourless crystals, deliquescent and soluble in water. Used for photographic fixing baths and as an antiseptic.

(2) **Sodium thiosulphate** ($Na_2S_2O_3.5H_2O$). Results from the action of sulphur on a solution of sodium sulphite. In the form of colourless crystals, very soluble in water, unaffected by air. Used as a fixing agent in photography, as an antichlor in the bleaching of textiles or paper, in chrome tanning and in organic synthesis.

(3) **Calcium thiosulphate** ($CaS_2O_3.H_2O$). Prepared by oxidation of calcium sulphide. White crystalline powder, soluble in water. Used in medicine and in the preparation of other thiosulphates.

(4) **Other thiosulphates**. These include : barium thiosulphate (pigment with a pearly sheen); aluminium thiosulphate (used in organic synthesis); lead thiosulphate (used in the preparation of phosphorus-free matches).

2832.10

- Sodium sulphites

2832.20

- Other sulphites

2832.30

- Thiosulphates

Heading 2833

Sulphates; alums; peroxosulphates (persulphates).

EXPLANATORY NOTES

28.33 - Sulphates; alums; peroxosulphates (persulphates).

- Sodium sulphates :

2833.11 - - Disodium sulphate

2833.19 - - Other

- Other sulphates :

2833.21 - - Of magnesium

2833.22 - - Of aluminium

2833.24 - - Of nickel

2833.25 - - Of copper

2833.27 - - Of barium

2833.29 - - Other

2833.30 - Alums

2833.40 - Peroxosulphates (persulphates)

(A) SULPHATES

Subject to the **exclusions** mentioned in the introduction to this sub-Chapter, this heading covers the metal salts of sulphuric acid (H_2SO_4) (heading 28.07), but **excludes** mercury sulphates which fall in **heading 28.52,** ammonium sulphate which, even pure, falls in **heading 31.02** or **31.05** and potassium sulphate, which, whether or not pure, falls in **heading 31.04** or **31.05**.

(1) **Sodium sulphates** include :

(a) **Disodium sulphate** (neutral sulphate) (Na_2SO_4). Occurs in the anhydrous or hydrated state as a powder or in large transparent crystals, effloresing in the air and dissolving in water with a fall in temperature. The decahydrate ($Na_2SO_4.10H_2O$) is known as Glauber's salt. Impure forms of disodium sulphate (90 - 99 % purity), generally obtained as by-products of various manufacturing processes, are often described as "salt cake" and are classified in this heading. Disodium sulphate is used as an adjuvant in dyeing; as a flux in glass-making to obtain vitrifiable mixtures (manufacture of bottle glass, crystal and optical glass); in tanning for preserving hides; in paper-making (preparation of certain chemical pulps); as a sizing material in the textile industry; in medicine as a purgative, etc.

Natural sodium sulphates (glauberite, bloedite, reussin, astrakhanite) are **excluded** (**heading 25.30**).

(b) **Sodium hydrogen sulphate** (acid sulphate) ($NaHSO_4$). This residual salt of the manufacture of nitric acid occurs in deliquescent fused, white masses. Used instead of sulphuric acid, in particular for pickling metal, regenerating rubber, in the metallurgy of antimony or tantalum and as a weed-killer.

(c) **Disodium disulphate** (sodium pyrosulphate) ($Na_2S_2O_7$).

(2) **Magnesium sulphate**. This heading covers artificial magnesium sulphate ($MgSO_4.7H_2O$) (Epsom salts, Seidlitz salts) obtained by purifying kieserite, or by the action of sulphuric acid on dolomite. Colourless crystals, slightly efflorescing in air, soluble in water. Used as a filler in sizing textiles, in tanning, for fire-proofing and as a purgative.

The heading **excludes** natural magnesium sulphate (kieserite) (**heading 25.30**).

(3) **Aluminium sulphate** ($Al_2(SO_4)_3$). Obtained by treating bauxite, or natural aluminium silicates, with sulphuric acid; the impurities are mainly iron compounds. In the hydrated state (with 18 H_2O) it appears in white crystals, soluble in water, which can either be crumbly and easily scratched with a fingernail or hard and brittle, according to the degree of concentration of the solution employed; on gentle heating it melts in its water of crystallisation, giving finally the anhydrous sulphate. Used in dyeing as a mordant; in tanning for preserving hides and for alum tanning; in paper-making as a size for paper pulp; in the dyestuffs industry for making lakes, methylene blue or other thiazode dyestuffs. Used also for clarifying tallow, purifying industrial water, in fire extinguishers, etc.

Basic aluminium sulphate, used in dyeing, is also classified here.

(4) **Chromium sulphates**. The best known is chromic sulphate ($Cr_2(SO_4)_3$), prepared from chromium nitrate and sulphuric acid. Crystalline powder, violet or green, in aqueous solution. Used as a mordant in dyeing (chrome mordanting) or in tanning (chrome tanning). The main products used for the latter purpose are rather unstable solutions of basic chromium sulphates

derived from chromic sulphate or from chromous sulphate ($CrSO_4$). These sulphates are included here.

(5) **Nickel sulphates**. The most common of these sulphates has the formula $NiSO_4$. Anhydrous in yellow crystals, or hydrated in emerald green crystals (with 7 H_2O) or bluish crystals (with 6 H_2O); soluble in water. Used in electrolytic nickel-plating, as a mordant in dyeing, in the preparation of gas masks and as a catalyst.

(6) **Copper sulphates**.

(a) **Cuprous sulphate** (Cu_2SO_4). Catalyst used in the preparation of synthetic ethanol.

(b) **Cupric sulphate** ($CuSO_4.5H_2O$). By-product of electrolytic copper refining; also obtained by treating copper waste or scrap with a weak solution of sulphuric acid. Blue crystals or crystalline powder, soluble in water. It turns into a white anhydrous sulphate when calcinated, which absorbs water with avidity. Used as a fungicide in agriculture (see Explanatory Note to heading 38.08); for preparing spraying mixtures; to prepare cuprous oxide or inorganic copper colours; in dyeworks (for dyeing silk or wool black, purple or lilac); in electrolytic copper refining or copper-plating; as a flotation regulator (for restoring the natural buoyancy of ores); as an antiseptic, etc.

Natural hydrated copper sulphate (brochantite) is **excluded** (**heading 26.03**).

(7) **Zinc sulphate** ($ZnSO_4.7H_2O$). Obtained by the action of dilute sulphuric acid on zinc, zinc oxide, zinc carbonate or roasted blende. White vitreous masses or in needle-shaped crystals. Used for lessening the natural buoyancy of ores in flotation processes; as a mordant in dyeing; for zinc-plating by electrolysis; as an antiseptic; for preserving wood; in the manufacture of driers, of lithopone (**heading 32.06**), luminophores (zinc sulphate activated by copper) (**heading 32.06**) and of various other zinc compounds.

(8) **Barium sulphate**. This heading covers artificial or precipitated barium sulphate ($BaSO_4$) obtained by precipitating a solution of barium chloride with sulphuric acid or an alkali sulphate. Occurs as a white powder, very heavy (specific gravity about 4.4) and insoluble in water, or in a thick paste. Used as a white pigment, as a filler for sizing textiles and in the preparation of rubber, coated paper, paperboard, lutings, lakes, colours, etc. It is impervious to X-rays and is therefore used (pure) in radiography.

Natural barium sulphate (barytes, heavy spar) is **excluded** (**heading 25.11**).

(9) **Iron sulphates**.

(a) **Ferrous sulphate** ($FeSO_4$). Obtained by treating iron shavings with dilute sulphuric acid or as a by-product from the manufacture of titanium dioxide; it often contains impurities such as copper and ferric sulphates and arsenic. Very soluble in water; occurs mainly in the hydrated state (generally with 7 H_2O) in light green crystals and turns brown on exposure to air; the action of heat transforms them into white anhydrous sulphate. Aqueous solutions are green but turn brownish on exposure to air. Ferrous sulphate is used for preparing inks (iron inks), colours (Prussian blue), and the mixture (with slaked lime and sawdust) used for purifying coal gas; in dyeing; as a disinfectant, an antiseptic and a herbicide.

(b) **Ferric sulphate** ($Fe_2(SO_4)_3$). Prepared from ferrous sulphate. Powder or as brownish slabs. Very soluble in water, with which it forms a white hydrate (with 9 H_2O). Used for purifying natural waters or sewage, for coagulating blood in slaughterhouses, in iron-tanning and as a fungicide. As it lessens the buoyancy of ores, it is used as a flotation regulator. Used also as a mordant in dyeing and in the electrolytic production of copper or zinc.

(10) **Cobalt sulphate** ($CoSO_4.7H_2O$). Prepared from cobaltous oxide and sulphuric acid; red crystals soluble in water. Used for electrolytic cobalt-plating, as a ceramic colour, as a catalyst and for preparing precipitated cobalt resinates (driers).

(11) **Strontium sulphate**. Artificial strontium sulphate ($SrSO_4$) precipitated from chloride solution, is a white powder, sparingly soluble in water. Used in pyrotechnics, ceramics and the preparation of various strontium salts.

Native strontium sulphate (celestine) is **excluded** (**heading 25.30**).

(12) **Cadmium sulphate** ($CdSO_4$). Colourless crystals, soluble in water, either anhydrous or in the hydrated state (with 8 H_2O). Used in the manufacture of cadmium yellow (cadmium sulphide) or other colouring matters, and of medicinal products; in standard electric cells (Weston cells); in electroplating and in dyeing.

(13) **Lead sulphates**.

(a) **Artificial lead sulphate** ($PbSO_4$). Obtained from lead nitrate or acetate by precipitation with sulphuric acid; white powder or crystals, insoluble in water. Used in the manufacture of lead salts.

(b) **Basic lead sulphate**. Prepared as greyish powder by heating together litharge, sodium chloride and sulphuric acid. May also be obtained by a metallurgical process, in which case it takes the form of a white powder. Used in the preparation of pigments, mastics and mixtures for the rubber industry.

Natural lead sulphate (anglesite) is **excluded** (**heading 26.07**).

(B) ALUMS

Alums are hydrated double sulphates containing a sulphate of a trivalent metal (aluminium, chromium, manganese, iron or indium) and a sulphate of a monovalent metal (alkali sulphate or ammonium sulphate). Used in dyeing, as antiseptics and in the preparation of chemicals, although there is a tendency to replace them by simple sulphates.

(1) **Aluminium alums**.

(a) **Aluminium potassium sulphate** (ordinary alum or potassium alum) ($Al_2(SO_4)_3.K_2SO_4.24H_2O$). Obtained from natural alunite (alum stone) (heading 25.30), (i.e., basic aluminium-potassium sulphate mixed with aluminium hydroxide). Alum is also prepared from the two constituent sulphates. White crystalline solid, soluble in water. On calcination it gives a light white powder, anhydrous and crystalline (calcined alum). Used for the same purposes as aluminium sulphate, in particular in the preparation of lakes, in dyeing and in tanning (alum-tanning). Used also in photography, toilet preparations, etc.

(b) **Aluminium ammonium sulphate** (ammonium alum) ($Al_2(SO_4)_3.(NH_4)_2SO_4.24H_2O$). Colourless crystals, soluble in water especially when hot. Used in the preparation of pure aluminium oxide and in medicine.

(c) **Aluminium sodium sulphate** (sodium alum) ($Al_2(SO_4)_3.Na_2SO_4.24H_2O$). Similar to potassium alum, occurs in efflorescent crystals, soluble in water. Used as a mordant in dyeing.

(2) **Chromium alums**.

(a) **Chromium potassium sulphate** (chrome alum) ($Cr_2(SO_4)_3.K_2SO_4.24H_2O$). Obtained by reducing a solution of potassium dichromate in sulphuric acid with sulphur dioxide. Forms purplish-red crystals, soluble in water and effloresing in the air. Used in dyeing as a mordant, in tanning (chrome-tanning), in photography, etc.

(b) **Ammonium chromium sulphate** (chrome ammonium alum). Crystalline blue powder, used in tanning and in ceramics.

(3) **Iron alums. Ammonium iron bis (sulphate)** ($(NH_4)_2SO_4.Fe_2(SO_4)_3.24H_2O$), in purple crystals dehydrating and turning white in the air; **iron (III) potassium sulphate** also in purple crystals. Both are used in dyeing.

(C) PEROXOSULPHATES (PERSULPHATES)

The name peroxosulphates (persulphates) is reserved for the salts of the peroxosulphuric (persulphuric) acids of heading 28.11. They are fairly stable in the dry state but in aqueous solution they are decomposed on heating. Powerful oxidising agents.

(1) **Diammonium peroxodisulphate** ($(NH_4)_2S_2O_8$). Prepared by electrolysing concentrated solutions of ammonium sulphate and sulphuric acid; colourless crystals, soluble in water, decomposed by moisture and heat. Used in photography; in textile bleaching or dyeing processes; in the preparation of soluble starches; in the preparation of other peroxodisulphates and of certain electrolytic baths; in organic synthesis, etc.

(2) **Disodium peroxodisulphate** ($Na_2S_2O_8$). Colourless crystals, very soluble in water. Used as a disinfectant, in bleaching, as a depolarising agent (batteries) and for engraving copper alloys.

(3) **Dipotassium peroxodisulphate** ($K_2S_2O_8$). Colourless crystals, very soluble in water. Used for bleaching, in soap-making, in photography, as an antiseptic, etc.

Natural calcium sulphates (gypsum, anhydrite, karstenite) are **excluded** (**heading 25.20**).

2833.1

- Sodium sulphates :

2833.11

-- Disodium sulphate

CLASSIFICATION OPINIONS

1. Free flowing white powder containing more than 98.5 % by weight of anhydrous disodium sulphate. It is obtained from a mixture of mirabilite (disodium sulphate decahydrate) and thenardite

(anhydrous disodium sulphate) formed in the open air as a result of natural dehydration, which is collected and sent to a factory where it goes through melting (removing water), centrifugation and drying processes.
Application of GIRs 1 and 6.
See also Opinion 2530.90/2.
Adoption : 2016

2833.19

-- Other
2833.2

- Other sulphates :
2833.21

-- Of magnesium
2833.22

-- Of aluminium
2833.24

-- Of nickel
2833.25

-- Of copper
2833.27

-- Of barium
2833.29

-- Other
2833.30

- Alums
2833.40

- Peroxosulphates (persulphates)
Heading 2834

Nitrites; nitrates.
EXPLANATORY NOTES

28.34 - Nitrites; nitrates.

2834.10 - Nitrites

- Nitrates :

2834.21 - - Of potassium

2834.29 - - Other

(A) NITRITES

Subject to the **exclusions** mentioned in the introduction to this sub-Chapter, this heading includes nitrites, metal salts of nitrous acid (HNO_2) (heading 28.11).

(1) **Sodium nitrite** ($NaNO_2$). Obtained by reducing sodium nitrate with lead; also during the manufacture of litharge. Colourless crystals, hygroscopic and very soluble in water. Used as an oxidising agent in vat dyes; in organic synthesis; for pickling meat; in photography; as a rat-poison, etc.

(2) **Potassium nitrite** (KNO_2). Prepared by the same method as sodium nitrite, or by the action of sulphur dioxide on a mixture of calcium oxide and potassium nitrate. A white crystalline powder or in yellowish sticks; often containing other salts as impurities. Soluble in water, very deliquescent and deteriorating in the air. Used for similar purposes to sodium nitrite.

(3) **Barium nitrite** ($Ba(NO_2)_2$). Crystals used in pyrotechnics.

(4) **Other nitrites**. These include ammonium nitrite, unstable and explosive; used in solution for the production of nitrogen in laboratories.

The heading **excludes** cobaltinitrites (**heading 28.42**).

(B) NITRATES

Subject to the **exclusions** mentioned in the introduction to this sub-Chapter, this heading covers nitrates, metal salts of nitric acid (heading 28.08), **other than** ammonium nitrate and sodium nitrate, whether or not pure (**heading 31.02** or **31.05**). (See other exclusions below.)

Basic nitrates are also classified here.

(1) **Potassium nitrate** (KNO_3) (also called saltpetre or nitre). Obtained from sodium nitrate and potassium chloride. Occurs in colourless crystals, in vitreous masses or as a white crystalline powder, soluble in water and hygroscopic when impure. Similar uses to sodium nitrate; also for preparing gunpowder, chemical primers, fireworks, matches and metallurgical fluxes.

(2) **Bismuth nitrates**.

(a) **Neutral bismuth nitrate** ($Bi(NO_3)_3.5H_2O$). Results from the action of nitric acid on bismuth; large crystals, colourless, deliquescent. Used for preparing bismuth oxides or salts and certain varnishes.

(b) **Basic bismuth nitrate** ($BiNO_3(OH)_2$). Obtained from the neutral bismuth nitrate; pearly white powder, insoluble in water. Used in medicine (for treating gastro-intestinal ailments); in ceramics (iridescent colours); in cosmetics; in the preparation of fulminate primers, etc.

(3) **Magnesium nitrate** ($Mg(NO_3)_2.6H_2O$). Colourless crystals, soluble in water. Used in pyrotechnics, in the preparation of refractory products (with magnesium oxide), of incandescent gas mantles, etc.

(4) **Calcium nitrate** ($Ca(NO_3)_2$). Obtained by treating crushed limestone with nitric acid. White deliquescent mass, soluble in water, alcohol and acetone : used in pyrotechnics, in the manufacture of explosives, matches, fertilisers, etc.

(5) **Ferric nitrate** ($Fe(NO_3)_3.6$ or $9\ H_2O$). Blue crystals. Used as a mordant in dyeing and in printing (alone or combined with the acetate). The pure aqueous solution is used in medicine.

(6) **Cobalt nitrate** ($Co(NO_3)_2.6H_2O$). Purple, reddish or brownish crystals, soluble in water, deliquescent. Used in the preparation of cobalt blues or yellow and of sympathetic inks; in ceramic decoration; for electrolytic cobalt-plating, etc.

(7) **Nickel nitrate** ($Ni(NO_3)_2.6H_2O$). Water-soluble, deliquescent green crystals. Used in the ceramic industry (brown pigments); in dyeing (as a mordant); in electrolytic nickel-plating; for obtaining nickel oxide or for the preparation of the pure nickel catalyst.

(8) **Cupric nitrate** ($Cu(NO_3)_2$). Copper dissolved in nitric acid gives, by crystallisation, copper nitrate (with 3 or 6 H_2O) according to temperature). Blue or green crystals, soluble in water, hygroscopic, poisonous. Used in pyrotechnics; in the dyestuff industry; in textile dyeing or printing (mordant); in the preparation of cupric oxide and photographic papers; in electroplating, to give metals a patina, etc.

(9) **Strontium nitrate** ($Sr(NO_3)_2$). The action of strontium oxide or sulphide on nitric acid gives the anhydrous salt in the warm, and the hydrated salt (with 4 H_2O) in the cold. Colourless crystalline powder, deliquescent, soluble in water, decomposed by heat. Used in pyrotechnics for red lights; also in the preparation of matches.

(10) **Cadmium nitrate** ($Cd(NO_3)_2.4H_2O$). Prepared from the oxide. Colourless needles, soluble in water and deliquescent. Used as a colouring matter in ceramics or glass-making.

(11) **Barium nitrate** ($Ba(NO_3)_2$). Prepared from natural carbonate (witherite) (heading 25.11). Colourless or white crystals or crystalline powder, soluble in water, poisonous. Used in pyrotechnics for green lights; in the manufacture of explosives, of optical glass, of ceramic glazes, of barium salts or of nitrates, etc.

(12) **Lead nitrate** ($Pb(NO_3)_2$). Lead nitrate is obtained as a by-product of the preparation of lead dioxide by the action of nitric acid on red lead. Colourless crystals, soluble in water, poisonous. Used in pyrotechnics (yellow lights); in the manufacture of matches, of explosives and of certain colouring matters; in tanning; in photography and lithography; for preparing lead salts and as an oxidising agent in organic synthesis.

Apart from the **exclusions** mentioned previously, the following products are also **excluded** :

(a) Mercury nitrates (**heading 28.52**).

(b) Acetonitrates (**Chapter 29**) (e.g., iron acetonitrate, used as a mordant).

(c) Double salts, whether or not pure, of ammonium sulphate and ammonium nitrate (**heading 31.02** or **31.05**).

(d) Explosives consisting of mixtures of metal nitrates (**heading 36.02**).

2834.10

- Nitrites

2834.2

- Nitrates :

2834.21

-- Of potassium
2834.29

-- Other
Heading 2835

Phosphinates (hypophosphites), phosphonates (phosphites) and phosphates; polyphosphates, whether or not chemically defined.

EXPLANATORY NOTES

28.35 - Phosphinates (hypophosphites), phosphonates (phosphites) and phosphates; polyphosphates, whether or not chemically defined.

2835.10 - Phosphinates (hypophosphites) and phosphonates (phosphites)

- Phosphates :

2835.22 - - Of mono- or disodium

2835.24 - - Of potassium

2835.25 - - Calcium hydrogenorthophosphate (“dicalcium phosphate”)

2835.26 - - Other phosphates of calcium

2835.29 - - Other

- Polyphosphates :

2835.31 - - Sodium triphosphate (sodium tripolyphosphate)

2835.39 - - Other

(A) PHOSPHINATES (HYPOPHOSPHITES)

Subject to the **exclusions** mentioned in the introduction to this sub-Chapter, this heading includes phosphinates (hypophosphites), metal salts of phosphinic (hypophosphorous) acid (H_3PO_2) (heading 28.11).

These are soluble in water and decompose on heating with evolution of hydrogen phosphide which ignites spontaneously. Alkali phosphinates are reducing agents.

The most important are :

(I) **Sodium phosphinate (hypophosphite)** ($NaPH_2O_2$), in white tablets or crystalline powder, hygroscopic.

(II) **Calcium phosphinate (hypophosphite)** ($Ca(PH_2O_2)_2$), colourless crystals or a white powder (obtained by the action of white phosphorus on boiling milk of lime).

Both these products are used in medicine as tonics or restoratives.

(III) **Ammonium, iron or lead phosphinates (hypophosphites)**.

(B) PHOSPHONATES (PHOSPHITES)

Subject to the **exclusions** mentioned in the introduction to this sub-Chapter, this heading includes phosphonates (phosphites), metal salts (neutral or acid) of phosphonic (phosphorous) acid (H_3PO_3) (heading 28.11).

The most important phosphonates are those of ammonium, sodium, potassium or calcium, soluble in water and acting as reducing agents.

(C) PHOSPHATES AND POLYPHOSPHATES

Subject to the **exclusions** mentioned in the introduction to this sub-Chapter, this heading includes metal phosphates and polyphosphates derived from the acids of heading 28.09, i.e. :

(I) **Phosphates** - metal salts of phosphoric acid (H_3PO_4). These are the most important and are often called "phosphates" without further qualification. The salts formed by phosphoric acid with monovalent metals may be mono-, di- or tribasic (with monovalent metals they contain one, two or three metal atoms); there are, for example, three sodium phosphates : sodium dihydrogenorthophosphate (monobasic phosphate (NaH_2PO_4)), disodium hydrogen-orthophosphate (dibasic phosphate (Na_2HPO_4)) and trisodiumorthophosphate (tribasic phosphate (Na_3PO_4)).

(II) **Pyrophosphates** (diphosphates) - metal salts of pyrophosphoric acid ($H_4P_2O_7$).

(III) **Metaphosphates** - metal salts of metaphosphoric acids $(HPO_3)_n$.

(IV) **Other polyphosphates** - metal salts of polyphosphoric acids having a high degree of polymerisation.

The most important phosphates and polyphosphates are :

(1) **Ammonium phosphates and polyphosphates**.

(a) **Triammonium orthophosphate** ($(NH_4)_3PO_4$), stable in aqueous solution only.

(b) **Ammonium polyphosphates**. There are several ammonium polyphosphates having a degree of polymerisation ranging from a few units to a few thousand.

They occur as white crystalline powders, soluble or insoluble in water; they are used in the preparation of fertilisers, in fire-proofing additives for varnish or in fire-proofing preparations.

They remain in this heading even though their degree of polymerisation is not defined.

Ammonium dihydrogenorthophosphate (monoammonium phosphate) and diammonium hydrogenortho- phosphate (diammonium phosphate), whether or not pure, and intermixtures thereof, are **excluded** from this heading (**heading 31.05**).

(2) **Sodium phosphates and polyphosphates**.

(a) **Sodium dihydrogenorthophosphate** (monobasic phosphate) ($NaH_2PO_4.2H_2O$). Colourless crystals, soluble in water, which under the action of heat lose water (pulverised phosphate) to become pyrophosphate and, finally, metaphosphate. Used in medicine, in the man-made textiles industry, as a coagulant of protein substances, in electroplating, etc.

(b) **Disodium hydrogenorthophosphate** (dibasic phosphate) (Na_2HPO_4), anhydrous (white powder) or crystallised (with 2, 7 or 12 H_2O). Soluble in water. Used as a size for silk (with tin chloride), for fire-proofing fabrics, wood or paper, as a textile mordant, in chrome-tanning, in the manufacture of optical glass, for glazing porcelain, in the preparation of baking powder, in the manufacture of colouring matters and soldering fluxes, in electro-plating, in medicine, etc.

(c) **Trisodium orthophosphate** (tribasic phosphate) ($Na_3PO_4.12H_2O$). Colourless crystals, soluble in water, releasing part of their water of crystallisation on warming. Used as a flux for dissolving metal oxides, in photography, as a detergent, for softening industrial water and descaling boilers, to clarify sugar and spirits, in tanning, in medicine, etc.

(d) **Sodium pyrophosphates** (sodium diphosphates). Tetrasodium pyrophosphate (neutral diphosphate) ($Na_4P_2O_7$). Non-hygroscopic white powder, soluble in water. Used in laundering, in the preparation of detergents, of mixtures to prevent the coagulation of blood, of refrigerating products and of disinfectants, in cheese manufacture, etc.

Disodium dihydrogenpyrophosphate (acid diphosphate) ($Na_2H_2P_2O_7$), which has the same appearance, is used as a flux in enamelling, for precipitating the casein from milk, and in the preparation of baking powder, of certain malted milk powders, etc.

(e) **Sodium triphosphate** ($Na_5P_3O_{10}$) (pentasodium triphosphate also known as sodium tripolyphosphate). White crystalline powder; used as a water-softener, as an emulsifier or to preserve foodstuffs.

(f) **Sodium metaphosphates** (basic formula $(NaPO_3)_n$). Two metaphosphates meeting this description are sodium cyclo-triphosphate and sodium cyclo-tetraphosphate.

(g) **Sodium polyphosphates** having a high degree of polymerisation. Some sodium polyphosphates are incorrectly called sodium metaphosphates. There are several linear sodium polyphosphates having a high degree of polymerisation ranging from a few dozen to a few hundred units. Although they generally occur as polymers having an unspecified degree of polymerisation, they remain in this heading.

These include :

The product incorrectly known as sodium hexametaphosphate (a polymeric mixture of formula $((NaPO_3)_n)$, also known as Graham's salt. Vitreous substance or white powder, soluble in water. In aqueous solution, this product sequesters the calcium and the magnesium contained in the water, hence its use as a water-softener. Also used in the preparation of detergents

and casein glues, to emulsify essential oils, in photography, in the manufacture of processed cheese, etc.

(3) **Potassium phosphates**. The best known is potassium dihydrogenorthophosphate (monopotassium phosphate) (KH_2PO_4). Obtained by treating phosphated chalk with orthophosphoric acid and potassium sulphate. Colourless crystals, soluble in water. Used as a yeast nutrient and as a fertiliser.

(4) **Calcium phosphates**.

(a) **Calcium hydrogenorthophosphate** ("dicalcium phosphate") ($CaHPO_4.2H_2O$). Obtained by the action of an acidulated calcium chloride solution on disodium hydrogenorthophosphate. White powder, insoluble in water. Used as a fertiliser; as a mineral supplement to animal fodder, and in the manufacture of glass, medicaments, etc.

Calcium hydrogenorthophosphate containing not less than 0.2 % by weight of fluorine calculated on the dry anhydrous product is **excluded** (**heading 31.03** or **31.05**).

(b) **Calcium tetrahydrogenbis (orthophosphate)** (monocalcium phosphate) ($CaH_4(PO_4)_2$. 1 or 2 H_2O). Obtained by treating bones with sulphuric acid or hydrogen chloride. Occurs in thick solutions; releases its water of crystallisation under the action of heat. It is the only calcium phosphate soluble in water. Used in the preparation of baking powders, as a medicament, etc.

(c) **Tricalcium bis(orthophosphate)** (neutral calcium phosphate) ($Ca_3(PO_4)_2$). The heading covers precipitated calcium phosphate (i.e., ordinary calcium phosphate). Obtained by treating the tricalcium phosphate contained in bones, first with hydrochloric acid and then with sodium hydroxide, or by precipitating a solution of trisodium orthophosphate by means of calcium chloride in presence of ammonia. Amorphous white powder, odourless and insoluble in water. Used as a mordant in dyeing; to clarify syrups; for pickling metals; in the manufacture of glass or pottery; in the preparation of phosphorus and medicaments (e.g., lactophosphates, glycerophosphates), etc.

Natural calcium phosphate is **excluded** (**heading 25.10**).

(5) **Aluminium phosphate**. Artificial aluminium orthophosphate ($AlPO_4$), prepared from trisodium orthophosphate and aluminium sulphate, occurs as a white, greyish or pinkish powder. Used as a flux in ceramics, for sizing silk (with tin oxide), and in the preparation of dental cements.

Natural aluminium phosphate (wavellite) is **excluded** (**heading 25.30**).

(6) **Manganese phosphate** ($Mn_3(PO_4)_2.7H_2O$). Obtained from manganous chloride and phosphoric acid. It is a purple powder which, alone or mixed with other products, constitutes Nuremberg violet, used by artists and in enamels. Associated with ammonium phosphate, it forms Burgundy violet.

(7) **Cobalt phosphates**. Tricobalt bis (orthophosphateor) ($Co_3(PO_4)_2$.2 or 8 H_2O) is prepared from sodium orthophosphate and cobalt acetate. Amorphous pink powder, insoluble in water. When heated with aluminium oxide, gives Thenard's blue used in enamels. Associated with aluminium phosphate, it is used in the preparation of cobalt purple.

(8) **Other phosphates**. These include phosphates of barium (opacifier), chromium (ceramic colours), zinc (ceramic colours, dental cements, fermentation control, medicine), iron (medicine) and copper (ceramic colours).

The heading also **excludes** certain phosphates, viz. :

(a) Natural calcium phosphates, apatite and natural aluminium calcium phosphates (**heading 25.10**).

(b) Other natural mineral phosphates of **Chapter 25** or **26**.

(c) Ammonium dihydrogenorthophosphate (monoammonium phosphate) and diammonium hydrogenorthophosphate (diammonium phosphate), whether or not pure (**heading 31.05**).

(d) Precious and semi-precious stones (**heading 71.03** or **71.05**).

2835.10

- Phosphinates (hypophosphites) and phosphonates (phosphites)

2835.2

- Phosphates :

2835.22

-- Of mono- or disodium

2835.24

-- Of potassium

2835.25

-- Calcium hydrogenorthophosphate («dicalcium phosphate»)

2835.26

-- Other phosphates of calcium

2835.29

-- Other

2835.3

- Polyphosphates :

2835.31

-- Sodium triphosphate (sodium tripolyphosphate)

2835.39

-- Other

Heading 2836

Carbonates; peroxocarbonates (percarbonates); commercial ammonium carbonate containing ammonium carbamate.

EXPLANATORY NOTES

28.36 - Carbonates; peroxocarbonates (percarbonates); commercial ammonium carbonate containing ammonium carbamate.

2836.20 - Disodium carbonate

2836.30 - Sodium hydrogencarbonate (sodium bicarbonate)

2836.40 - Potassium carbonates

2836.50 - Calcium carbonate

2836.60 - Barium carbonate

- Other :

2836.91 - - Lithium carbonates

2836.92 - - Strontium carbonate

2836.99 - - Other

Subject to the **exclusions** mentioned in the introduction to this sub-Chapter, this heading covers :

(I) **Carbonates (neutral carbonates, hydrogencarbonates or bicarbonates, basic carbonates)** - metal salts of the non-isolated carbonic acid (H_2CO_3), whose anhydride (CO_2) falls in heading 28.11.

(II) **Peroxocarbonates** (percarbonates), i.e., carbonates containing an excess of oxygen, such as (Na_2CO_4) (peroxomonocarbonates) or ($Na_2C_2O_6$) (peroxodicarbonates); these result from the action of carbon dioxide on metal peroxides.

(A) CARBONATES

(1) **Ammonium carbonates**. Obtained by heating a mixture of chalk and ammonium sulphate (or chloride), or by combining carbon dioxide with gaseous ammonia in presence of steam.

These processes give **commercial ammonium carbonate** which, in addition to various impurities (chlorides, sulphates, organic matter), contains ammonium hydrogen carbonate and ammonium carbamate (NH_2COONH_4). Commercial ammonium carbonate (included in this heading) occurs in white crystalline masses or in powder, soluble in hot water. It deteriorates in a humid atmosphere with superficial formation of the acid carbonate, but may still be used in this state.

Ammonium carbonate is used as a mordant in textile dyeing or printing; as a detergent for wool; an expectorant in medicine; in the manufacture of smelling salts or of baking powders; in tanning; in the rubber industry; in cadmium metallurgy; in organic synthesis, etc.

(2) **Sodium carbonates**.

(a) **Disodium carbonate** (neutral carbonate) (Na_2CO_3). Improperly called “carbonate of soda” or “commercial soda”; not to be confused with sodium hydroxide (caustic soda) of **heading 28.15**. May be obtained by heating a solution of sodium chloride and ammonia with carbon dioxide, and decomposing by heating the resulting acid sodium carbonate.

Occurs as an anhydrous (or dehydrated) powder, or in hydrated crystals (soda crystals, washing soda) with 10 H_2O, effloresing in the air to give a monohydrate (with 1 H_2O). Used in numerous industries : as a flux in glass-making and in ceramics; in the textile industry; in the manufacture of washing preparations; in dyeing; in the tin-sizing of silk (with stannic chloride); as an anti-scaling product (see Explanatory Note to heading 38.24); in the preparation of sodium hydroxide, sodium salts and indigo; in the metallurgy of tungsten, bismuth antimony or vanadium; in photography; for purifying industrial water (lime soda process) and, mixed with lime, for purifying coal gas.

(b) **Sodium hydrogencarbonate** (acid carbonate, sodium bicarbonate) ($NaHCO_3$). Usually a crystalline powder or white crystals, soluble in water, especially when hot, and liable to deteriorate in a humid atmosphere. Used in medicine (for treating gravel); for manufacturing digestive tablets and aerated beverages; in the preparation of baking powders; in the porcelain industry, etc.

Natural sodium carbonate (natron, etc.) is **excluded** (**heading 25.30**).

(3) **Potassium carbonates**.

(a) **Dipotassium carbonate**(neutral carbonate) (K_2CO_3). Improperly called “potash”; not to be confused with potassium hydroxide (caustic potash) of **heading 28.15**. Obtained from vegetable ashes, residual beetwash and suint but mainly from potassium chloride. White, crystalline masses, very deliquescent, soluble in water. Used in the manufacture of glass or ceramics; for bleaching linen or scouring textiles; to clean paintings; to prepare potassium salts, cyanides, Prussian blue; as an anti-scale preparation, etc.

(b) **Potassium hydrogencarbonate** (acid carbonate, potassium bicarbonate) ($KHCO_3$). Prepared by the action of carbon dioxide on the neutral carbonate; white crystals, soluble in water, slightly deliquescent. Used in fire-extinguishers; in the preparation of baking powders; in medicine and in oenology (anti-acid).

(4) **Precipitated calcium carbonate**. Precipitated calcium carbonate ($CaCO_3$) included in this heading results from the treatment of solutions of calcium salts with carbon dioxide. Used as an extender, in the preparation of toothpastes and face-powder, in medicine (treatment of rickets), etc.

The heading **excludes** natural limestone (**Chapter 25**) and chalk (natural calcium carbonate), whether or not washed and ground (**heading 25.09**) and calcium carbonate in powder form, the particles of which are coated with a water-repellent film of fatty acids (e.g., stearic acid) (**heading 38.24**).

(5) **Precipitated barium carbonate**. Precipitated barium carbonate ($BaCO_3$) included in this heading is obtained from sodium carbonate and barium sulphide. White powder insoluble in water. Used for purifying industrial water; for manufacturing parasiticides, optical glass and pure barium oxide; as a pigment and flux in enamels; in the rubber, paper, soap or sugar industries; in pyrotechnics (green lights).

Natural barium carbonate (witherite) is **excluded** (**heading 25.11**).

(6) **Lead carbonates**.

Artificiallead carbonates, included in this heading, are :

(a) **Neutral lead carbonate** ($PbCO_3$). White powder, crystalline or amorphous, insoluble in water. Used in ceramics and in the manufacture of pigments, mastics and indigo.

(b) **Basic lead carbonates** of the type 2 $PbCO_3.Pb(OH_2)$ in powder, cakes, scales or paste, are known as "white lead". White lead is obtained from lead acetate resulting from the action of acetic acid on sheet lead or litharge; a drying pigment. Used in the manufacture of oil paints, of fluxes, of special mastics (e.g., for steam-pipe joints) and of orange lead. White lead (used alone or mixed with barium sulphate, zinc oxide, gypsum or kaolin) gives Krems white, Venetian white, Hamburg white, etc.

Natural lead carbonate (cerussite) is **excluded** (**heading 26.07**).

(7) **Lithium carbonates**. Neutral lithium carbonate (Li_2CO_3), obtained by precipitating lithium sulphate with sodium carbonate; white crystalline powder, odourless, unaffected by air, sparingly soluble in water. Used in medicine (uric diathesis) and in the preparation of mixtures for artificial mineral waters.

(8) **Precipitated strontium carbonate**. Precipitated strontium carbonate ($SrCO_3$) included in this heading is a very fine white powder, insoluble in water. Used in pyrotechnics (red lights) and in the preparation of iridescent glass, luminous paints, strontium oxide or strontium salts.

Natural strontium carbonate (strontianite) is **excluded** (**heading 25.30**).

(9) **Bismuth carbonate**. Artificial bismuth carbonate included in this heading is essentially basic bismuth carbonate (bismuthyl carbonate) ($(BiO)_2CO_3$), white or yellowish amorphous powder, insoluble in water. Used in medicine and in the manufacture of cosmetics.

Natural bismuth hydrocarbonate (bismutite) is **excluded** (**heading 26.17**).

(10) **Precipitated magnesium carbonate**. Precipitated magnesium carbonate, included in this heading, is a basic, hydrated carbonate. Obtained by double decomposition of sodium carbonate and magnesium sulphate. Odourless white product, practically insoluble in water. Light carbonate is the pharmacists' white magnesia, a laxative often presented in cubes. Heavy carbonate is a granular white powder. Magnesium carbonate is used as a filler for paper or rubber; also used in cosmetics and as a heat-insulating material.

The heading **excludes** natural magnesium carbonate (magnesite) (**heading 25.19**).

(11) **Manganese carbonates**. Artificial carbonate ($MnCO_3$), anhydrous or hydrated (with 1 H_2O included in this heading, is a fine powder, yellow, pinkish or brownish, insoluble in water. Used as a pigment in paints, rubber and ceramics; also in medicine.

Natural manganese carbonate (rhodocrosite or dialogite) is **excluded** (**heading 26.02**).

(12) **Iron carbonates**. Artificial carbonate ($FeCO_3$) anhydrous or hydrated (with 1 H_2O) included in this heading, is obtained by double decomposition of iron sulphate and sodium carbonate. Greyish crystals, insoluble in water, readily oxidised by air, especially when damp. Used in the preparation of iron salts and of medicaments.

Natural iron carbonate (siderite or chalybite) is **excluded** (**heading 26.01**).

(13) **Cobalt carbonates**. Cobalt carbonate ($CoCO_3$), anhydrous or hydrated (with 6 H_2O) is a crystalline powder, pink, red or greenish, and insoluble in water. Used as a pigment in enamels and for preparing cobalt oxides or salts.

(14) **Nickel carbonates**. Normal artificial nickel carbonate ($NiCO_3$) is a light green powder, insoluble in water; used as a pigment in ceramics and in the preparation of nickel oxide. Hydrated basic carbonate, in greenish crystals, is used in ceramics, glass-making, electroplating, etc.

Natural basic nickel carbonate (zaratite) is **excluded** (**heading 25.30**).

(15) **Copper carbonates**. Artificial carbonates, also called artificial malachite or artificial azure copper, are greenish-blue powders, poisonous and insoluble in water, consisting of neutral carbonate ($CuCO_3$) or of basic carbonates of various kinds. Prepared from sodium carbonate and copper sulphate. Used as pigments, pure or mixed (blue or green copper carbonate, mountain blue or green); as insecticides or fungicides; in medicine (astringents and antidotes against phosphorus poisoning); in electroplating; in pyrotechnics, etc.

Natural copper carbonate, hydrated or not (malachite, azurite) is **excluded** (**heading 26.03**).

(16) **Precipitated zinc carbonate**. Precipitated zinc carbonate ($ZnCO_3$) included in this heading is obtained by double decomposition of sodium carbonate and zinc sulphate; white crystalline powder, practically insoluble in water. Used as a pigment in paints, rubber, ceramics and cosmetics.

Natural zinc carbonate (smithsonite) is **excluded** (**heading 26.08**).

(B) PEROXOCARBONATES (PERCARBONATES)

(1) **Sodium peroxocarbonates**. Prepared by treating sodium peroxide, hydrated or not, with liquid carbon dioxide. White powders, dissolving in water to form oxygen and neutral sodium carbonate. Used for bleaching, in the preparation of domestic detergents and in photography.

(2) **Potassium peroxocarbonates**. Obtained by electrolysing at -10 °C or -15 °C a saturated solution of neutral potassium carbonate. White crystals, very hygroscopic, turning blue in a humid atmosphere and soluble in water. Strong oxidising agents sometimes used for bleaching.

(3) **Other peroxocarbonates**, e.g., ammonium or barium peroxocarbonates.

2836.20

- Disodium carbonate

2836.30

- Sodium hydrogencarbonate (sodium bicarbonate)

2836.40

- Potassium carbonates

2836.50

- Calcium carbonate

2836.60

- Barium carbonate

2836.9

- Other :

2836.91

-- Lithium carbonates

2836.92

-- Strontium carbonate

2836.99

-- Other

Heading 2837

Cyanides, cyanide oxides and complex cyanides.

EXPLANATORY NOTES

28.37 - Cyanides, cyanide oxides and complex cyanides.

- Cyanides and cyanide oxides :

2837.11 - - Of sodium

2837.19 - - Other

2837.20 - Complex cyanides

Subject to the **exclusions** mentioned in the introduction to this sub-Chapter, this heading covers cyanides, cyanide oxides (oxycyanides) and complex cyanides.

(A) CYANIDES

Cyanides are the metal salts of hydrogen cyanide (hydrocyanic acid) (HCN) (heading 28.11). These salts are very poisonous.

(1) **Sodium cyanide** (NaCN). Obtained by the action of coke or hydrocarbon gases and atmospheric nitrogen on sodium carbonate, by treating calcium cyanamide (see heading 31.02) with charcoal or by the interaction of pulverised coal, sodium and gaseous ammonia. White powder, plates or paste, crystalline, hygroscopic, very soluble in water and with an odour of bitter almonds. When brought to the melting-point it absorbs oxygen; may also give hydrates. Is presented in sealed vessels. Used in the metallurgy of gold or silver, in gold- or silver-plating, in photography, in lithography, as a parasiticide or insecticide, etc. Also used in the preparation of hydrogen cyanide, other cyanides and indigo; in flotation processes (in particular for separating galena from blende and pyrites from chalcopyrite).

(2) **Potassium cyanide** (KCN). Obtained by similar methods, has similar characteristics and uses to sodium cyanide.

(3) **Calcium cyanide** ($Ca(CN)_2$). White or greyish powder according to its degree of purity, soluble in water. Used for destroying insects, fungus and noxious animals.

(4) **Nickel cyanide** ($Ni(CN)_2$). Hydrated, greenish plates or powder; amorphous, a yellow powder. Used in metallurgy and in electroplating.

(5) **Copper cyanides**.

(a) **Cuprous cyanide** (CuCN). White or greyish powder, insoluble in water. Used for the same purposes as cupric cyanide and in medicine.

(b) **Cupric cyanide** ($Cu(CN)_2$). Amorphous powder, insoluble in water, easily decomposed. Used for plating iron with copper and in organic synthesis.

(6) **Zinc cyanide** ($Zn(CN)_2$). White powder, insoluble in water, used in electroplating.

The heading **excludes** cyanides of mercury (**heading 28.52**) and cyanides of non-metals, such as bromine cyanide (**heading 28.53**).

(B) HEXACYANOFERRATES (II) (FERROCYANIDES)

Hexacyanoferrates (II) (ferrocyanides) are the metal salts of hydrogen hexacyanoferrate (II) ($H_4Fe(CN)_6$) (heading 28.11). Obtained from spent oxide treated with calcium hydroxide or from the action of ferrous hydroxide on cyanides. Decomposed by heat.

The most important are :

(1) **Tetrammonium hexacyanoferrate** ($(NH_4)_4Fe(CN)_6$). Crystals soluble in water. Used for "black nickel-plating" and as a catalyst in the synthesis of ammonia.

(2) **Tetrasodium hexacyanoferrate**($Na_4Fe(CN)_6.10H_2O$). Yellow crystals, unaffected by air, soluble in water, especially when hot. Used for preparing hydrogen cyanide and Prussian blue, thio-indigo, etc.; to case-harden steel; in photography; in dyeing (as a mordant or as a blue tint); in printing (as an oxidising agent in aniline black printing) and as a fungicide.

(3) **Tetrapotassium hexacyanoferrate** ($K_4Fe(CN)_6.3H_2O$). Yellow crystals, efflorescent, soluble in water, especially when hot. Same uses as tetrasodium hexacyanoferrate.

(4) **Dicopper hexacyanoferrate** ($Cu_2Fe(CN)_6.xH_2O$). Purplis brown powder, insoluble in water. Used for preparing Florentine or Van Dyck brown for artists' paints.

(5) **Double hexacyanoferrates** (e.g., dilithium dipotassium hexacyanoferrate $Li_2K_2(Fe(CN)_6).3H_2O$).

The heading **excludes** Prussian blue (Berlin blue) and other pigments based on hexacyanoferrates (**heading 32.06**).

(C) HEXACYANOFERRATES (III) (FERRICYANIDES)

Hexacyanoferrates (III) (ferricyanides) are the salts of hydrogen hexacyanoferrate (III) ($H_3Fe(CN)_6$) (heading 28.11).

The most important are :

(1) **Trisodium hexacyanoferrate** ($Na_3Fe(CN)_6.H_2O$). Obtained by the action of chlorine on hexacyanoferrates (II); garnet-coloured crystals, deliquescent, soluble in water and toxic; in aqueous solution it is greenish and decomposed by light. Used in dyeing and printing; in photography; for case-hardening; in electroplating; and as an oxidising agent in organic synthesis.

(2) **Tripotassium hexacyanoferrate** ($K_3Fe(CN)_6$). Similar appearance to trisodium hexacyanoferrates but less deliquescent. Same uses.

(D) OTHER COMPOUNDS

These include pentacyanonitrosylferrates (II), pentacyanonitrosylferrates (III), cyanocadmates, cyanochromates, cyanomanganates, cyanocobaltates, cyanoniccolates, cyanocuprates, etc., of inorganic bases.

This group includes, for example, **sodium pentacyanonitrosylferrate (III)** (sodium nitroprusside or sodium nitroferricyanide) ($Na_2Fe(CN)_5NO.2H_2O$), used in chemical analysis.

Cyanomercurates are, however, **excluded** (**heading 28.52**).

2837.1

- Cyanides and cyanide oxides :

2837.11

-- Of sodium

2837.19

-- Other

2837.20

- Complex cyanides

Heading 2839

Silicates; commercial alkali metal silicates.

EXPLANATORY NOTES

28.39 - Silicates; commercial alkali metal silicates.

- Of sodium :

2839.11 - - Sodium metasilicates

2839.19 - - Other

2839.90 - Other

Subject to the **exclusions** mentioned in the introduction to this sub-Chapter, this heading covers silicates, metal salts of the various silicic acids, non-isolated in the free state and derived from silicon dioxide (heading 28.11).

(1) **Sodium silicates**. Obtained by melting sand and sodium carbonate or sulphate. Their composition is very diverse (monosilicate, metasilicate, polysilicate, etc.), and their degree of hydration and their solubility vary with the method of manufacture and the degree of purity. Occur in colourless crystals or in powder, in vitreous masses (water-glass) or in more or less viscous aqueous solutions. They deflocculate the gangues of ores and are used as flotation regulators. Also employed as fillers for manufacturing silicate soaps; as binders or adhesives in the manufacture of paperboard or agglomerated coal; as fire-proofing materials; for preserving eggs; in the manufacture of non-putrefying adhesives; as hardening agents in the preparation of corrosion-resistant cements, of lutings or of artificial stones; for the manufacture of washing preparations; for pickling metals; as anti-scaling products (see Explanatory Note to heading 38.24).

(2) **Potassium silicates**. Used for similar purposes to sodium silicates.

(3) **Manganese silicate** ($MnSiO_3$). Orange-coloured powder, insoluble in water. Used as a ceramic colour and as a drier for paints or varnishes.

(4) **Precipitated calcium silicates**. White powders obtained from sodium or potassium silicates. Used for manufacturing fire-proof *pisés*, and dental cements.

(5) **Barium silicates**. White powders used for manufacturing barium oxide and optical glass.

(6) **Lead silicates**. Occur as powder or in vitreous white masses; used as a glaze in ceramics.

(7) **Other silicates**, including commercial alkali metal silicates other than those mentioned above. These include caesium silicate (yellow powder, used in ceramics), zinc silicate (coating of fluorescent tubes), aluminium silicate (manufacture of porcelain and refractory products).

Natural silicates are **excluded** from the heading, e.g. :

(a) Wollastonite (calcium silicate), rhodonite (manganese silicate), phenacite (or phenakite) (beryllium silicate), and titanite (titanium silicate) (**heading 25.30**).

(b) Ores such as copper silicates (chrysocolla, dioptase), zinc hydrosilicate (hemimorphite), and zirconium silicate (zircon) **(headings 26.03**, **26.08** and **26.15**).

(c) The precious stones of **Chapter 71**.

2839.1

- Of sodium :

2839.11

-- Sodium metasilicates

2839.19

-- Other

2839.90

- Other

Heading 2840

Borates; peroxoborates (perborates).

EXPLANATORY NOTES

28.40 - Borates; peroxoborates (perborates).

- Disodium tetraborate (refined borax) :

2840.11 - - Anhydrous

2840.19 - - Other

2840.20 - Other borates

2840.30 - Peroxoborates (perborates)

(A) BORATES

Subject to the **exclusions** mentioned in the introduction to this sub-Chapter, this heading covers borates, metal salts of the various boric acids, principally normal or orthoboric acid (H_3BO_3) (heading 28.10).

Borates obtained by crystallisation or by a chemical process are covered by this heading, as are also natural borates obtained by evaporating complex brines from certain salt lakes.

(1) **Sodium borates**. The most important is the tetraborate (disodium tetraborate, refined borax) ($Na_2B_4O_7$). Obtained by crystallisation of solutions of natural borates, or by treating natural calcium borates or boric acid with sodium carbonate. Anhydrous or hydrated with 5 H_2O or 10 H_2O. Heated and then cooled down, it gives a vitreous mass (melted borax, borax glass, borax bead). Used for stiffening linen or paper; in soldering metals (flux for hard solder); as a flux for enamels; in the manufacture of vitrifiable colours, special glass (optical glass, glass for electric bulbs), glue or polish; for refining gold; and for preparing borates and anthraquinone dyes.

There are other sodium borates (metaborates, hydrogen diborate) for laboratory uses.

(2) **Ammonium borates**. The most important of these is metaborate ($NH_4BO_2.2H_2O$). Colourless crystals, very soluble in water, efflorescent. Decomposed by heat to give a fusible varnish of boric anhydride; hence its use as a fire-proofing material. Also used as a fixative in hair-lotions; as a component of electrolytes for electrolytic capacitors and in the coating of paper.

(3) **Precipitated calcium borates**. Obtained by treating natural borates with calcium chloride; white powder used in fire retardant compositions, in anti-freezing preparations and in ceramic insulators. It can also be used as an antiseptic.

(4) **Manganese borates**. Mainly tetraborate (MnB_4O_7), pinkish powder, sparingly soluble. Used as a drier in paints or varnishes.

(5) **Nickel borate**. Pale green crystals, used as a catalyst.

(6) **Copper borate**. Blue crystals, very hard, insoluble in water. Used as a pigment (ceramic colours) and as an antiseptic and insecticide.

(7) **Lead borate**. Greyish powder, insoluble in water. It is used to prepare driers, in glass-making, as a pigment for porcelain and in electroplating.

(8) **Other borates**. Cadmium borate is used as a coating for fluorescent tubes. Cobalt borate is used as a drier; zinc borate as an antiseptic, in fire-proofing textiles or as a flux in ceramics, zirconium borate as an opacifier.

Natural sodium borates (kernite, tincal), used to prepare the borates of this heading, and natural calcium borates, (pandermite, priceite), used in the manufacture of boric acid, are **excluded** (**heading 25.28**).

(B) PEROXOBORATES (PERBORATES)

Subject to the **exclusions** mentioned in the introduction to this sub-Chapter, this heading covers metal peroxoborates, which are more oxygenated than borates and readily release their oxygen.

They are generally complex products the formula of which corresponds to several acids such as HBO_3 or HBO_4.

The main peroxoborates are :

(1) **Sodium peroxoborate** (perborax). Obtained by the action of sodium peroxide on an aqueous solution of boric acid, or by treating an aqueous solution of sodium borate with hydrogen peroxide. White amorphous powder or crystals (with 1 or 4 H_2O). Used for bleaching linen, textiles and straw; for preserving hides; in the manufacture of household washing preparations, detergents and antiseptics.

(2) **Magnesium peroxoborate**. White powder, insoluble in water, used in medicine or in the manufacture of toothpastes.

(3) **Potassium peroxoborate**. Similar characteristics and uses to sodium peroxoborate.

(4) **Other peroxoborates**. Ammonium, aluminium, calcium or zinc peroxoborates, which occur as white powders, are used in medicine and in the manufacture of tooth-pastes.

2840.1

- Disodium tetraborate (refined borax) :

2840.11

-- Anhydrous

2840.19

-- Other

2840.20

- Other borates

2840.30

- Peroxoborates (perborates)

Heading 2841

Salts of oxometallic or peroxometallic acids.

EXPLANATORY NOTES

28.41 - Salts of oxometallic or peroxometallic acids.

2841.30 - Sodium dichromate

2841.50 - Other chromates and dichromates; peroxochromates

- Manganites, manganates and permanganates :

2841.61 - - Potassium permanganate

2841.69 - - Other

2841.70 - Molybdates

2841.80 - Tungstates (wolframates)

2841.90 - Other

This heading covers the salts of oxometallic and peroxometallic acids (corresponding to metal oxides which constitute anhydrides).

The main groups of compounds covered by this heading are :

(1) **Aluminates**. Derivatives of aluminium hydroxide.

(a) **Sodium aluminate**. Obtained by treating bauxite with sodium hydroxide solution. Occurs as a white powder soluble in water, in aqueous solutions or in paste form. Used as a mordant in dyeing (alkaline mordant); in the preparation of lakes; for sizing paper; as a filler for soap; for hardening plaster; for manufacturing opaque glass; for purifying industrial water, etc.

(b) **Potassium aluminate**. Prepared by dissolving bauxite in potassium hydroxide. White, micro-crystalline masses, hygroscopic and soluble in water. Same uses as sodium aluminate.

(c) **Calcium aluminate**. Obtained by the fusion of bauxite and calcium oxide in an electric furnace; white powder, insoluble in water. Used in dyeing (mordant); for purifying industrial water (ion exchanger); in paper-making (sizing); in the manufacture of glass, soap, special cements, polishing preparations and other aluminates.

(d) **Chromium aluminate**. Obtained by heating a mixture of aluminium oxide, calcium fluoride and ammonium dichromate. Ceramic colour.

(e) **Cobalt aluminate**. Prepared from sodium aluminate and a cobalt salt. It constitutes, either pure or mixed with aluminium oxide, cobalt blue (Thenard's blue). Used in the preparation of cerulean blue (with zinc aluminate), azure blue, smalt blue, Saxony blue, Sèvres blue, etc.

(f) **Zinc aluminate**. White powder used for similar purposes to sodium aluminate.

(g) **Barium aluminate**. Prepared from bauxite, barytes and coal; white or brown masses. Used for purifying industrial water and as an anti-scale compound.

(h) **Lead aluminate**. Obtained by heating a mixture of lead oxide and aluminium oxide. Solid, not easily melted, used as a white pigment and for manufacturing refractory bricks and linings.

The heading **excludes** natural beryllium aluminate (chrysoberyl) (**heading 25.30**, **71.03** or **71.05** as the case may be).

(2) **Chromates**. Neutral or acid chromates (dichromates), tri-, tetra- and perchromates derive from the various chromic acids, in particular the normal acid (H_2CrO_4) or from the dichromic acid ($H_2Cr_2O_7$) not isolated in the pure state.

The principal of these mostly toxic salts are :

(a) **Zinc chromate**. The treatment of zinc salts with potassium dichromate gives hydrated or basic zinc chromate. Powder, insoluble in water. Pigment which, alone or in mixture, constitutes zinc yellow. Mixed with Prussian blue, it forms zinc green.

(b) **Lead chromate**.

Neutral artificial lead chromate results from the action of lead acetate on sodium dichromate. Yellow or sometimes orange-coloured or red powder according to the method of precipitation. Alone or mixed, this pigment constitutes chrome yellow, used in enamelling, in ceramics, in the manufacture of paints or varnishes, etc.

Basic chromate, alone or mixed, constitutes chrome red or Persian red.

(c) **Sodium chromates**. Sodium chromate ($Na_2CrO_4.10H_2O$) is obtained during the manufacture of chromium by roasting natural iron chromium oxide (chromite) mixed with coal and sodium carbonate. Large yellow crystals, deliquescent and very soluble in water. Used in dyeing (mordant); in tanning; for preparing inks, pigments or other chromates or dichromates. Used in mixture with antimony sulphide for preparing photographic flashlight powders.

Sodium dichromate ($Na_2Cr_2O_7.2H_2O$), prepared from sodium chromate, forms deliquescent red crystals, soluble in water. Transformed by heat into the anhydrous and less deliquescent dichromate (i.e., melted or cast chromate) often containing a small quantity of sodium sulphate. Used in tanning (chrome-tanning); in dyeing (mordant and oxidiser); as an oxidising agent in organic synthesis; in photography; in printing; in pyrotechnics; for purifying or decolourising fats; for preparing dichromate batteries and dichromate gelatins (which, under the influence of light, are converted into products insoluble in hot water); in flotation processes (to reduce buoyancy); in petroleum refineries; as an antiseptic.

(d) **Potassium chromates**. Potassium chromate (K_2CrO_4) (yellow potassium chromate) is prepared from chromite. Yellow crystals, soluble in water and poisonous.

Potassium dichromate ($K_2Cr_2O_7$) (red potassium chromate) is also obtained from chromite. Orange-coloured crystals, soluble in water and very toxic. Dichromate dust and vapours attack the nasal bone and cartilages; its solutions infect scratches.

Potassium chromate and dichromate are used for similar purposes to sodium chromate and dichromate.

(e) **Ammonium chromates**. Ammonium chromate ($(NH_4)_2CrO_4$), prepared by saturating a solution of chromium trioxide with ammonia. Yellow crystals, soluble in water. Used in photography and in dyeing.

Ammonium dichromate ($(NH_4)_2Cr_2O_7$), obtained from natural iron chromium oxide (chromite); red crystals, soluble in water. Used in photography; in dyeing (mordant); in tanning; for purifying fats or oils; in organic synthesis, etc.

(f) **Calcium chromate** ($CaCrO_4.2H_2O$). Prepared from sodium dichromate and chalk; becomes anhydrous and turns yellow when heated. Used in the preparation of yellow colours such as "yellow ultramarine", a name also applied to calcium chromate alone.

(g) **Manganese chromate**. Neutral chromate ($MnCrO_4$), prepared from manganous oxide and chromic anhydride. Brownish crystals, soluble in water. Used as a mordant in dyeing.

Basic chromate, brown powder, insoluble in water, is used in water paints.

(h) **Iron chromates**. Ferric chromate ($Fe_2(CrO_4)_3$), (prepared from solutions of ferric chloride and potassium chromate, is a yellow powder, insoluble in water.

There is also a basic iron chromate which, alone or as a mixture, is used in painting under the name of siderine yellow. Associated with Prussian blue it gives greens imitating zinc green. Also used in metallurgy.

(ij) **Strontium chromate** ($SrCrO_4$). Analogous to calcium chromate; alone or in mixture constitutes strontium yellow. Employed in the preparation of artists' paints.

(k) **Barium chromate** ($BaCrO_4$). Obtained by precipitating solutions of barium chloride and sodium chromate; bright yellow powder, insoluble in water and poisonous. Alone or mixed, it constitutes barium yellow which, like the similar product obtained from calcium chromate, is sometimes known as "yellow ultramarine". Used for artists' paints and in the enamel and glass industries; also in the manufacture of matches and as a mordant in dyeing.

This heading **excludes** :

(a) Natural lead chromate (crocoisite) (**heading 25.30**).

(b) Pigments prepared with chromates (**heading 32.06**).

(3) **Manganates, permanganates**. These salts correspond to manganic acid (H_2MnO_4) (not isolated), permanganic acid ($HMnO_4$) existing only in aqueous solution).

(a) **Manganates**. Sodium manganate (Na_2MnO_4), prepared by fusion of a mixture of natural manganese dioxide (heading 26.02 - pyrolusite) and sodium hydroxide; green crystals, soluble in cold water, decomposed by hot water; used in gold metallurgy.

Potassium manganate (K_2MnO_4), in small greenish-black crystals. Used for preparing the permanganate.

Barium manganate ($BaMnO_4$), obtained by heating manganese dioxide mixed with barium nitrate. Emerald green powder. Mixed with barium sulphate, it constitutes manganese blue. Used for artists' paints.

(b) **Permanganates**. Sodium permanganate ($NaMnO_4.3H_2O$), prepared from the manganate; reddish-black crystals, deliquescent and soluble in water. Used as a disinfectant, in organic synthesis and for bleaching wool.

Potassium permanganate ($KMnO_4$), prepared from the manganate, or by oxidising a mixture of manganese dioxide and potassium hydroxide. Purple crystals with a metallic sheen, soluble in water, colouring the skin; also in purplish-red aqueous solutions or in tablets. Powerful oxidising agent, used in chemistry as a reagent, in organic synthesis (manufacture of saccharin); in metallurgy (nickel refining); for bleaching fatty substances, resins, silk yarn or fabrics or straw; for purifying water; as an antiseptic; as a dye (for wool, wood and in hair-dyes); in gas masks; in medicine.

Calcium permanganate ($Ca(MnO_4)_2.5H_2O$), prepared by electrolysing solutions of alkali manganates and calcium chloride; forms dark purple crystals, soluble in water. Oxidising agent and disinfectant, used in dyeing, in organic synthesis, for purifying water, for bleaching paper pulp.

(4) **Molybdates**. Molybdates, paramolybdates and polymolybdates (di-, tri-, tetra-) are derived from normal molybdic acid (H_2MoO_4) or from the other molybdic acids. Similar in some respects to chromates.

The principal of these salts are :

(a) **Ammonium molybdate**. Obtained in the metallurgy of molybdenum. Hydrated crystals, slightly tinted with green or yellow and decomposed by heat. Used as a chemical reagent, in the preparation of pigments or fire-proofing materials, in the glass industry, etc.

(b) **Sodium molybdate**. Hydrated crystals, shiny and soluble in water. Used as a reagent, in the manufacture of pigments and in medicine.

(c) **Calcium molybdate**. White powder, insoluble in water; used in metallurgy.

(d) **Lead molybdate**. Artificial lead molybdate co-precipitated with lead chromate gives the scarlet chrome pigments.

Natural lead molybdate (wulfenite) is **excluded** (**heading 26.13**).

(5) **Tungstates (wolframates)**. Tungstates, paratungstates and pertungstates are derived from the normal tungstic acid (H_2WO_4) and other tungstic acids.

The principal of these salts are :

(a) **Ammonium tungstate**. Obtained by dissolving tungstic acid in ammonia; white crystalline powder, hydrated, soluble in water; used for fire-proofing fabrics and in the preparation of other tungstates.

(b) **Sodium tungstate**. Obtained in tungsten metallurgy, from wolframite (heading 26.11) and sodium carbonate; white leaflets or crystals, hydrated, with a pearly sheen, soluble in water. Same uses as ammonium tungstate; also used as a mordant in textile printing, for preparing lakes and catalysts and in organic synthesis.

(c) **Calcium tungstate**. White, glossy scales, insoluble in water; used for preparing X-ray screens or fluorescent tubes.

(d) **Barium tungstate**. White powder, used in artists' paints, alone or mixed, under the name of tungsten white or tungstate white.

(e) **Other tungstates**. These include tungstates of potassium (for fire-proofing fabrics), magnesium (for X-ray screens), chromium (green pigment), or lead (pigment).

The heading **excludes** :

(a) Native calcium tungstate (scheelite), an ore (**heading 26.11**).

(b) Natural tungstates of manganese (hubnerite) or of iron (ferberite) (**heading 26.11**).

(c) Luminescent tungstates (e.g., of calcium or magnesium), classified as inorganic luminophores (**heading 32.06**).

(6) **Titanates** (ortho-, meta- and peroxotitanates, neutral or acid) are derived from the various titanic acids and hydroxides, based on titanium dioxide (TiO_2).

Barium and lead titanates are white powders used as pigments.

The heading **excludes** natural iron titanate (ilmenite) (**heading 26.14**), and inorganic fluorotitanates (**heading 28.26**).

(7) **Vanadates** (ortho-, meta-, pyro-, hypovanadates, neutral or acid) are obtained from the various vanadic acids derived from vanadium pentaoxide (V_2O_5) or from other vanadium oxides.

(a) **Ammonium vanadate** (metavanadate) (NH_4VO_3). Yellowish-white crystalline powder, sparingly soluble in cold water, very soluble in hot water and giving a yellow solution. Used as a catalyst; as a mordant in textile dyeing or printing; as a drier in paints or varnishes; as a colouring matter in pottery, and in the preparation of writing or printing inks, etc.

(b) **Sodium vanadates** (ortho- and meta-). Hydrated white powders, crystalline and soluble in water. Used in aniline-black dyeing and printing.

(8) **Ferrates and ferrites**. Ferrates and ferrites are derived from ferric hydroxide ($Fe(OH)_3$) and from ferrous hydroxide ($Fe(OH)_2$), respectively. Potassium ferrate is a black powder, dissolving in water to give a red liquid.

The name “ferrates” is erroneously given to simple mixtures of iron oxides and other metal oxides constituting ceramic colours and classified in **heading 32.07**.

The heading also **excludes** ferrous ferrite which is in fact magnetic iron oxide (Fe_3O_4) (**heading 26.01**), and hammer scale (**heading 26.19**).

(9) **Zincates**. Compounds derived from amphoteric zinc hydroxide ($Zn(OH)_2$).

(a) **Sodium zincate**. Results from the action of sodium carbonate on zinc oxide, or of sodium hydroxide on zinc. Used in the preparation of zinc sulphide employed in paints.

(b) **Iron zincate**. Used as a ceramic colour.

(c) **Cobalt zincate**, pure or mixed with cobalt oxide or other salts, constitutes cobalt green or Rinmann’s green.

(d) **Barium zincate**. Prepared by precipitating an aqueous solution of barium hydroxide with an ammoniacal solution of zinc sulphate; white powder, soluble in water. Used in the manufacture of zinc sulphide employed in paints.

(10) **Stannates** (ortho- and meta-) are derived from stannic acids.

(a) **Sodium stannate** ($Na_2SnO_3.3H_2O$). Obtained by fusion of a mixture of tin, sodium hydroxide, chloride and nitrate; hard masses or irregular lumps, soluble in water, white or coloured according to the proportion of impurities (sodium or iron salts). Used in textile dyeing or printing (mordant); in the glass or ceramic industries; in the separation of lead from arsenic; in tin sizes for silk and in organic synthesis.

(b) **Aluminium stannate**. Prepared by heating a mixture of tin sulphate and aluminium sulphate; white powder. Used as an opacifier in the enamel or ceramic industries.

(c) **Chromium stannate**. Main component of pink colours for ceramics or artists’ paints. Also used in tin sizes for silk.

(d) **Cobalt stannate**. Alone or mixed, constitutes a sky-blue pigment, used in paints.

(e) **Copper stannate**, alone or mixed, it is known as “tin green”.

(11) **Antimonates**. Salts of the various acids corresponding to antimonic oxide (Sb_2O_5); somewhat similar to arsenates.

(a) **Sodium meta-antimonate** (leuconine). Prepared from sodium hydroxide and antimony pentaoxide; a white crystalline powder, sparingly soluble in water. Opacifier for the enamel or glass industries; used in the preparation of sodium thioantimonate (Schlippe’s salt) (**heading 28.42**).

(b) **Potassium antimonates**. The most important is potassium hydrogen antimonate, prepared by calcining the metal mixed with potassium nitrate; a white, crystalline powder. Used in medicine (as a purgative) and as a ceramic pigment.

(c) **Lead antimonate**. Obtained by the fusion of antimony pentaoxide with red lead; yellow powder, insoluble in water. Alone or mixed with lead oxychloride, it constitutes Naples yellow (antimony yellow), a pigment for ceramics, glass or artists' paints.

Antimonides are **excluded** (**heading 28.53**).

(12) **Plumbates**. Derived from amphoteric lead dioxide (PbO_2).

Sodium plumbate is used as a colouring matter. Plumbates of calcium (yellow), strontium (chestnut) or barium (black) are used in the manufacture of matches and in pyrotechnics.

(13) **Other salts of oxometallic acids or peroxometallic acids**. These include :

(a) **Tantalates and niobates**.

(b) **Germanates**.

(c) **Rhenates and perrhenates**.

(d) **Zirconates**.

(e) **Bismuthates**.

The heading **excludes**, however, compounds of :

(a) Precious metals (**heading 28.43**).

(b) Radioactive chemical elements or radioactive isotopes (**heading 28.44**).

(c) Yttrium, scandium or rare-earth metals (**heading 28.46**).

(d) Mercury (**heading 28.52**).

Complex fluorine salts, such as fluorotitanates fall in **heading 28.26**.

2841.30

- Sodium dichromate

2841.50

- Other chromates and dichromates; peroxochromates

2841.6

- Manganites, manganates and permanganates :

2841.61

-- Potassium permanganate

2841.69

-- Other

2841.70

- Molybdates

2841.80

- Tungstates (wolframates)

2841.90

- Other

CLASSIFICATION OPINIONS

1. Lithium cobalt dioxide ($LiCoO_2$), in the form of black powder, generally used in the positive electrodes of lithium-ion batteries.
Application of GIRs 1 and 6.
Adoption : 2012

Heading 2842

Other salts of inorganic acids or peroxoacids (including aluminosilicates whether or not chemically defined), other than azides.

EXPLANATORY NOTES

28.42 - Other salts of inorganic acids or peroxoacids (including aluminosilicates whether or not chemically defined), other than azides.

2842.10 - Double or complex silicates, including aluminosilicates whether or not chemically defined

2842.90 - Other

Subject to the **exclusions** mentioned in the introduction to this sub-Chapter, this heading includes :

(I) SALTS OF NON-METAL INORGANIC ACIDS OR PEROXOACIDS NOT SPECIFIED ELSEWHERE

Examples of these salts include :

(A) **Fulminates, cyanates, isocyanates and thiocyanates**, metal salts of the non-isolated cyanic acid (HO-C≡N) or of isocyanic acid (HN=C=O) or of fulminic acid ($H-C\equiv N^{+}-O^{-}$) another isomer of cyanic acid, or of thiocyanic acid (HS-C≡N).

(1) **Fulminates.** Fulminates are compounds of more or less unknown composition, very unstable, exploding at a slight shock or under the action of heat (for example, a spark). They constitute priming explosives and are used in the manufacture of fulminating caps or detonators.

(2) **Cyanates.** Ammonium, sodium or potassium cyanates are used for manufacturing various organic compounds. There are also cyanates of alkaline-earths.

(3) **Thiocyanates.** Thiocyanates (sulphocyanides) are the metal salts of the non-isolated thiocyanic acid (HS-C≡N). The most important are :

(a) **Ammonium thiocyanate** (NH_4SCN). Colourless crystals, deliquescent, very soluble in water, turning red under the action of air and light, and decomposed by heat. Used in

electroplating; in photography; in dyeing or printing (in particular to prevent the deterioration of sized silk fabrics); for preparing refrigerating mixtures, cyanides or hexacyanoferrates (II), thiourea, guanidine, plastics, adhesives, weed-killers, etc.

(b) **Sodium thiocyanate** (NaSCN). Same appearance as ammonium thiocyanate or as a powder. Poisonous. Used in photography; in dyeing and printing (mordant); in medicine; as a laboratory reagent; in electroplating; for preparing artificial mustard oil; in the rubber industry, etc.

(c) **Potassium thiocyanate** (KSCN). Having the same characteristics as sodium thiocyanate. Used in the textile industry; in photography; in organic synthesis (e.g., thiourea, artificial mustard oil and dyestuffs), in the preparation of thiocyanates, refrigerating mixtures, parasiticides, etc.

(d) **Calcium thiocyanate** ($Ca(SCN)_2.3H_2O$). Colourless crystals, deliquescent and soluble in water. Used as a mordant in dyeing or printing, and as a solvent for cellulose; for mercerising cotton; in medicine instead of potassium iodide (against arteriosclerosis); for preparing hexacyanoferrates (II) or other thiocyanates; in the manufacture of parchment.

(e) **Copper thiocyanates**.

Cuprous thiocyanate (CuSCN), whitish, greyish or yellowish powder or paste, insoluble in water. Used as a mordant in textile printing, in the manufacture of marine paints and in organic synthesis.

Cupric thiocyanate ($Cu(SCN)_2$), black powder, insoluble in water, readily turning into cuprous thiocyanate. Used in the manufacture of detonating caps and of matches.

Mercury fulminate and mercuric thiocyanate **are excluded (heading 28.52)**.

(B) **Arsenites and arsenates**.

These are the metal salts of acids of arsenic; arsenites are the salts of arsenious acids, and arsenates are the salts of arsenic acids (heading 28.11). They are violently poisonous. Examples are :

(1) **Sodium arsenite** ($NaAsO_2$). Prepared by the fusion of sodium carbonate with arsenious oxide. White or greyish slabs or powder, soluble in water. Used in viticulture (insecticide); for preserving hides; in medicine; in the manufacture of soap and antiseptics, etc.

(2) **Calcium arsenite** ($CaHAsO_3$). White powder, insoluble in water. Used as an insecticide.

(3) **Copper arsenite** ($CuAsO_3$). Obtained from sodium arsenite and copper sulphate. Green powder, insoluble in water. Used as an insecticide, as a colouring matter known as Scheele's green and for preparing certain green pigments (see Explanatory Note to heading 32.06).

(4) **Zinc arsenite** ($Zn(AsO_2)_2$). Similarappearance and uses to calcium arsenite.

(5) **Lead arsenite** ($Pb(AsO_2)_2$). White powder, only sparingly soluble in water. Used in viticulture (insecticide).

(6) **Sodium arsenates** (ortho-, meta- and pyroarsenates). The most important are disodium hydrogen orthoarsenate (Na_2HAsO_4) (with 7 or 12 H_2O, according to the temperature of crystallisation) and trisodium orthoarsenate (anhydrous or with 12 H_2O). Prepared from arsenious oxide and sodium nitrate. Colourless crystals or greenish powder. Used in the preparation of medicaments (Pearson's solution), of antiseptics, insecticides, and of other arsenates; also used in textile printing.

(7) **Potassium arsenates**. Mono- and dibasic potassium orthoarsenates, prepared by the same method as sodium arsenates. Colourless crystals, soluble in water. Used as antiseptics or insecticides; for tanning; for printing textiles, etc.

(8) **Calcium arsenates**. Tricalcium diorthoarsenate ($Ca_3(AsO_4)_2$), often containing other calcium arsenates as impurities. Obtained by the interaction of calcium chloride and sodium arsenate. White powder, insoluble in water. Used in agriculture as an insecticide.

(9) **Copper arsenates**. Cupric orthoarsenate ($Cu_3(AsO_4)_2$). Obtained from sodium orthoarsenate and copper sulphate (or chloride). Green powder, insoluble in water. Used as a parasiticide in viticulture and for preparing anti-fouling paints.

(10) **Lead arsenates**. Trilead diorthoarsenate ($Pb_3(AsO_4)_2$), and the acid orthoarsenate. Only sparingly soluble in water. White powders, pastes or emulsions. Used in the preparation of insecticides.

(11) **Other arsenates**. These include arsenates of aluminium (insecticide) or of cobalt (pink powder, used in ceramics).

The heading **does not cover** :

(a) Natural nickel arsenates (e.g., annabergite, etc.) (**heading 25.30**).

(b) Arsenides (**heading 28.53**).

(c) Acetoarsenites (**Chapter 29**).

(C) **The salts of selenium acids** : selenides, selenites, selenates. These include :

(1) **Cadmium selenide**. Used in the manufacture of anti-glare glass and of pigments.

(2) **Sodium selenite**. Used for giving glass a red tint, or for masking its greenish hue.

(3) **Ammonium and sodium selenates**. Used as insecticides; the sodium salt is also used in medicine.

(4) **Potassium selenate**. Used in photography.

Zorgite, a natural copper lead selenide, is **excluded** (**heading 25.30**).

(D) **The salts of tellurium acids** : tellurides, tellurites, tellurates. These include :

(1) **Bismuth telluride**. A semi-conductor for thermopiles.

(2) **Sodium or potassium tellurates**. Used in medicine.

(II) DOUBLE OR COMPLEX SALTS

This group covers double or complex salts **other than** those specifically included elsewhere.

The principal double or complex salts classified in this heading include :

(A) **Double or complex chlorides (chlorosalts)**.

(1) **Chloride of ammonium with** :

(a) **Magnesium**. Deliquescent crystals; used in soldering.

(b) **Iron (ammonium ferrous chloride and ammonium ferric chloride)**. In masses or hygroscopic crystals; used in plating and in medicine.

(c) **Nickel**. Yellow powder or, hydrated, green crystals. Used as a mordant and in galvanising.

(d) **Copper (ammonium copper chloride)**. Blue or greenish crystals, soluble in water. Used as a colouring agent and in pyrotechnics.

(e) **Zinc (ammonium zinc chloride)**. White crystalline powder, soluble in water. Used in soldering ("**soldering salts**"), in dry batteries, and in galvanising (electrolytic zinc-plating).

(f) **Tin**. In particular **ammonium chlorostannate**; white or pink crystals or in aqueous solution. Sometimes called "**pink salt"**; used in dyeing and as a size for silk.

(2) **Chloride of sodium with aluminium**. White crystalline powder, hygroscopic. Used in tanning.

(3) **Chloride of calcium with magnesium**. White deliquescent crystals. Used in the paper, textile, potato-starch or paint industries.

(4) **Chlorosalts, e.g., chlorobromides, chloroiodides, chloroiodates, chlorophosphates, chlorochromates** and **chlorovanadates**.

These include **potassium chlorochromate** (**Peligot's salt**). Red crystals, decomposing in water. It is an oxidising agent used in organic synthesis.

Pyromorphite (phosphate and chloride of lead) and vanadinite (vanadate and chloride of lead) are **excluded** since they are natural metallic ores of **headings 26.07** and **26.15**, respectively.

(B) **Double or complex iodides (iodosalts)**.

(1) **Bismuth sodium iodide.** Red crystals, decomposed by water. Used in medicine.

(2) **Cadmium potassium iodide**. A white deliquescent powder which turns yellow on exposure to air. Also used in medicine.

(C) **Double or complex salts containing sulphur (thiosalts)**.

(1) **Sulphate of ammonium** with :

(a) **Iron (ammonium ferrous sulphate, Mohr's salt)** ($FeSO_4.(NH_4)_2SO_4.6H_2O$). Light green crystals, soluble in water. Used in metallurgy and in medicine.

(b) **Cobalt** ($CoSO_4.(NH_4)_2SO_4.6H_2O$). Red crystals, soluble in water. Used in cobalt-plating and in ceramics.

(c) **Nickel** ($NiSO_4.(NH_4)_2SO_4.6H_2O$). Green crystals, decomposed by heat; very soluble in water. Used mainly for electrolytic nickel-plating.

(d) **Copper**. Blue crystalline powder soluble in water, efflorescing in air. Used as a parasiticide, in textile printing and processing, in the preparation of copper arsenite, etc.

(2) **Sodium zirconium sulphate**. White solid. Used in zinc metallurgy.

(3) **"Thiosalts" and other double or complex salts containing sulphur, e.g. : selenosulphides and selenosulphates, thiotellurates, thioarsenates, thioarsenites and arsenosulphides, thiocarbonates, germanosulphides, thioantimonates, thiomolybdates, thiostannates, reineckates**.

This group includes :

(a) **Potassium trithiocarbonate**. Yellow crystals, soluble in water. Used in agriculture (against phylloxera) and in chemical analysis.

(b) **Alkali thiomolybdates**. Used as accelerating agents in metal phosphatising (parkerising) baths.

(c) **Ammonium tetrathiocyanatodiamminochromate (ammonium diammine-tetrakisthiocyanatochromate, ammonium reineckate or reinecke salt)** ($NH_4[Cr(NH_3)_2(SCN_4)].H_2O$). Crystalline powder or dark red crystals. Used as a reagent.

(d) **Ferrous potassium thiocyanate and ferric potassium thiocyanate**.

Cobaltite (sulphide and arsenide of cobalt) and germanite (copper germano-sulphide) are **excluded** from this heading since they are natural ores of **headings 26.05** and **26.17**, respectively.

(D) **Double or complex salts of selenium (selenocarbonates, selenocyanates, etc.)**.

(E) **Double or complex salts of tellurium (tellurocarbonates, tellurocyanates, etc.)**.

(F) **Cobaltinitrites (nitrocobaltates)**.

Potassium cobaltinitrite (cobalt potassium nitrite, Fischer's yellow) ($K_3Co(NO_2)_6$). Microcrystalline powder, fairly soluble in water. A pigment which, alone or mixed, is known as **cobalt yellow**.

(G) **Double or complex nitrates** (tetra- and hexa-amminonickel nitrates).

Ammoniacal nickel nitrates. Blue or green water soluble crystals. Used as oxidants and for the preparation of the pure nickel catalyst.

(H) **Double or complex phosphates (phosphosalts)**.

(1) **Ammonium sodium orthophosphate** $NaNH4HPO_4.H_2O$) (microcosmic salt). Colourlessefflorescent crystals, soluble in water. Used as a flux for dissolving metal oxides.

(2) **Ammonium magnesium orthophosphate**. White powder, only very slightly soluble in water. Used for fire-proofing textiles and in medicine.

(3) **Complex salts containing phosphorus**, e.g., **molybdophosphates, silicophosphates, tungstophosphates, stannophosphates**.

This group includes :

(a) **Molybdophosphates**. Used in microscopic research.

(b) **Silicophosphates and stannophosphates**. Used for sizing silk.

(IJ) **Tungstoborates (borotungstates)**.

Cadmium borotungstate. Yellow crystals or in aqueous solution. Used for separating minerals by density.

(K) **Double or complex cyanates**.

(L) **Double or complex silicates**.

This group includes **aluminosilicates**, whether or not they are separate chemically defined compounds. Aluminosilicates are used in the glass industry and as insulators, ion-exchangers, catalysts, molecular sieves, etc.

Included in this category are synthetic zeolites with the generic formula $M_{2/n}O.Al_2O_3.ySiO_2.wH_2O$, where M is a cation of valency n (usually sodium, potassium, magnesium or calcium), y is two or more and w is the number of water molecules.

Aluminosilicates containing binders (e.g., zeolites containing silica-based clay) are, however, **excluded** (**heading 38.24**). Particle size can usualy be used to identify zeolites containing binders (usually above 5 microns).

(M) **Double or complex salts of metal oxides**.

These are salts such as **calcium potassium chromate**.

This heading **excludes** :

(a) Complex fluorine salts (**heading 28.26**).

(b) Alums (**heading 28.33**).

(c) Complex cyanides (**heading 28.37**).

(d) Salts of hydrazoic acid (azides) (**heading 28.50**).

(e) Chloride of ammonium with mercury (ammonium mercuric chloride or ammonium chloromercurate) and copper mercury iodide **(heading 28.52)**.

(f) Magnesium potassium sulphate, whether or not pure (**Chapter 31**).

2842.10

- Double or complex silicates, including aluminosilicates whether or not chemically defined

CLASSIFICATION OPINIONS

1. **Synthetic sodium aluminosilicates**, consisting of one molecular species whose composition is defined by a constant ratio of elements (sodium, aluminium and silicon) and can be represented by a definitive structural diagram, and having a crystal lattice of repeating unit cells. *Adoption : 1995*

2. **Synthetic sodium aluminosilicates**, amorphous or crystalline, having a random structure containing varying elemental ratios of sodium, aluminium and silicon and whose composition cannot be defined by a constant ratio of elements. *Adoption : 1995*

2842.90

- Other

VI.-

MISCELLANEOUS

EXPLANATORY NOTES

Sub-Chapter VI

MISCELLANEOUS

Heading 2843

Colloidal precious metals; inorganic or organic compounds of precious metals, whether or not chemically defined; amalgams of precious metals.
EXPLANATORY NOTES

Sub-Chapter VI

MISCELLANEOUS

28.43 - Colloidal precious metals; inorganic or organic compounds of precious metals, whether or not chemically defined; amalgams of precious metals.

2843.10 - Colloidal precious metals

- Silver compounds :

2843.21 - - Silver nitrate

2843.29 - - Other

2843.30 - Gold compounds

2843.90 - Other compounds; amalgams

(A) COLLOIDAL PRECIOUS METALS

This heading covers precious metals as listed in Chapter 71 (i.e., silver, gold, platinum, iridium, osmium, palladium, rhodium and ruthenium), provided they are in colloidal suspension.

These precious metals are obtained in this state either by dispersion or cathodic pulverisation, or by reducing one of their inorganic salts.

Colloidal silver occurs in small grains or flakes, bluish, brownish or greenish-grey, with a metallic glint. It is used in medicine as an antiseptic.

Colloidal gold may be red, violet, blue or green, and is used for the same purposes as colloidal silver.

Colloidal platinum is in small grey particles and has remarkable catalysing properties.

These colloidal metals (e.g., gold) remain classified in this heading when put up in colloidal solutions containing protective colloids (such as gelatin, casein, fish glue).

(B) INORGANIC OR ORGANIC COMPOUNDS OF PRECIOUS METALS, WHETHER OR NOT CHEMICALLY DEFINED

These are :

(I) **Oxides, peroxides and hydroxides of precious metals**, analogous to the compounds of sub-Chapter IV.

(II) **Inorganic salts of precious metals**, analogous to the compounds of sub-Chapter V.

(III) **Phosphides, carbides, hydrides, nitrides, silicides and borides**, analogous to the compounds of headings 28.49, 28.50 and 28.53 (such as platinum phosphide, palladium hydride, silver nitride, platinum silicide).

(IV) **Organic compounds of precious metals**, analogous to the compounds of Chapter 29.

Compounds containing **both** precious metals and other metals (e.g., double salts of a base metal and a precious metal, complex esters containing precious metals) are also covered by this heading.

The most common compounds of each of the precious metals are listed below :

(1) **Silver compounds**.

(a) **Silver oxides**. Disilver oxide (Ag_2O) is a brownish-black powder slightly soluble in water, turning black on exposure to light.

Silver oxide (AgO) is a greyish-black powder.

Silver oxides are used, *inter alia*, in the manufacture of batteries.

(b) **Silver halides**. Silver chloride (AgCl) is a white mass or dense powder, insoluble in water, darkening when exposed to light; it is packed in dark-coloured opaque containers. Used in photography, in the manufacture of ceramics, in medicine and in silvering.

Cerargyrites (or horn silver), natural silver chlorides and iodides, are **excluded** (**heading 26.16**).

Silver bromide (yellowish), silver iodide (yellow), and silver fluoride are used for similar purposes to the chloride.

(c) **Silver sulphide**. Artificial silver sulphide (Ag_2S) is a heavy grey-black powder, insoluble in water, used for glass-making.

Natural silver sulphide (argentite), natural sulphide of silver and antimony (pyrargyrite, stephanite, polybasite) and natural sulphide of silver and arsenic (proustite) are **excluded** (**heading 26.16**).

(d) **Silver nitrate** ($AgNO_3$) white crystals, soluble in water, toxic, damages the skin. Used for silvering glass or metals; for dyeing silk or horn; in photography; for the manufacture of indelible ink; and as an antiseptic or a parasiticide. Sometimes called “lunar caustic”, though this name is also applied to silver nitrate melted with a small quantity of sodium or potassium nitrate, and sometimes with a little silver chloride, to form a cauteriser of **Chapter 30**.

(e) **Other salts and inorganic compounds**.

Silver sulphate (Ag_2SO_4) crystals.

Silver phosphate (Ag_3PO_4), yellowish crystals not very soluble in water; used in medicine, photography and optics.

Silver cyanide (AgCN), a white powder darkening on exposure to light, insoluble in water; used in medicine and for silver-plating. Silver thiocyanate (AgSCN) has a similar appearance and is used as an intensifier in photography.

Complex cyanide salts of silver and potassium ($KAg(CN)_2$) or silver and sodium ($NaAg(CN)_2$) are soluble white salts, used in electroplating.

Silver fulminate, white crystals, exploding at the slightest shock, dangerous to handle; used for the manufacture of detonating caps.

Silver dichromate ($Ag_2Cr_2O_7$) a crystalline ruby-red powder, slightly soluble in water; used for painting miniatures (silver red, purple red).

Silver permanganate, a crystalline deep violet powder, soluble in water; used in gas masks.

Silver azide, an explosive.

(f) **Organic compounds**. These include :

(i) Silver lactate (white powder) and silver citrate (yellowish powder); used in photography and as antiseptics.

(ii) Silver oxalate, which decomposes and explodes when heated.

(iii) Silver acetate, benzoate, butyrate, cinnamate, picrate, salicylate, tartrate and valerate.

(iv) Proteinates, nucleates, nucleinates, albuminates, peptonates, vitellinates and tannates of silver.

(2) **Gold compounds**.

(a) **Oxides**. Aurous oxide (Au_2O). An insoluble, dark violet powder. Auric oxide (Au_2O_3) (auric anhydride) is a brown powder; the corresponding acid is auric hydroxide or acid ($Au(OH)_3$), a black product, decomposed on exposure to light, from which alkali aurates are derived.

(b) **Chlorides**. Aurous chloride (AuCl), a yellowish or reddish crystalline powder. Gold trichloride ($AuC1_3$) (auric chloride, brown chloride), a reddish-brown powder or crystalline mass, very hygroscopic, often presented in sealed flasks or tubes. Tetrachloroauric (III) acid ($AuCl_3.HCl.4H_2O$) (yellow chloride) yellow crystals, hydrated, and alkali chloroaurates, reddish-yellow crystals, are also classified in this heading. These products are used in photography (preparation of toning baths), in the ceramic or glass industries and in medicine.

The heading **excludes** purple of Cassius, a mixture of stannic hydroxide and colloidal gold (**Chapter 32**); this is used in the manufacture of paints or varnishes, and especially for colouring porcelain.

(c) **Other compounds**. Gold sulphide (Au_2S_3) a blackish substance which, in combination with alkali sulphides, forms thioaurates.

Double sulphites of gold and sodium ($NaAu(SO_3)$) and of gold and ammonium ($NH_4Au(SO_3)$) marketed as colourless solutions, are used in electroplating.

Sodium aurothiosulphate is used in medicine.

Gold cyanide (AuCN), a crystalline yellow powder decomposable if exposed to heat, is used for electrolytic gilding and in medicine. Reacts with alkali cyanides to give cyanoaurates, such as potassium tetracyanoaurate ($KAu(CN)_4$), which is a soluble white salt used in electroplating.

Sodium aurothiocyanate, crystallising in orange-coloured needles; used in medicine and in photography (toning baths).

(3) **Ruthenium compounds**. Ruthenium dioxide (RuO_2) is a blue product, while ruthenium tetraoxide (RuO_4) is orange coloured. Ruthenium trichloride ($RuCl_3$) and ruthenium tetrachloride ($RuCl_4$), give double chlorides with alkali chlorides and ammino or nitroso complexes. There are also double nitrites of ruthenium or alkali metals.

(4) **Rhodium compounds**. The rhodium hydroxide ($Rh(OH)_3$), corresponds to rhodium oxide (Rh_2O_3) a black powder. The rhodium trichloride ($RhCl_3$), gives chlororhodites with alkali chlorides, and there are, a sulphate with its complex alums or phosphates, a nitrate and complex nitrites; also cyanorhodites and complex ammino or oxalic derivatives.

(5) **Palladium compounds**. The most stable oxide is palladous oxide (PdO), the only basic one. It is a black powder decomposed by heat.

Palladous chloride ($PdCl_2$), a brown deliquescent powder, soluble in water and crystallising with 2 H_2O, is used in the ceramic industry, in photography and in electroplating.

Potassium chloropalladite (K_2PdCl_4), a brown salt, fairly soluble, used as a detector of carbon monoxide, is also classified here. There also exist chloropalladates, ammino compounds (palladium diammines), thiopalladates, palladonitrites, cyanopalladites, pallado-oxalates and palladous sulphate.

(6) **Osmium compounds**. Osmium dioxide (OsO_2) is a dark brown powder. Osmium tetraoxide (OsO_4) is a volatile solid, crystallising in white needles; it attacks the eyes and lungs; used in histology and micrography. This tetraoxide gives osmates such as potassium osmate (red crystals), and, by treatment with ammonia and alkali hydroxides, osmiamates such as osmiamates of potassium or sodium, yellow crystals.

Osmium tetrachloride ($OsCl_4$) and trichloride ($OsCl_3$) give alkali chloro-osmates and chloro-osmites.

(7) **Iridium compounds**. In addition to iridium oxide there are an iridium tetrahydroxide ($Ir(OH)_4$), blue solid, a chloride, chloroiridates and chloroiridites, double sulphates and ammino compounds.

(8) **Platinum compounds**.

(a) **Oxides**. Platinous oxide (PtO) is a violet or blackish powder. Platinic oxide (PtO_2) forms several hydrates of which one, the tetrahydrate ($H_2Pt(OH)_6$) is a complex acid (hexahydroxyplatinic acid) to which correspond salts such as alkali hexahydroxyplatinates. There are also corresponding ammino complexes.

(b) **Other compounds**. Platinic chloride ($PtCl_4$) occurs in the form of a brown powder or a yellow solution; it is used as a reagent. Commercial platinum chloride (chloroplatinic acid) (H_2PtC1_6), deliquescent prisms, brownish-red in colour, soluble in water; used in photography (platinum toning), in platinum-plating, for ceramic glazing or for obtaining platinum sponge. There are corresponding platinum ammino complexes.

There are also ammino complexes corresponding to chloroplatinous acid (H_2PtCl_4), itself a red solid. Cyanoplatinites of potassium or barium are used for obtaining fluorescent screens for radiography.

(C) AMALGAMS OF PRECIOUS METALS

These are alloys of precious metals with mercury. Amalgams of gold or silver, which are the most common, are used as intermediate products for obtaining these precious metals.

The heading includes amalgams containing **both** precious metals and base metals (e.g., certain amalgams used in dentistry); but it **excludes** amalgams **wholly** of base metal (**heading 28.53**).

Mercury compounds, whether or not chemically defined, other than amalgams are **excluded (heading 28.52)**.

2843.10

- Colloidal precious metals

2843.2

- Silver compounds :

2843.21

-- Silver nitrate

2843.29

-- Other

2843.30

- Gold compounds

2843.90

- Other compounds; amalgams

Heading 2844

Radioactive chemical elements and radioactive isotopes (including the fissile or fertile chemical elements and isotopes) and their compounds; mixtures and residues containing these products.

EXPLANATORY NOTES

28.44 - Radioactive chemical elements and radioactive isotopes (including the fissile or fertile chemical elements and isotopes) and their compounds; mixtures and residues containing these products.

2844.10 - Natural uranium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing natural uranium or natural uranium compounds

2844.20 - Uranium enriched in U 235 and its compounds; plutonium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing uranium enriched in U 235, plutonium or compounds of these products

2844.30 - Uranium depleted in U 235 and its compounds; thorium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing uranium depleted in U 235, thorium or compounds of these products

- Radioactive elements and isotopes and compounds other than those of subheading 2844.10, 2844.20 or 2844.30; alloys, dispersions (including cermets), ceramic products and mixtures containing these elements, isotopes or compounds; radioactive residues :

2844.41 - - Tritium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing tritium or its compounds

2844.42 - - Actinium-225, actinium-227, californium-253, curium-240, curium-241, curium-242, curium-243, curium-244, einsteinium-253, einsteinium-254, gadolinium-148, polonium-208, polonium-209, polonium-210, radium-223, uranium-230 or uranium-232, and their compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing these elements or compounds

2844.43 - - Other radioactive elements and isotopes and compounds; other alloys, dispersions (including cermets), ceramic products and mixtures containing these elements, isotopes or compounds

2844.44 - - Radioactive residues

2844.50 - Spent (irradiated) fuel elements (cartridges) of nuclear reactors

(I) ISOTOPES

The nuclei of an element, defined by its atomic number, always contain the same number of protons, but they may have different numbers of neutrons and, consequently, will be of different mass (different mass number).

Nuclides which differ only in the mass number and not in the atomic number, are called isotopes of the element. For example, there are several nuclides with the same atomic number 92 which are all called uranium, but their mass number ranges from 227 to 240; they are designated, for example, as uranium 233, uranium 235, uranium 238, etc. Analogously, hydrogen 1, hydrogen 2 or deuterium (classified in **heading 28.45**) and hydrogen 3 or tritium are isotopes of hydrogen.

The important factor in the chemical behaviour of an element is linked to the amount of the positive electric charge on the nucleus (number of protons); this determines the number of orbital electrons which actually affect the chemical properties.

Because of this, different isotopes of an element whose nuclei have the same electrical charge but different masses, will have the same chemical properties but their physical properties will vary from one isotope to another.

Chemical elements are composed either of a single nuclide (monoisotopic elements) or of a mixture of two or more isotopes in known unvarying proportions. For example, natural chlorine, in both the free and combined states, is always made up of a mixture of 75.4 % chlorine 35 and 24.6 % chlorine 37 (which gives it its atomic weight of 35.457).

When an element is composed of a mixture of isotopes, its constituent parts can be separated for example by diffusion through porous tubes, by electro-magnetic separation or by fractional electrolysis. Isotopes can also be made by bombarding natural elements with neutrons or charged particles of high kinetic energy.

For the purposes of Note 6 to this Chapter and of headings 28.44 and 28.45, the term **isotopes** covers not only isotopes in their pure state but also chemical elements whose natural isotopic composition has been artificially modified by enriching the elements in some of their isotopes (which is the same as depleting them in some others), or by converting, through a nuclear reaction, some isotopes into other, artificial isotopes. For example, chlorine of atomic weight 35.30 obtained by enriching this element to contain 85 % of chlorine 35 (and consequently by depleting it to contain 15 % of chlorine 37) is considered as an isotope.

It should be noted that elements existing in nature in the monoisotopic state, e.g., beryllium 9, fluorine 19, aluminium 27, phosphorus 31, manganese 55, etc., are not to be considered as isotopes, but are to be classified, in either the free or the combined state, according to the case, in the more specific headings relating to chemical elements or to their compounds.

Radioactive isotopes of these same elements obtained artificially (e.g. Be 10, F 18, Al 29, P 32, Mn 54) are, however, to be considered as isotopes.

Since artificial chemical elements (generally with an atomic number greater than 92, or transuranic elements) do not have a fixed isotopic composition but one which varies according to the method of obtaining the element, it is impossible in these cases to distinguish between the chemical element and its isotopes for the purposes of Note 6.

This heading covers only those isotopes which possess the phenomenon of **radioactivity** (described below); stable isotopes, on the other hand, are classified in **heading 28.45**.

(II) RADIOACTIVITY

Certain nuclides, whose nuclei are unstable, whether in the pure state or in the form of compounds, emit complex radiations producing physical or chemical effects such as :

(1) Ionisation of gases.

(2) Fluorescence.

(3) Fogging of photographic plates.

These effects make it possible to detect these radiations and to measure their intensity by using, for example, Geiger-Müller counters, proportional counters, ionisation chambers, Wilson chambers, bubble flow counters, scintillation counters, and sensitised films or plates.

This is the phenomenon of **radioactivity**; chemical elements, isotopes, compounds and, in general, substances that display it are called **radioactive**.

(III) RADIOACTIVE CHEMICAL ELEMENTS, RADIOACTIVE ISOTOPES AND THEIR COMPOUNDS; MIXTURES AND RESIDUES CONTAINING THESE PRODUCTS

(A) **Radioactive elements**.

Within this heading fall the radioactive chemical elements referred to in Note 6 (a) to this Chapter, namely : technetium, promethium, polonium and all elements of greater atomic number, such as astatine, radon, francium, radium, actinium, thorium, protactinium, uranium, neptunium, plutonium, americium, curium, berkelium, californium, einsteinium, fermium, mendelevium, nobelium and lawrencium.

These are elements generally composed of several isotopes which are all radioactive.

On the other hand, there are elements composed of mixtures of stable and radioactive isotopes, such as potassium, rubidium, samarium and lutetium (**heading 28.05**), which, because the radioactive isotopes have a low level of radioactivity and constitute a relatively low percentage of the mixture, can be considered as practically stable and thus do not fall in this heading.

On the other hand, the same elements (potassium, rubidium, samarium, lutetium), if enriched in their radioactive isotopes (K 40, Rb 87, Sm 147, Lu 176, respectively), are to be considered as radioactive isotopes of this heading.

(B) **Radioactive isotopes**.

To the natural radioactive isotopes potassium 40, rubidium 87, samarium 147, and lutetium 176 already mentioned, may be added uranium 235 and uranium 238, which are discussed in more detail in Section (IV) below, and certain isotopes of thallium, lead, bismuth, polonium, radium, actinium or thorium, which are often known by a name different from that of the corresponding element. This name refers rather to the element from which they were derived by radioactive conversion. Thus, bismuth 210 is called *radium E*, polonium 212 is called *thorium C'* and actinium 228 is called *mesothorium II*.

Chemical elements which are normally stable may nonetheless become radioactive either after bombardment with particles having a very high kinetic energy (protons, deuterons) issuing from a particle accelerator (cyclotron, synchrotron, etc.) or after absorbing neutrons in a nuclear reactor.

The elements thus transformed are called artificial radioactive isotopes. Of these, about 500 are known at present, of which close to 200 are already being used in practical applications. Apart from uranium 233 and the plutonium isotopes, which are discussed later, some of the most important are :

hydrogen 3 (tritium), carbon 14, sodium 24, phosphorus 32, sulphur 35, potassium 42, calcium 45, chromium 51, iron 59, cobalt 60, krypton 85, strontium 90, yttrium 90, palladium 109, iodine 131 and 132, xenon 133, caesium 137, thulium 170, iridium 192, gold 198, and polonium 210.

Radioactive chemical elements and radioactive isotopes transform themselves naturally into more stable elements or isotopes.

The time required for the quantity of a given radioactive isotope to decrease to one-half that initially present is known as the half-life or transformation rate of that isotope. It varies from a fraction of a second for certain highly radioactive isotopes (0.3×10^{-6} for thorium C') to billions of years (1.5×10^{11} years for samarium 147) and constitutes a convenient yardstick of the statistical instability of the nucleus concerned.

Radioactive chemical elements and isotopes fall in this heading, even when mixed together or with radioactive compounds, or with non-radioactive materials (e.g., unprocessed irradiated targets and radioactive sources), provided that the specific radioactivity of the product is greater than 74 Bq/g (0.002 µCi/g).

(C) **Radioactive compounds; mixtures and residues containing radioactive substances**.

The radioactive chemical elements and isotopes of the present heading are often used in the form of compounds or products which are "labelled" (i.e., contain molecules with one or more radioactive atoms). Such compounds remain classified in this heading, even when dissolved or dispersed in, or mixed naturally or artificially with, other radioactive or non-radioactive materials. These elements and isotopes are also classified in this heading when in the form of alloys, dispersions or cermets.

Inorganic or organic compounds, chemically or otherwise constituted of radioactive chemical elements or radioactive isotopes, and solutions thereof, still fall in this heading, even if the specific radioactivity of these compounds or solutions is below 74 Bq/g (0.002 µCi/g); on the other hand, alloys, dispersions (including cermets), ceramic products and mixtures containing radioactive substances (elements, isotopes or compounds thereof) fall in this heading if their specific radioactivity is greater than 74 Bq/g (0.002 µCi/g). The radioactive elements and isotopes, very rarely used in their free form, are commercially available in chemical compounds or alloys. Apart from compounds of fissile and fertile chemical elements and isotopes, which are mentioned in Section (IV) below on account of their characteristics and importance, the most important radioactive compounds are :

(1) **Radium salts (chloride, bromide, sulphate, etc.**) used as radiation sources for treating cancer or for certain experiments in physics.

(2) **Compounds of radioactive isotopes referred to under (III) (B) above**.

Artificial radioactive isotopes and their compounds are used :

(a) **In industry**, e.g., for metal radiography, for measuring the thickness of sheets, plates, etc.; for measuring the level of liquids in an inaccessible container; for facilitating vulcanisation; to trigger off polymerisation or grafting of several organic compounds; for the manufacture of luminous paint (mixed, for example, with zinc sulphide); for clock and watch dials, instruments, etc.

(b) **In medicine**, e.g., for diagnosing or treating certain diseases (cobalt 60, iodine 131, gold 198, phosphorus 32, etc.).

(c) **In agriculture**, e.g., for sterilising agricultural produce; to prevent germination; for studies of fertiliser application or of fertiliser absorption by plants; to induce genetic mutations thus improving strains, etc. (cobalt 60, caesium 137, phosphorus 32, etc.).

(d) **In biology**, e.g., for studying the functioning or development of certain animal or vegetable organs (tritium, carbon 14, sodium 24, phosphorus 32, sulphur 35, potassium 42, calcium 45, iron 59, strontium 90, iodine 131, etc.).

(e) **In physical or chemical research**.

Radioactive isotopes and their compounds are normally put up in the form of powders, solutions, needles, thread or sheets. They are generally contained in glass ampoules, in hollow platinum needles, in stainless steel tubes, etc., which are packed in anti-radiation metal outer containers (generally of lead), the choice of thickness of which depends on the degree of radioactivity of the isotopes. In accordance with certain international agreements, a special label must then be affixed to the container, giving particulars of the isotope contained therein and its degree of radioactivity.

Mixtures may include certain neutron sources formed by associating (in a mixture, alloy, combinations, etc.) a radioactive element or isotope (radium, radon, antimony 124, americium 241, etc.) with another element (beryllium, fluorine, etc.) in such a way as to produce a (γ,n) or (α,n) reaction (introduction of a γ-photon or an α-particle, respectively, and emission of a neutron).

However, all assembled neutron sources, ready to be introduced into nuclear reactors to initiate a fission chain reaction, are to be considered as reactor components and consequently are to be classified in **heading 84.01**.

Microspheres of nuclear fuel coated with layers of carbon or silicon carbide intended for introduction into spherical or prismatic fuel elements fall in this heading.

Also included in this heading are the products used as luminophores, which have small quantities of radioactive substances added to make them self-luminescent, provided that the resulting specific radioactivity is greater than 74 Bq/g (0.002 μCi/g).

Of the radioactive residues, the most important from the point of view of re-use are :

(1) **Irradiated or tritiated heavy water** : after a residence time of varying length in a nuclear reactor, some of the deuterium in the heavy water is converted, by absorption of neutrons, into tritium and thus the heavy water becomes radioactive.

(2) **Spent** (irradiated) **fuel elements** (cartridges), generally very highly radioactive, mainly used for the purpose of recovering the fissile and fertile materials contained in them (see Section (IV) below).

(IV) FISSILE AND FERTILE CHEMICAL ELEMENTS AND ISOTOPES AND COMPOUNDS THEREOF; MIXTURES AND RESIDUES CONTAINING THOSE SUBSTANCES

(A) **Fissile and fertile chemical elements and isotopes**.

Certain of the radioactive chemical elements and isotopes mentioned in Section (III) have a high atomic mass, for example thorium, uranium, plutonium and americium, of which the nucleus of the atom has a particularly complex structure. These nuclei, when subjected to the action of subatomic

particles (neutrons, protons, deuterons, tritons, α particles, etc.) may absorb these particles, thereby increasing their instability to a degree sufficient to cause them to split into two nuclei of medium weight with neighbouring masses (or more rarely into three or four fragments). This disintegration liberates a considerable amount of energy and is accompanied by the formation of secondary neutrons. It is known as the process of **fission** or **nuclear bipartition**.

Fission only seldom occurs spontaneously or under the action of photons.

The secondary neutrons released at the time of fission may cause a second fission to take place thus creating secondary neutrons and so on. The repetition of this process produces a **chain reaction**.

The probability of fission is generally very high for certain nuclides (U 233, U 235, Pu 239) if slow neutrons are used, i.e., neutrons of an average speed of approximately 2,200 m/sec. (or an energy of 1/40 of an electron volt (eV)). As this speed corresponds approximately to that of the molecules of a fluid (thermal motion) slow neutrons are also sometimes called **thermal** neutrons.

At present, fission caused by thermal neutrons is that most used in nuclear reactors.

For this reason, the term **fissile** is commonly used to describe isotopes which undergo fission by thermal neutrons, particularly uranium 233, uranium 235, plutonium 239 and the chemical elements that contain them, particularly uranium and plutonium.

Other nuclides, such as uranium 238 and thorium 232 only undergo direct fission by fast neutrons and are commonly considered, not as fissile, but as **fertile**. The “fertility” comes from the fact that these nuclides can absorb slow neutrons, giving rise to the formation of plutonium 239 and uranium 233, respectively, which are fissile.

In thermal nuclear reactors (with slowed-down neutrons), since the energy of secondary neutrons released by fission is much higher (approximately 2 million eV), these neutrons have to be slowed down if a chain reaction is to take place. This can be achieved by means of **moderators**, i.e., products with a low atomic mass (such as water, heavy water, certain hydrocarbons, graphite, beryllium, etc.) which, although they absorb part of the energy of the neutrons by a succession of shocks, do not absorb the neutrons themselves or absorb only a negligible proportion of them.

In order to start and maintain a chain reaction, the average number of secondary neutrons produced by fission must more than compensate the neutrons lost by the phenomena of capture and escape not leading to fission.

The **fissile and fertile chemical elements** are listed below :

(1) **Natural uranium**.

Uranium in the natural state is composed of three isotopes : uranium 238, which forms 99.28 % of the total mass, uranium 235 which represents 0.71 %, and a negligible quantity (about 0.006 %) of uranium 234. Consequently, it can be considered as both a fissile element (because of its U 235 content) and a fertile element (because of its U 238 content).

Uranium is mainly extracted from pitchblende, uraninite, autunite, brannerite, carnotite or torbernite. It is also obtained from other secondary sources, such as residues from the manufacture of

superphosphates or gold-mine waste. The normal process is reduction of the tetrafluoride by means of calcium or magnesium, or by electrolysis.

Uranium is a slightly radioactive element, very heavy (specific gravity 19) and hard. It has a lustrous silver-grey surface, but tarnishes on contact with the oxygen in the air, forming oxides. In powder form it oxidises and ignites rapidly when in contact with air.

Uranium is normally marketed in the form of ingots ready for polishing, filing, rolling, etc. (to produce bars and rods, tubes, sheets, wire, etc.).

(2) **Thorium**.

Since thorite and orangite, though very rich in thorium, are rare, thorium is mainly obtained from monazite which is also the source of rare-earth metals.

The impure metal takes the form of an extremely pyrophoric grey powder. It is obtained by electrolysis of the fluorides or by reduction of the fluorides, chlorides or oxides. The resulting metal is purified and sintered in an inert atmosphere and transformed into heavy steel-grey ingots (specific gravity 11.5); they are hard (although softer than uranium) and oxidise rapidly on contact with air.

These ingots are rolled, extruded or drawn to produce sheets, rods, tubes, wire, etc. Natural thorium consists essentially of the isotope thorium 232.

Thorium and certain thorium alloys are mainly used as fertile materials in nuclear reactors. Thorium-magnesium and thorium-tungsten alloys, however, are used in the aircraft industry or in the manufacture of thermionic devices.

Articles or parts of articles, made of thorium of Sections XVI to XIX are **excluded** from this heading.

(3) **Plutonium**.

Industrial plutonium is obtained by irradiating uranium 238 in a nuclear reactor.

It is very heavy (specific gravity 19.8), radioactive and highly toxic. It is similar to uranium in appearance, and in its oxidising propensities.

It is put up in the same commercial forms as enriched uranium and requires the greatest care in handling.

The fissile isotopes include :

(1) **Uranium 233** : this is obtained in nuclear reactors from thorium 232, which is transformed successively into thorium 233, protactinium 233 and uranium 233.

(2) **Uranium 235** : this is the only fissile uranium isotope which occurs in nature, being present in the proportion of 0.71 % in natural uranium.

To obtain uranium enriched in U 235 and uranium depleted in U 235 (enriched in U 238), uranium hexafluoride is submitted to isotopic separation by the electro-magnetic, centrifugal or gas-diffusion processes.

(3) **Plutonium 239** : this is obtained in nuclear reactors from uranium 238, which is successively transformed into uranium 239, neptunium 239 and plutonium 239.

Also to be mentioned are certain isotopes of transplutonium elements such as californium 252, americium 241, curium 242 and curium 244, which can give rise to fission (whether spontaneous or not) and which can be used as intense neutron sources.

Of the fertile isotopes, apart from thorium 232, depleted uranium (i.e. depleted in U 235 and consequently enriched in U 238) should be mentioned. This metal is a by-product of the production of uranium enriched in U 235. Because of its much lower cost and the large quantities available, it replaces natural uranium, especially as a fertile material, as a protective screen against radiations, as a heavy metal for the manufacture of fly-wheels or in the preparation of absorbent compositions (getters) used for purifying certain gases.

Articles or parts of articles, made of uranium depleted in U 235, of Sections XVI to XIX are **excluded** from this heading.

(B) **Compounds of fissile and fertile chemical elements or isotopes**.

The following compounds, in particular, fall in this heading :

(1) **of uranium** :

(a) the oxides UO_2, U_3O_8, and UO_3

(b) the fluorides UF_4 and UF_6 (the latter sublimes at 56 °C)

(c) the carbides UC and UC_2

(d) the uranates $Na_2U_2O_7$ and $(NH_4)U_2O_7$

(e) uranyl nitrate $UO_2(NO_3)_2.6\ H_2O$

(f) uranyl sulphate $UO_2SO_4.\ 3\ H_2O$

(2) **of plutonium** :

(a) the tetrafluoride PuF_4

(b) the dioxide PuO_2

(c) the nitrate $PuO_2(NO_3)_2$

(d) the carbides PuC and Pu_2C_3

(e) the nitride PuN.

The uranium or plutonium compounds are mainly used in the nuclear industry, either as intermediates or as finished products. The uranium hexafluoride is usually presented in sealed containers; it is rather toxic and should therefore be handled with care.

(3) **of thorium** :

(a) oxide and hydroxide. Thorium oxide (ThO_2) (thoria) is a whitish-yellow powder, insoluble in water. The hydroxide ($Th(OH)_4$) is hydrated thoria. Both are obtained from monazite. They are used in the manufacture of gas-mantles, as refractory products or as catalysts (acetone synthesis). The oxide is used as fertile material in nuclear reactors;

(b) inorganic salts. These salts are usually white. The most important are :

(i) thorium nitrate, appearing in the more or less hydrated state as crystals, or as powder (calcined nitrate). It is used to prepare luminescent paints. Mixed with cerium nitrate it is used to impregnate gas-mantles;

(ii) thorium sulphate, a crystalline powder, soluble in cold water; thorium hydrogen sulphate and alkali double sulphates;

(iii) thorium chloride ($ThC1_4$), anhydrous or hydrated, and oxychloride;

(iv) thorium nitride and thorium carbide. Used as refractory products, as abrasives or as fertile materials in nuclear reactors;

(c) organic compounds. The best known organic compounds are thorium formate, acetate, tartrate and benzoate, all used in medicine.

(C) **Alloys, dispersions (including cermets), ceramic products, mixtures and residues containing fissile or fertile elements or isotopes or inorganic or organic compounds thereof**.

The principal products in this group are :

(1) **Alloys of uranium or plutonium with** aluminium, chromium, zirconium, molybdenum, titanium, niobium or vanadium. Also uranium-plutonium and ferro-uranium alloys.

(2) **Dispersions of uranium dioxide** (UO_2) **or of uranium carbide** (UC) (whether or not mixed with thorium dioxide or thorium carbide) in graphite or polyethylene.

(3) **Cermets** consisting of various metals (e.g. stainless steel) together with uranium dioxide (UO_2) plutonium dioxide (PuO_2) uranium carbide (UC) or plutonium carbide (PuC) (or these compounds mixed with thorium oxide or carbide).

These products in the form of bars, plates, spheres, threads, powder, etc., are used either for the manufacture of fuel elements or, sometimes, directly in the reactors.

Bars, plates and spheres, contained in a sheath and fitted with special attachments for handling purposes, fall in **heading 84.01**.

(4) Spent or irradiated fuel elements (cartridges), that is, those which, after more or less extensive use, must be replaced (e.g., because the accumulation of fission products is hampering the chain reaction or because the sheath has deteriorated). After sufficiently long storage in very deep water to cool them and to allow their radioactivity to decrease, these fuel elements are transported in lead containers, to specialised installations equipped for the recovery of the residual fissile material, of the fissile material derived from the transformation or fertile elements (which are usually contained in fuel elements) and of fission products.

2844.10

- Natural uranium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing natural uranium or natural uranium compounds

2844.20

- Uranium enriched in U 235 and its compounds; plutonium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing uranium enriched in U 235, plutonium or compounds of these products

2844.30

- Uranium depleted in U 235 and its compounds; thorium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing uranium depleted in U 235, thorium or compounds of these products

2844.30

- Uranium depleted in U 235 and its compounds; thorium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing uranium depleted in U 235, thorium or compounds of these products

2844.4

- Radioactive elements and isotopes and compounds other than those of subheading 2844.10, 2844.20 or 2844.30; alloys, dispersions (including cermets), ceramic products and mixtures containing these elements, isotopes or compounds; radioactive residues :

2844.41

-- Tritium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing tritium or its compounds

2844.42

-- Actinium-225, actinium-227, californium-253, curium-240, curium-241, curium-242, curium-243, curium-244, einsteinium-253, einsteinium-254, gadolinium-148, polonium-208, polonium-209, polonium-210, radium-223, uranium-230 or uranium-232, and their compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing these elements or compounds

2844.43

-- Other radioactive elements and isotopes and compounds; other alloys, dispersions (including cermets), ceramic products and mixtures containing these elements, isotopes or compounds

2844.44

-- Radioactive residues
2844.50

- Spent (irradiated) fuel elements (cartridges) of nuclear reactors
Heading 2845

Isotopes other than those of heading 28.44; compounds, inorganic or organic, of such isotopes, whether or not chemically defined.
EXPLANATORY NOTES

28.45 - Isotopes other than those of heading 28.44; compounds, inorganic or organic, of such isotopes, whether or not chemically defined.

2845.10 - Heavy water (deuterium oxide)

2845.20 - Boron enriched in boron-10 and its compounds

2845.30 - Lithium enriched in lithium-6 and its compounds

2845.40 - Helium-3

2845.90 - Other

For the definition of the term “isotopes”, see Part (I) of Explanatory Note to heading 28.44.

This heading covers stable isotopes, that is, non-radioactive isotopes and their inorganic or organic compounds, whether or not chemically defined.

The heading includes the following isotopes and their compounds :

(1) **Heavy hydrogen or deuterium**. This is separated from normal hydrogen in which it occurs at a level of 1 part in 6,500.

(2) **Heavy water**, which is deuterium oxide. Occurring in ordinary water at a level of 1 part in 6,500. It is normally obtained as a residue of the electrolysis of water. Used as a source of deuterium, and in nuclear reactors for slowing down the neutrons which split the uranium atoms.

(3) **Other compounds made with deuterium**, e.g., heavy acetylene, heavy methane, heavy acetic acids and heavy paraffin wax.

(4) **The isotopes of lithium** known as lithium 6 or 7, and their compounds.

(5) **The isotope of carbon** known as carbon 13, and its compounds.

2845.10

- Heavy water (deuterium oxide)
2845.20

- Boron enriched in boron-10 and its compounds
2845.30

- Lithium enriched in lithium-6 and its compounds
2845.40

- Helium-3
2845.90

- Other
Heading 2846

Compounds, inorganic or organic, of rare-earth metals, of yttrium or of scandium or of mixtures of these metals.

EXPLANATORY NOTES

28.46 - Compounds, inorganic or organic, of rare-earth metals, of yttrium or of scandium or of mixtures of these metals.

2846.10 - Cerium compounds

2846.90 - Other

This heading covers the inorganic or organic compounds of yttrium, of scandium or of the rare-earth metals of heading 28.05 (lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium). The heading also covers compounds derived directly by chemical treatment from mixtures of the elements. This means that the heading will include mixtures of oxides or hydroxides of these elements or mixtures of salts having the same anion (e.g., rare-earth metal chlorides), but not mixtures of salts having different anions, whether or not the cation is the same. The heading will not therefore, for example, cover a mixture of europium and samarium nitrates with the oxalates nor a mixture of cerium chloride and cerium sulphate since these examples are not compounds derived directly from mixtures of elements, but are mixtures of compounds which could be conceived as having been made intentionally for special purposes and which, accordingly, fall in **heading 38.24**.

The heading also includes double or complex salts of these with other metals.

The compounds of this heading include :

(1) **Cerium compounds**.

(a) **Oxides and hydroxides**. Ceric oxide, a white powder insoluble in water, is obtained from cerium nitrate; it is used as an opacifier in ceramics, for colouring glass, in the preparation of arc-lamp carbons and as a catalyst in the manufacture of nitric acid and ammonia. There is also a ceric hydroxide. Cerous oxide and cerous hydroxide are not very stable.

(b) **Cerium salts**. Cerous nitrate ($Ce(NO_3)_3$) is used in the manufacture of gas-mantles. Ammonium ceric nitrate appears in the form of red crystals.

Cerium sulphates (cerous sulphate and its hydrates, hydrated ceric sulphate, orange-yellow prisms soluble in water) are used in photography as reducers. There are also double sulphates of cerium.

In addition to cerous chloride ($CeCl_3$) there are various other colourless cerous salts and yellow or orange ceric salts.

Cerium oxalate appears as a powder or in yellowish-white hydrated crystals, practically insoluble in water; it is used in the isolation of metals of the cerium group or in medicine.

(2) **Other rare-earth metal compounds**. Yttrium oxide (yttria), terbium oxide (terbia), mixtures of ytterbium oxides (ytterbia) and of oxides of other rare-earth metals of commerce are reasonably pure. The heading includes mixtures of salts derived directly from such mixtures of oxides.

The oxides of europium, samarium, etc. are used in nuclear reactors for the absorption of slow neutrons.

This heading **excludes** :

(a) Natural compounds of rare-earth metals, e.g., xenotime (complex phosphates), gadolinite or ytterbite and cerite (complex silicates) (**heading 25.30**) and monazite (phosphates of thorium and of rare-earth metals) (**heading 26.12**).

(b) Salts and other compounds, inorganic or organic, of promethium (**heading 28.44**).

2846.10

- Cerium compounds

2846.90

- Other

Heading 2847

Hydrogen peroxide, whether or not solidified with urea.

EXPLANATORY NOTES

28.47 - Hydrogen peroxide, whether or not solidified with urea.

Hydrogen peroxide (H_2O_2) is obtained by electrolytic oxidation of sulphuric acid followed by distillation, or by treating barium or sodium peroxide or potassium persulphate with an acid. It is a colourless liquid with the appearance of ordinary water. It may have a syrupy consistency and corrodes the skin when concentrated. It is transported in carboys.

Hydrogen peroxide is very unstable in an alkaline medium, especially when exposed to heat or light. It nearly always contains small amounts of stabilisers (boric or citric acid, etc.) to prevent decomposition; such mixtures remain in this heading.

This heading also includes hydrogen peroxide, solidified with urea, whether or not stabilised.

Hydrogen peroxide is used for bleaching textiles, feathers, straw, sponges, ivory, hair, etc. It is also used for vat-dyeing, for purifying water, for restoring old pictures, in photography and in medicine (as an antiseptic and haemostat).

Presented as a medicament in measured doses or in forms or packings for retail sale, hydrogen peroxide falls in **heading 30.04**.

2847.00

Hydrogen peroxide, whether or not solidified with urea.

Heading 2849

Carbides, whether or not chemically defined.

EXPLANATORY NOTES

28.49 - Carbides, whether or not chemically defined.

2849.10 - Of calcium

2849.20 - Of silicon

2849.90 - Other

This heading covers :

(A) **Binary carbides**, which are compounds of carbon with another element more electropositive than carbon. Those known as acetylides are also classified in this heading.

The best known binary carbides are :

(1) **Calcium carbide** (CaC_2). A transparent, colourless solid in the pure state, opaque and grey when impure. Decomposed by water to produce acetylene; used for the production of the latter gas or of calcium cyanamide.

(2) **Silicon carbide** (SiC) (carbon silicide). Obtained by treating carbon and silica in an electric furnace. Black crystals, lumps or shapeless masses, crushed or in grains. Fusible only with difficulty; resists chemical reagents; has a certain power of refraction, and is nearly as hard as diamond but rather brittle. Used extensively as an abrasive and as a refractory product; mixed with graphite it is used for lining electric furnaces or high temperature ovens. Also used for the manufacture of silicon. The heading **excludes** silicon carbide in the form of powder or grain on a backing of textile material, of paper, of paperboard or of other materials (**heading 68.05**), or in the form of grinding wheels, hand sharpening or polishing stones, etc. (**heading 68.04**).

(3) **Boron carbide** (borocarbon). Obtained by treating graphite and boric acid in an electric furnace; hard brilliant blackish crystals. Used as abrasive, for boring rocks, in the manufacture of dies or electrodes.

(4) **Aluminium carbide** (Al_4C_3). Obtained in an electric furnace by heating aluminium oxide with coke; transparent yellow crystals or flakes. Decomposed by water to produce methane.

(5) **Zirconium carbide** (ZrC). Obtained in an electric furnace from zirconium oxide and carbon black; disintegrates on contact with air or water. Used in manufacture of lamp filaments.

(6) **Barium carbide** (BaC_2). Usually obtained in an electric furnace; brownish, crystalline masses. Decomposed by water to produce acetylene.

(7) **Tungsten carbides**. Obtained in an electric furnace from the metal powder or the oxide and carbon black; a powder not decomposed by water, with a high chemical stability. High melting point; very hard and resistant to heat. Its conductivity is similar to that of metals, and it associates easily with ferrous metals. Used in hard sintered compositions, e.g., in agglomerates for tooltips (usually associated with a binder such as cobalt or nickel).

(8) **Other carbides**. Molybdenum, vanadium, titanium, tantalum or niobium carbides, obtained from the metal powders or oxides and carbon black in an electric furnace; used for the same purposes as tungsten carbide. There are also chromium and manganese carbides.

(B) **Carbides consisting of carbon combined with more than one metal element**, e.g., (Ti, W)C.

(C) **Compounds consisting of one or more metal elements combined with carbon and another non-metal element**, e.g., aluminium borocarbide, zirconium carbonitride, titanium carbonitride.

The proportions of the elements in some of these compounds may not be stoichiometric. Mechanical mixtures are however **excluded**.

The heading also **excludes** :

(a) Binary compounds of carbon with the following elements : oxygen (**heading 28.11**), halogens (**heading 28.12** or **29.03**), sulphur (**heading 28.13**), precious metals (**heading 28.43**), nitrogen (**heading 28.53**), hydrogen (**heading 29.01**).

(b) Mixtures of metal carbides, not agglomerated, but prepared for the manufacture of plates, sticks, tips, etc., for tools (**heading 38.24**).

(c) The iron-carbon alloys of **Chapter 72**, such as white pig iron, regardless of their iron carbide content.

(d) Mixtures of agglomerated metal carbides, in plates, sticks, tips and the like for tools (**heading 82.09**).

2849.10

- Of calcium

2849.20

- Of silicon

2849.90

- Other

Heading 2850

Hydrides, nitrides, azides, silicides and borides, whether or not chemically defined, other than compounds which are also carbides of heading 28.49.

EXPLANATORY NOTES

28.50 - Hydrides, nitrides, azides, silicides and borides, whether or not chemically defined, other than compounds which are also carbides of heading 28.49.

The four groups of compounds covered by this heading each contain two or more elements, one of which is described by the term used (hydrogen, nitrogen, silicon or boron), the others being non-metals or metals.

(A) HYDRIDES

The most important hydride is calcium hydride (CaH_2) (hydrolith) obtained by direct combination of its elements; white masses with a crystalline fracture, decomposing in the cold on contact with water and giving off hydrogen. It is a reducing agent used for producing sintered chromium from chromic chloride.

There are also hydrides of arsenic, silicon, boron (including sodium borohydride), lithium (and aluminium-lithium), sodium, potassium, strontium, antimony, nickel, titanium, zirconium, tin, lead, etc.

This heading **does not include** compounds of hydrogen with the following elements : oxygen (**headings 22.01**, **28.45**, **28.47** and **28.53**), nitrogen (**headings 28.11**, **28.14** and **28.25**), phosphorus (**heading 28.53**), carbon (**heading 29.01**), and certain other non-metals (**headings 28.06** and **28.11**). Palladium hydrides and other precious metal hydrides fall in **heading 28.43**.

(B) NITRIDES

(1) **Non-metal nitrides**. Boron nitride (BN) is a light white powder, highly refractory. A heat and electricity insulator; used for lining electric ovens or for the manufacture of crucibles. Silicon nitride (Si_3N_4) is a greyish-white powder.

(2) **Metal nitrides**. Aluminium, titanium, zirconium, hafnium, vanadium, tantalum or niobium nitrides are obtained either by heating the pure metal in nitrogen at a temperature of 1,100 °C or 1,200 °C, or by heating at a higher temperature a mixture of oxide and carbon in a current of nitrogen or ammonia gas.

This heading **does not cover** combinations of nitrogen with the following elements : oxygen (**heading 28.11**), halogens (**heading 28.12**), sulphur (**heading 28.13**), hydrogen (**heading 28.14**), carbon (**heading 28.53**). Silver nitrides and other precious metal nitrides fall in **heading 28.43**, thorium and uranium nitrides in **heading 28.44**.

(C) AZIDES

Metal azides can be regarded as salts of hydrazoic acid (HN_3).

(1) **Sodium azide** (NaN_3). Obtained by action of nitrous oxide on sodium amide, or from hydrazine, ethyl nitrite and sodium hydroxide; colourless crystalline flakes. Soluble in water, deteriorates slightly in humid atmosphere. Strongly affected by the carbon dioxide in the air. It is sensitive to shock, like mercury fulminate, but less sensitive to heat than the latter. Used for preparing primer explosives for detonators.

(2) **Lead azide** (PbN_6). Obtained from sodium azide and lead acetate. White crystalline powder, very sensitive to shock, preserved under water. Used instead of mercury fulminate as an explosive.

(D) SILICIDES

(1) **Calcium silicide**. Very hard, grey, crystalline masses. Used in metallurgy, for local production of hydrogen, and in the manufacture of smoke bombs.

(2) **Chromium silicides**. There are several chromium silicides; these are very hard substances used as abrasives.

(3) **Copper silicide** (**other than** copper silicon master alloys of **heading 74.05**). Usually in brittle plates. Reducing agent for refining copper, facilitating its moulding and increasing its hardness and resistance to rupture; it decreases the tendency of copper alloys to corrode. Also used in the manufacture of silicon bronze or of nickel-copper alloys.

(4) **Magnesium or manganese silicides**.

This heading **does not cover** combinations of silicon with the following elements : oxygen (**heading 28.11**), halogens (**heading 28.12**), sulphur (**heading 28.13**), phosphorus (**heading 28.53**). Carbon silicide (silicon carbide) falls in **heading 28.49**, platinum and other precious metal silicides in **heading 28.43**, ferro-alloys and master alloys containing silicon in **heading 72.02** or **74.05**, and aluminium-silicon alloys in **Chapter 76**. See paragraph (A) above for combinations of silicon and hydrogen.

(E) BORIDES

(1) **Calcium boride** (CaB_6). Obtained by electrolysing a mixture of a borate and calcium chloride; dark crystalline powder. A powerful reducing agent used in metallurgy.

(2) **Aluminium boride**. Obtained in an electric furnace; crystalline masses. Used in the manufacture of glass.

(3) **Titanium, zirconium, vanadium, niobium, tantalum, molybdenum and tungsten borides** are obtained by heating mixtures of metal powder and of pure boron powder in a vacuum at a temperature of 1,800 °C to 2,200 °C, or by treating vaporised metal with boron. These products are very hard and are good conductors of electricity. They are used in hard sintered compositions.

(4) **Magnesium, antimony, manganese, and iron borides, etc**.

This heading **does not include** compounds of boron with the following elements : oxygen (**heading 28.10**), halogens (**heading 28.12**), sulphur (**heading 28.13**), precious metals (**heading 28.43**), phosphorus (**heading 28.53**), carbon (**heading 28.49**). See paragraphs (A), (B) and (D) above for combinations with hydrogen, nitrogen or silicon.

The heading **excludes** copper-boron master alloys (see the Explanatory Note to **heading 74.05**).

2850.00

Hydrides, nitrides, azides, silicides and borides, whether or not chemically defined, other than compounds which are also carbides of heading 28.49.

Heading 2852

Inorganic or organic compounds of mercury, whether or not chemically defined, excluding amalgams.

EXPLANATORY NOTES

28.52 - Inorganic or organic compounds of mercury, whether or not chemically defined, excluding amalgams.

2852.10 - Chemically defined

2852.90 - Other

This heading covers inorganic or organic compounds of mercury, whether or not chemically defined, other than amalgams. The most common compounds of mercury are listed below :

(1) **Mercury oxides**. Mercuric oxide (HgO) is the most important oxide of mercury. It can exist as a bright-red crystalline powder (**red oxide**) or as a denser orange-yellow amorphous powder (**yellow oxide**). These oxides are toxic and turn black on exposure to light. They are used in the preparation of marine paints or mercury salts, and as catalysts.

(2) **Mercury chlorides**.

(a) **Mercurous chloride** (calomel) (Hg_2Cl_2). Can exist as amorphous masses, as a powder or in white crystals; insoluble in water. Mercurous chloride is used also in pyrotechnics, in the porcelain industry, etc.

(b) **Mercuric chloride** (mercury dichloride, corrosive sublimate) ($HgCl_2$). Crystallises in prisms or long white needles. Soluble in water (especially when hot); a violent poison. It is used for "bronzing" iron, for impregnating wood to render it fire-proof, as an intensifier in photography, as a catalyst in organic chemistry and in the manufacture of mercuric oxide.

(3) **Mercury iodides**.

(a) **Mercurous iodide** (HgI or Hg_2I_2). Powder, usually amorphous but sometimes crystalline; usually yellow but sometimes greenish or reddish; sparingly soluble in water and very toxic. It is used in organic synthesis.

(b) **Mercuric iodide** (mercury di-iodide, red iodide) (HgI_2). Crystalline red powder, almost insoluble in water, very toxic. Used in photography (as an intensifier) and in analysis.

(4) **Mercury sulphides**. Artificial mercury sulphide (HgS) is black. When sublimed or heated with alkali polysulphides, black sulphide is transformed into a red powder (red mercury sulphide, artificial vermilion), used as a pigment for paints or sealing wax. The product obtained by the wet process is shinier but does not resist the action of light so well. This salt is toxic.

Natural mercury sulphide (cinnabar, natural vermilion) is **excluded** (**heading 26.17**).

(5) **Mercury sulphates**.

(a) **Mercurous sulphate** (Hg_2SO_4). White crystalline powder, decomposed by water into basic sulphate. Employed in the preparation of calomel and of standard electric cells.

(b) **Mercuric sulphate** ($HgSO_4$). White, anhydrous and crystalline masses, turning black in the light, or hydrated crystalline flakes (with 1 H_2O). Used for preparing mercuric chloride or other mercuric salts, in gold or silver metallurgy, etc.

(c) **Trimercury dioxide sulphate** ($HgSO_4.2HgO$) (basic mercury sulphate).

(6) **Mercury nitrates**.

(a) **Mercurous nitrate** ($HgNO_3.H_2O$). Poisonous. Colourlesscrystals. Used in gilding; in medicine; by hatters for the carroting of hair before the felting operation (hatters' *aqua fortis*); for preparing mercurous acetate, etc.

(b) **Mercuric nitrate** ($Hg(NO_3)_2$). Hydrated salt (generally with 2 H_2O). Colourless crystals, or white or yellowish slabs, deliquescent and toxic. Used in hat-making and gilding. Also used as a nitration aid, and as a catalyst in organic synthesis, in the preparation of mercury fulminate or mercuric oxide, etc.

(c) **Basic mercury nitrates**.

(7) **Mercury cyanides**.

(a) **Mercuric cyanide** ($Hg(CN)_2$).

(b) **Mercuric cyanide oxide** ($Hg(CN)_2.HgO$).

(8) **Cyanomercurates of inorganic bases**. Potassium cyanomercurate. Colourless crystals, soluble in water and toxic. Used for silvering mirrors.

(9) **Mercury fulminate** (presumably $Hg(ONC)_2$). White or yellowish crystals, needle-shaped, soluble in boiling water, poisonous. Gives off red fumes when exploding. Presented in non-metallic containers filled with water.

(10) **Mercuric thiocyanate** ($Hg(SCN)_2$). White crystalline powder, sparingly soluble in water. Poisonous salt used in photography to intensify negatives.

(11) **Mercury arsenates**. Mercuric orthoarsenate ($Hg_3(AsO_4)_2$). Pale yellow powder, insoluble in water. Used in anti-fouling paints.

(12) **Double or complex salts.**

(a) **Chloride of ammonium with mercury (ammonium mercuric chloride** or **ammonium chloromercurate**). White crystalline powder, relatively soluble in hot water; toxic. Used in pyrotechnics.

(b) **Copper mercury iodide**. A dark red powder, insoluble in water and toxic. Used in thermoscopics.

(13) **Aminomercuric chloride** ($HgNH_2Cl$). White powder, turning greyish or yellowish on exposure to light; insoluble in water; poisonous. Used in pyrotechnics.

(14) **Mercury lactate**, salt of lactic acid.

(15) **Organo-inorganic mercury compounds.** These may contain one or more mercury atoms, in particular the (–Hg.X) group in which X is an inorganic or organic acid residue.

(a) **Diethylmercury**.

(b) **Diphenylmercury**.

(c) **Phenylmercury acetate**.

(16) **Hydromercuridibromofluorescein**.

(17) **Mercury compounds, not chemically defined** (tannates of mercury, albuminates of mercury, nucleoproteids of mercury, etc.).

The heading **does not include** :

(a) Mercury (**heading 28.05** or **Chapter 30**).

(b) Amalgams of precious metals, amalgams containing both precious metals and base metals (**heading 28.43**) and amalgams wholly of base metal (**heading 28.53**).

2852.10

- Chemically defined

2852.90

- Other

Heading 2853

Phosphides, whether or not chemically defined, excluding ferrophosphorus; other inorganic compounds (including distilled or conductivity water and water of similar purity); liquid air (whether or not rare gases have been removed); compressed air; amalgams, other than amalgams of precious metals.

EXPLANATORY NOTES

28.53 - Phosphides, whether or not chemically defined, excluding ferrophosphorus; other inorganic compounds (including distilled or conductivity water and water of similar purity); liquid air (whether or not rare gases have been removed); compressed air; amalgams, other than amalgams of precious metals.

2853.10 - Cyanogen chloride (chlorcyan)

2853.90 - Other

(A) **PHOSPHIDES, WHETHER OR NOT CHEMICALLY DEFINED, EXCLUDING FERROPHOSPHORUS**

Phosphides are compounds of phosphorus with another element.

The most important of the phosphides falling here are obtained by direct action of the constituent elements; they include :

(1) **Copper phosphide** (cuprophosphorus, phosphor copper). Produced in a reverberatory furnace or in a crucible. Usually in yellowish-grey masses or in small, very brittle ingots of crystalline structure. The heading covers copper phosphide and master alloys of copper **only** if they contain more than 15 % by weight of phosphorus. Under this limit they fall generally in **Chapter 74**. Copper phosphide is a very good deoxidiser of copper, increasing the hardness of that metal; it improves the fluidity of molten metal, and is used in the manufacture of phosphor bronzes.

(2) **Calcium phosphide** (Ca_3P_2). Small chestnut-coloured crystals or grey granular masses which, on contact with water, give off hydrogen phosphides which ignite spontaneously. Used with calcium carbide for naval signals (self-igniting flares for buoys).

(3) **Zinc phosphide** (Zn_3P_2). Grey, poisonous powder with a vitreous fracture; gives off phosphine and deteriorates in moist air. Used for destroying rodents and locusts, and also in medicine (instead of phosphorus).

(4) **Tin phosphide**. A very brittle silvery-white solid. Used in making alloys.

(5) **Other phosphides**, e.g., hydrogen phosphides (solid, liquid, gaseous), and the phosphides of arsenic, boron, silicon, barium, cadmium.

This heading **excludes** :

(a) Compounds of phosphorus with oxygen (**heading 28.09**), with halogens (**heading 28.12**) or with sulphur (**heading 28.13**).

(b) Platinum and other precious metal phosphides (**heading 28.43**).

(c) Ferrophosphorus (iron phosphide) (**heading 72.02**).

(B) DISTILLED AND CONDUCTIVITY WATER AND WATER OF SIMILAR PURITY

The heading covers **only** distilled water, re-distilled or electro-osmotic water, conductivity water and water of similar purity, including water treated with ion exchange media.

Natural water, even if filtered, sterilised, purified or softened, is **excluded** (**heading 22.01**). When put up as a medicament in measured doses or in packings for retail sale, water falls in **heading 30.04**.

(C) MISCELLANEOUS INORGANIC COMPOUNDS

Inorganic chemical products not elsewhere specified or included are also included in this heading (including certain compounds of carbon listed in Chapter Note 2).

The heading includes :

(1) **Cyanogen** and **halogen compounds of cyanogen**, e.g., cyanogen chloride (chlorcyan) (CNCl) **cyanamide** and **its metal derivatives** (**other than** calcium cyanamide (**heading 31.02** or **31.05**)).

(2) **Non-metallic oxysulphides** (of arsenic, carbon, silicon) and **non-metallic chlorosulphides** (of phosphorus, carbon, etc.). Thiophosgene ($CSCl_2$) (thiocarbonyl chloride, carbon dichlorosulphide) obtained by the action of chlorine on carbon disulphide, is a red liquid, suffocating and lachrymatory, decomposed by water, used in organic synthesis.

(3) **Alkali amides**. Sodamide or sodium amide ($NaNH_2$) is obtained by the action of heated ammonia on a sodium-lead alloy, or by passing ammonia in the gaseous state over molten sodium. Pinkish or greenish crystalline masses, decomposed by water. Used in organic synthesis, in the preparation of azides, cyanides, etc.

There are also potassium and other metal amides.

(4) **Phosphonium iodide**. Obtained, for example, by the interaction of phosphorus, iodine and water; it is a reducing agent.

(5) **Trichlorosilane** ($SiHCl_3$). Obtained by the reaction of hydrogen chloride (HCl) with silicon, it is used in the manufacture of fumed silica and very pure silicon.

(D) LIQUID AIR AND COMPRESSED AIR

In commerce, liquefied air is presented in steel or brass vacuum-jacketed containers. It can cause severe burns and renders soft organic materials brittle. It is used for obtaining oxygen, nitrogen and rare gases by fractional distillation. Because of its rapid evaporation, it is used in laboratories as a refrigerating agent. Mixed with charcoal and other products it constitutes a powerful explosive used in mining.

This heading also includes :

(1) Liquid air from which rare gases have been removed.

(2) Compressed air.

(E) AMALGAMS, EXCEPT AMALGAMS OF PRECIOUS METALS

Mercury forms amalgams with several base metals (alkali metals and alkaline-earth metals, zinc, cadmium, antimony, aluminium, tin, copper, lead, bismuth, etc.).

Amalgams can be obtained : by direct action of the metals with mercury; by electrolysing the metal salts using a mercury cathode; or by electrolysing a mercury salt (the cathode being of the metal).

Amalgams obtained by electrolysis and distilled at a low temperature are used to prepare pyrophoric metals more reactive than those obtained at high temperature. They are also used in the metallurgy of precious metals.

(1) **Amalgams of alkali metals** decompose water with the production of less heat than the pure metals; they are therefore more active reducing agents than the latter. **Sodium amalgam** is used in the preparation of hydrogen.

(2) **Aluminium amalgam** is used as a reducing agent in organic synthesis.

(3) **Copper amalgam** containing a small added quantity of tin is used in dentistry. Copper amalgams are metallic cements, becoming soft when heated, suitable for moulding and for repairing china.

(4) **Zinc amalgam** is used in batteries to prevent corrosion.

(5) **Cadmium amalgam** is used in dentistry and in the manufacture of tungsten wire from sintered metal.

(6) **Antimony-tin amalgam** is used for “bronzing” plaster.

Amalgams containing precious metals, whether or not associated with base metals, are **excluded** (**heading 28.43**). Mercury compounds, whether or not chemically defined, other than amalgams fall in **heading 28.52**.

2853.10

- Cyanogen chloride (chlorcyan)

2853.90

- Other

Chapter 29

Organic chemicals

LEGAL NOTES

Notes.

1.- Except where the context otherwise requires, the headings of this Chapter apply only to :

(a) Separate chemically defined organic compounds, whether or not containing impurities;

(b) Mixtures of two or more isomers of the same organic compound (whether or not containing impurities), except mixtures of acyclic hydrocarbon isomers (other than stereoisomers), whether or not saturated (Chapter 27);

(c) The products of headings 29.36 to 29.39 or the sugar ethers, sugar acetals and sugar esters, and their salts, of heading 29.40, or the products of heading 29.41, whether or not chemically defined;

(d) The products mentioned in (a), (b) or (c) above dissolved in water;

(e) The products mentioned in (a), (b) or (c) above dissolved in other solvents provided that the solution constitutes a normal and necessary method of putting up these products adopted solely for reasons of safety or for transport and that the solvent does not render the product particularly suitable for specific use rather than for general use;

(f) The products mentioned in (a), (b), (c), (d) or (e) above with an added stabiliser (including an anti-caking agent) necessary for their preservation or transport;

(g) The products mentioned in (a), (b), (c), (d), (e) or (f) above with an added anti-dusting agent or a colouring or odoriferous substance or an emetic added to facilitate their identification or for safety reasons, provided that the additions do not render the product particularly suitable for specific use rather than for general use;

(h) The following products, diluted to standard strengths, for the production of azo dyes : diazonium salts, couplers used for these salts and diazotisable amines and their salts.

2.- This Chapter does not cover :

(a) Goods of heading 15.04 or crude glycerol of heading 15.20;

(b) Ethyl alcohol (heading 22.07 or 22.08);

(c) Methane or propane (heading 27.11);

(d) The compounds of carbon mentioned in Note 2 to Chapter 28;

(e) Immunological products of heading 30.02.

(f) Urea (heading 31.02 or 31.05);

(g) Colouring matter of vegetable or animal origin (heading 32.03), synthetic organic colouring matter, synthetic organic products of a kind used as fluorescent brightening agents or as luminophores (heading 32.04) or dyes or other colouring matter put up in forms or packings for retail sale (heading 32.12);

(h) Enzymes (heading 35.07);

(ij) Metaldehyde, hexamethylenetetramine or similar substances, put up in forms (for example, tablets, sticks or similar forms) for use as fuels, or liquid or liquefied-gas fuels in containers of a kind used for filling or refilling cigarette or similar lighters and of a capacity not exceeding 300 cm^3 (heading 36.06);

(k) Products put up as charges for fire-extinguishers or put up in fire-extinguishing grenades, of heading 38.13; ink removers put up in packings for retail sale, of heading 38.24; or

(l) Optical elements, for example, of ethylenediamine tartrate (heading 90.01).

3.- Goods which could be included in two or more of the headings of this Chapter are to be classified in that one of those headings which occurs last in numerical order.

4.- In headings 29.04 to 29.06, 29.08 to 29.11 and 29.13 to 29.20, any reference to halogenated, sulphonated, nitrated or nitrosated derivatives includes a reference to compound derivatives, such as sulphohalogenated, nitrohalogenated, nitrosulphonated or nitrosulphohalogenated derivatives.

Nitro or nitroso groups are not to be taken as “nitrogen-functions” for the purpose of heading 29.29.

For the purposes of headings 29.11, 29.12, 29.14, 29.18 and 29.22, “oxygen-function” the characteristic organic oxygen-containing group of those respective headings, is restricted to the oxygen-functions referred to in headings 29.05 to 29.20.

5.- (A) The esters of acid-function organic compounds of sub-Chapters I to VII with organic compounds of these sub-Chapters are to be classified with that compound which is classified in the heading which occurs last in numerical order in these sub-Chapters.

(B) Esters of ethyl alcohol with acid-function organic compounds of sub-Chapters I to VII are to be classified in the same heading as the corresponding acid-function compounds.

(C) Subject to Note 1 to Section VI and Note 2 to Chapter 28 :

(1) Inorganic salts of organic compounds such as acid-, phenol- or enol-function compounds or organic bases, of sub-Chapters I to X or heading 29.42, are to be classified in the heading appropriate to the organic compound;

(2) Salts formed between organic compounds of sub-Chapters I to X or heading 29.42 are to be classified in the heading appropriate to the base or to the acid (including phenol- or enol-function compounds) from which they are formed, whichever occurs last in numerical order in the Chapter; and

(3) Co-ordination compounds, other than products classifiable in sub-Chapter XI or heading 29.41, are to be classified in the heading which occurs last in numerical order in Chapter 29, among those appropriate to the fragments formed by “cleaving” of all metal bonds, other than metal-carbon bonds.

(D) Metal alcoholates are to be classified in the same heading as the corresponding alcohols except in the case of ethanol (heading 29.05).

(E) Halides of carboxylic acids are to be classified in the same heading as the corresponding acids.

6.- The compounds of headings 29.30 and 29.31 are organic compounds the molecules of which contain, in addition to atoms of hydrogen, oxygen or nitrogen, atoms of other non-metals or of metals (such as sulphur, arsenic or lead) directly linked to carbon atoms.

Heading 29.30 (organo-sulphur compounds) and heading 29.31 (other organo-inorganic compounds) do not include sulphonated or halogenated derivatives (including compound derivatives) which, apart from hydrogen, oxygen and nitrogen, only have directly linked to carbon the atoms of sulphur or of a halogen which give them their nature of sulphonated or halogenated derivatives (or compound derivatives).

7.- Headings 29.32, 29.33 and 29.34 do not include epoxides with a three-membered ring, ketone peroxides, cyclic polymers of aldehydes or of thioaldehydes, anhydrides of polybasic carboxylic acids, cyclic esters of polyhydric alcohols or phenols with polybasic acids, or imides of polybasic acids.

These provisions apply only when the ring-position hetero-atoms are those resulting solely from the cyclising function or functions here listed.

8.- For the purposes of heading 29.37 :

(a) the term “hormones” includes hormone-releasing or hormone-stimulating factors, hormone inhibitors and hormone antagonists (anti-hormones);

(b) the expression “used primarily as hormones” applies not only to hormone derivatives and structural analogues used primarily for their hormonal effect, but also to those derivatives and structural analogues used primarily as intermediates in the synthesis of products of this heading.

Subheading Notes.

1.- Within any one heading of this Chapter, derivatives of a chemical compound (or group of chemical compounds) are to be classified in the same subheading as that compound (or group of compounds) provided that they are not more specifically covered by any other subheading and that there is no residual subheading named “Other” in the series of subheadings concerned.

2.- Note 3 to Chapter 29 does not apply to the subheadings of this Chapter.

EXPLANATORY NOTES

Chapter 29

Organic chemicals

Notes.

1.- Except where the context otherwise requires, the headings of this Chapter apply only to :

(a) Separate chemically defined organic compounds, whether or not containing impurities;

(b) Mixtures of two or more isomers of the same organic compound (whether or not containing impurities), except mixtures of acyclic hydrocarbon isomers (other than stereoisomers), whether or not saturated (Chapter 27);

(c) The products of headings 29.36 to 29.39 or the sugar ethers, sugar acetals and sugar esters, and their salts, of heading 29.40, or the products of heading 29.41, whether or not chemically defined;

(d) The products mentioned in (a), (b) or (c) above dissolved in water;

(e) The products mentioned in (a), (b) or (c) above dissolved in other solvents provided that the solution constitutes a normal and necessary method of putting up these products adopted solely for reasons of safety or for transport and that the solvent does not render the product particularly suitable for specific use rather than for general use;

(f) The products mentioned in (a), (b), (c), (d) or (e) above with an added stabiliser (including an anti-caking agent) necessary for their preservation or transport;

(g) The products mentioned in (a), (b), (c), (d), (e) or (f) above with an added anti-dusting agent or a colouring or odoriferous substance or an emetic added to facilitate their identification or for safety reasons, provided that the additions do not render the product particularly suitable for specific use rather than for general use;

(h) The following products, diluted to standard strengths, for the production of azo dyes : diazonium salts, couplers used for these salts and diazotisable amines and their salts.

2.- This Chapter does not cover :

(a) Goods of heading 15.04 or crude glycerol of heading 15.20;

(b) Ethyl alcohol (heading 22.07 or 22.08);

(c) Methane or propane (heading 27.11);

(d) The compounds of carbon mentioned in Note 2 to Chapter 28;

(e) Immunological products of heading 30.02.

(f) Urea (heading 31.02 or 31.05);

(g) Colouring matter of vegetable or animal origin (heading 32.03), synthetic organic colouring matter, synthetic organic products of a kind used as fluorescent brightening agents or as luminophores (heading 32.04) or dyes or other colouring matter put up in forms or packings for retail sale (heading 32.12);

(h) Enzymes (heading 35.07);

(ij) Metaldehyde, hexamethylenetetramine or similar substances, put up in forms (for example, tablets, sticks or similar forms) for use as fuels, or liquid or liquefied-gas fuels in containers of a kind used for filling or refilling cigarette or similar lighters and of a capacity not exceeding 300 cm^3 (heading 36.06);

(k) Products put up as charges for fire-extinguishers or put up in fire-extinguishing grenades, of heading 38.13; ink removers put up in packings for retail sale, of heading 38.24; or

(l) Optical elements, for example, of ethylenediamine tartrate (heading 90.01).

3.- Goods which could be included in two or more of the headings of this Chapter are to be classified in that one of those headings which occurs last in numerical order.

4.- In headings 29.04 to 29.06, 29.08 to 29.11 and 29.13 to 29.20, any reference to halogenated, sulphonated, nitrated or nitrosated derivatives includes a reference to compound derivatives, such as sulphohalogenated, nitrohalogenated, nitrosulphonated or nitrosulphohalogenated derivatives.

Nitro or nitroso groups are not to be taken as “nitrogen-functions” for the purpose of heading 29.29.

For the purposes of headings 29.11, 29.12, 29.14, 29.18 and 29.22, “oxygen-function” the characteristic organic oxygen-containing group of those respective headings, is restricted to the oxygen-functions referred to in headings 29.05 to 29.20.

5.- (A) The esters of acid-function organic compounds of sub-Chapters I to VII with organic compounds of these sub-Chapters are to be classified with that compound which is classified in the heading which occurs last in numerical order in these sub-Chapters.

(B) Esters of ethyl alcohol with acid-function organic compounds of sub-Chapters I to VII are to be classified in the same heading as the corresponding acid-function compounds.

(C) Subject to Note 1 to Section VI and Note 2 to Chapter 28 :

(1) Inorganic salts of organic compounds such as acid-, phenol- or enol-function compounds or organic bases, of sub-Chapters I to X or heading 29.42, are to be classified in the heading appropriate to the organic compound;

(2) Salts formed between organic compounds of sub-Chapters I to X or heading 29.42 are to be classified in the heading appropriate to the base or to the acid (including phenol- or enol-function compounds) from which they are formed, whichever occurs last in numerical order in the Chapter; and

(3) Co-ordination compounds, other than products classifiable in sub-Chapter XI or heading 29.41, are to be classified in the heading which occurs last in numerical order in Chapter 29, among those appropriate to the fragments formed by "cleaving" of all metal bonds, other than metal-carbon bonds.

(D) Metal alcoholates are to be classified in the same heading as the corresponding alcohols except in the case of ethanol (heading 29.05).

(E) Halides of carboxylic acids are to be classified in the same heading as the corresponding acids.

6.- The compounds of headings 29.30 and 29.31 are organic compounds the molecules of which contain, in addition to atoms of hydrogen, oxygen or nitrogen, atoms of other non-metals or of metals (such as sulphur, arsenic or lead) directly linked to carbon atoms.

Heading 29.30 (organo-sulphur compounds) and heading 29.31 (other organo-inorganic compounds) do not include sulphonated or halogenated derivatives (including compound derivatives) which, apart from hydrogen, oxygen and nitrogen, only have directly linked to carbon the atoms of sulphur or of a halogen which give them their nature of sulphonated or halogenated derivatives (or compound derivatives).

7.- Headings 29.32, 29.33 and 29.34 do not include epoxides with a three-membered ring, ketone peroxides, cyclic polymers of aldehydes or of thioaldehydes, anhydrides of polybasic carboxylic acids, cyclic esters of polyhydric alcohols or phenols with polybasic acids, or imides of polybasic acids.

These provisions apply only when the ring-position hetero-atoms are those resulting solely from the cyclising function or functions here listed.

8.- For the purposes of heading 29.37 :

(a) the term "hormones" includes hormone-releasing or hormone-stimulating factors, hormone inhibitors and hormone antagonists (anti-hormones);

(b) the expression "used primarily as hormones" applies not only to hormone derivatives and structural analogues used primarily for their hormonal effect, but also to those derivatives and structural analogues used primarily as intermediates in the synthesis of products of this heading.

Subheading Notes.

1.- Within any one heading of this Chapter, derivatives of a chemical compound (or group of chemical compounds) are to be classified in the same subheading as that compound (or group of compounds) provided that they are not more specifically covered by any other subheading and that there is no residual subheading named “Other” in the series of subheadings concerned.

2.- Note 3 to Chapter 29 does not apply to the subheadings of this Chapter.

GENERAL

As a general rule, this Chapter is restricted to separate chemically defined compounds, subject to the provisions of Note 1 to the Chapter.

(A) Chemically defined compounds

(Chapter Note 1)

A separate chemically defined compound is a substance which consists of one molecular species (e.g., covalent or ionic) whose composition is defined by a constant ratio of elements and can be represented by a definitive structural diagram. In a crystal lattice, the molecular species corresponds to the repeating unit cell.

Separate chemically defined compounds containing other substances deliberately added during or after theirmanufacture (including purification) are excluded from this Chapter. Accordingly, a product consisting of saccharin mixed with lactose, for example, to render the product suitable for use as a sweetening agent is **excluded** (see Explanatory Note to heading 29.25).

The separate chemically defined compounds of this Chapter may contain impurities (Note 1 (a)). An exception to this rule is created by the wording of heading 29.40 which, with regard to sugars, restricts the scope of the heading to chemically pure sugars.

The term “impurities” applies exclusively to substances whose presence in the single chemical compound results solely and directly from the manufacturing process (including purification). These substances may result from any of the factors involved in the process and are principally the following :

(a) Unconverted starting materials.

(b) Impurities present in the starting materials.

(c) Reagents used in the manufacturing process (including purification).

(d) By-products.

It should be noted, however, that such substances are **not** in all cases regarded as “impurities” permitted under Note 1 (a). When such substances are deliberately left in the product with a view to rendering it particularly suitable for specific use rather than for general use, they are **not** regarded as permissible impurities. For example, a product consisting of methyl acetate with methanol deliberately left in with a view to improving its suitability as a solvent is **excluded** (**heading 38.14**). For certain compounds (e.g., ethane, benzene, phenol, pyridine), there are specific purity criteria, indicated in Explanatory Notes to headings 29.01, 29.02, 29.07 and 29.33.

The separate chemically defined compounds of this Chapter may be **dissolved in water**. Subject to the samequalifications as those set out in the General Explanatory Note to Chapter 28, this Chapter also includes non-aqueous solutions and also compounds (or their solutions) with added stabilisers, antidusting agents or colouring substances. For example, styrene inhibited with tertiary butylcatechol remains classified in heading 29.02. The provisions in the General Explanatory Note to Chapter 28 concerning the addition of stabilisers, antidusting agents and colouring substances apply, *mutatis mutandis*, to the chemical compounds of this Chapter. **Subject** to the same qualifications as those made in respect of colouring substances, these compounds may also contain added odoriferous substances (e.g., bromomethane of heading 29.03 to which small quantities of chloropicrin have been added) or an emetic.

This Chapter further includes, whether or not they contain impurities, **mixtures of isomers** of the same organic compound. This provision applies **only** to mixtures of compounds having the same chemical function (or functions) and which either coexist in their natural form or are obtained simultaneously in the course of the same synthesis. Mixtures of acyclic hydrocarbon isomers (**other than** stereoisomers), whether or not saturated, are, however, **excluded** (**Chapter 27**).

(B) Distinction between the compounds of Chapter 28 and those of Chapter 29

Organic compounds of precious metals, radioactive elements, isotopes, rare-earth metals, yttrium and scandium, and the other compounds containing carbon listed in Part (B) of the General Explanatory Note to Chapter 28 are **excluded** from Chapter 29 (see Note 1 to Section VI and Note 2 to Chapter 28).

Organo-inorganic compounds, **other than** those listed in Note 2 to Chapter 28, fall in Chapter 29.

(C) Products which remain classified in Chapter 29, even when they are not separate chemically defined compounds

There are certain **exceptions** to the rule that Chapter 29 is limited to separate chemically defined compounds. These exceptions include the following products :

Heading 29.09 - Ketone peroxides.

Heading 29.12 - Cyclic polymers of aldehydes; paraformaldehyde.

Heading 29.19 - Lactophosphates.

Heading 29.23 - Lecithins and other phosphoaminolipids.

Heading 29.34 - Nucleic acids and their salts.

Heading 29.36 - Provitamins and vitamins (including concentrates and intermixtures), whether or not in a solvent.

Heading 29.37 - Hormones.

Heading 29.38 - Glycosides and their derivatives.

Heading 29.39 - Alkaloids and their derivatives.

Heading 29.40 - Sugar ethers, sugar acetals and sugar esters, and their salts.

Heading 29.41 - Antibiotics.

This Chapter also includes diazonium salts (see Part (A) of Explanatory Note to heading 29.27), couplers used for these salts and diazotisable amines and their salts, diluted with e.g., neutral salts to standard strengths. These are designed for the production of azo dyes. They may be solid or liquid.

This Chapter further includes pegylated (polyethylene glycol (or PEGs) polymers) derivatives of products of headings 29.36 to 29.39 and 29.41. For these products, a pegylated derivative remains classified in the same heading as its non-pegylated form. However, pegylated derivatives of products of all other headings of Chapter 29 are **excluded** (generally **heading 39.07**).

(D) Exclusion from Chapter 29 of certain separate chemically defined organic compounds

(Chapter Note 2)

(1) Certain separate chemically defined organic compounds are always **excluded** from Chapter 29, even when they are pure. In addition to those which fall in **Chapter 28** (see Part (B) of the General Explanatory Note to that Chapter), examples of compounds of this group are :

(a) Sucrose (**heading 17.01**); lactose, maltose, glucose and fructose (**heading 17.02**).

(b) Ethyl alcohol (**heading 22.07** or **22.08**).

(c) Methane and propane (**heading 27.11**).

(d) Immunological products (**heading 30.02**).

(e) Urea (**heading 31.02** or **31.05**).

(f) Colouring matter of animal or vegetable origin (e.g., chlorophyll) (**heading 32.03**).

(g) Synthetic organic colouring matter (including pigments), and synthetic organic products of a kind used as fluorescent brightening agents (e.g., certain stilbene derivatives) (**heading 32.04**).

(2) Certain other separate chemically defined organic products, which would otherwise have been classified in Chapter 29, may be **excluded** when put up in certain forms, or if they have been subjected to certain treatments which leave their chemical composition unchanged. Examples are :

(a) Products for therapeutic or prophylactic uses, put up in measured doses or in forms or in packings for retail sale (**heading 30.04**).

(b) Products of a kind used as luminophores (e.g., salicylaldazine) which have been treated to render them luminescent (**heading 32.04**).

(c) Dyes and other colouring matter put up in forms or packings for retail sale (**heading 32.12**).

(d) Perfumery, cosmetic or toilet preparations (e.g., acetone), put up in packings for retail sale for such use (**headings 33.03 to 33.07**).

(e) Products suitable for use as glues or adhesives, put up for retail sale as glues or adhesives, not exceeding a net weight of 1 kg (**heading 35.06**).

(f) Solid fuels (e.g., metaldehyde, hexamethylenetetramine) put up in forms for use as fuels, and liquid or liquefied fuels (e.g., liquid butane) in containers of a kind used for filling or refilling cigarette or similar lighters and of a capacity not exceeding 300 cm^3 (**heading 36.06**).

(g) Hydroquinone and other unmixed products for photographic uses, put up in measured portions or put up for retail sale in a form ready for photographic use (**heading 37.07**).

(h) Disinfectants, insecticides, etc., put up as described **in heading 38.08**.

(ij) Products (e.g., carbon tetrachloride) put up as charges for fire-extinguishers or put up in fire-extinguishing grenades (**heading 38.13**).

(k) Ink removers (e.g., chloramines of heading 29.35 dissolved in water) put up in packings for retail sale (**heading 38.24**).

(l) Optical elements (e.g., ethylenediamine tartrate) (**heading 90.01**).

(E) Products potentially classifiable in two or more headings of Chapter 29

(Chapter Note 3)

Such products are to be classified in the heading placed last in numerical order amongst those which could be applied. For example, ascorbic acid could be regarded as a lactone (heading 29.32) or as a vitamin (heading 29.36); it should therefore be classified in heading 29.36. For the same reason, allylestrenol which is a cyclic alcohol (heading 29.06) but also a steroid with unmodified gonane structure, used primarily for its hormone function (heading 29.37), should fall in heading 29.37.

It should, however, be noted that the last phrase of the text of heading 29.40 specifically excludes the products of headings 29.37, 29.38 and 29.39.

(F) Halogenated, sulphonated, nitrated or nitrosated derivatives and combinations thereof; the “oxygen function” referred to in headings 29.11, 29.12, 29.14, 29.18 and 29.22

(Chapter Note 4)

Certain headings of Chapter 29 include references to halogenated, sulphonated, nitrated or nitrosated derivatives. Such references include compound derivatives, for example, sulphohalogenated, nitrohalogenated, nitrosulphonated, nitrosulphohalogenated, etc., derivatives.

Nitro and nitroso groups are not to be taken as nitrogen-functions for the purpose of heading 29.29.

The halogenated, sulphonated, nitrated and nitrosated derivatives are formed by substitution of one or more hydrogen atoms in the parent compound by one or more halogens, sulpho ($-SO_3H$), nitro ($-NO_2$) or nitroso (-NO) groups or by any combination thereof. Any functional group (e.g., aldehyde, carboxylic acid, amine) taken into consideration for classification should remain intact in such derivatives.

For the purposes of the last paragraph of Note 4 and headings 29.11, 29.12, 29.14, 29.18 and 29.22, the "oxygen function" referred to in the texts of these headings should be the characteristic organic oxygen containing group referred to in headings 29.05 to 29.20. In this connection, the oxygen functional groups taken into consideration for classification of products in headings 29.11, 29.12, 29.14 and 29.18 should remain intact.

(G) Classification of esters, salts, co-ordination compounds and certain halides (Chapter Note 5)

(1) **Esters**.

The esters of acid-function organic compounds of sub-Chapters I to VII with organic compounds of these sub-Chapters are to be classified with that compound which is classified in the heading which occurs last in numerical order in these sub-Chapters.

Examples :

(a) Diethylene glycol acetate (ester formed by the reaction of acetic acid of heading 29.15 with diethylene glycol of heading 29.09)*..... Heading 29.15

(b) Methyl benzenesulphonate (ester formed by the reaction of benzene-sulphonic acid of heading 29.04 with methyl alcohol of heading 29.05)*..... Heading 29.05

(c) Butyl hydrogenphthalate (ester of a polycarboxylic acid where the hydrogen of only one (COOH) group has been substituted)*..... Heading 29.17

(d) Butyl phthalyl butyl glycollate (ester formed by the reaction of phthalic acid of heading 29.17 and glycollic acid of heading 29.18 with butyl alcohol of heading 29.05)* Heading 29.18

This rule cannot be applied to the esters of such acid-function compounds with ethyl alcohol since this compound is not classified in Chapter 29. Such esters are to be classified with the acid-function compounds from which they are derived*.

Example :

Ethyl acetate (ester formed by the reaction of acetic acid of heading 29.15 with ethyl alcohol) Heading 29.15

It should further be noted that sugar esters and their salts are classified in heading 29.40.

(2) **Salts**.

Subject to Note1 to Section VI and Note 2 to Chapter 28 :

(a) Inorganic salts of organic compounds such as acid-, phenol- or enol-function compounds or organic bases, of sub-Chapters I to X or heading 29.42, are to be classified in the heading appropriate to the organic compound.

These salts may be formed by the reaction of :

(i) Acid-, phenol- or enol-function organic compounds with inorganic bases.

Example :

Sodium methoxybenzoate (salt formed by the reaction of methoxy-benzoic acid of heading 29.18 with sodium hydroxide)*..... Heading 29.18

Salts of this category may also be formed by the reaction of acid esters of the type referred to above with inorganic bases.

Example :

n-Butyl copper phthalate (salt formed by the reaction of butyl hydrogen phthalate of heading 29.17 with copper hydroxide)*..... …Heading 29.17

or (ii) Organic bases with inorganic acids.

Example :

Diethylamine hydrochloride (salt formed by the reaction of diethylamine of heading 29.21 with hydrochloric acid of heading 28.06)*. …Heading 29.21

(b) Salts formed between organic compounds of sub-Chapters I to X or heading 29.42 are to be classified in the heading appropriate to the base or to the acid (including phenol- or enol-function compounds) from which they are formed, whichever occurs last in numerical order in the Chapter.

Examples :

(i) Aniline acetate (salt formed by the reaction of acetic acid of heading 29.15 with aniline of heading 29.21)*..... Heading 29.21

(ii) Methylamine phenoxyacetate (salt formed by the reaction of methylamine of heading 29.21 with phenoxyacetic acid of heading 29.18)*..... Heading 29.21

(3) **Co-ordination compounds.**

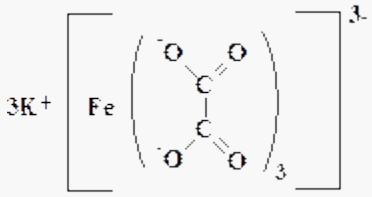
Metal co-ordination compounds generally include all the types, whether or not charged, in which a metal is bound to several atoms (generally 2 to 9 atoms) made available by one or more ligands. The skeletal geometry formed by the metal and the atoms which are bound to it as well as the number of metal links are generally characteristic for a given metal.

Co-ordination compounds, other than products classifiable in sub-Chapter XI or in heading 29.41, should be considered as being fragmented by "cleaving" of all metal bonds, apart from metal-carbon bonds, and should be classified according to the fragment (regarded as a real compound for classification purposes) falling in Chapter 29, in the heading occurring last in numerical order.

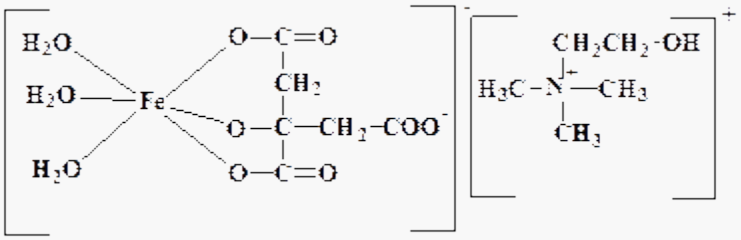
For the purposes of Note 5 (C) (3) to this Chapter, the term "fragments" covers the ligands and the part(s) containing the metal-carbon bond that have resulted from the cleavage.

Examples are shown below :

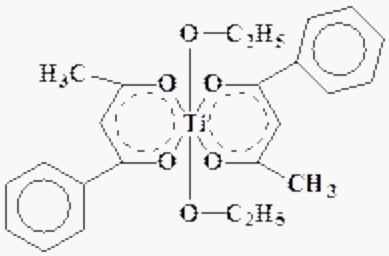
Potassium trioxalatoferrate (III) is classifiable in the heading in which the oxalic acid falls (heading 29.17), corresponding to the fragment obtained after cleaving of the metal bonds.



Ferrocholinate (INN) is classifiable in the heading covering choline (heading 29.23), which is classified in the heading occuring last in numerical order, rather than in the heading for citric acid corresponding to the other fragment that can be taken into account for classification purposes.



Budotitane (INN) : After cleaving of the metal bonds, two fragments are obtained, one corresponding to ethanol (Chapter 22), the other to benzoylacetone (and its enol-function) classified in heading 29.14. Budotitane (INN) should therefore be classified in heading 29.14.



(4) **Halides of carboxylic acids*.**

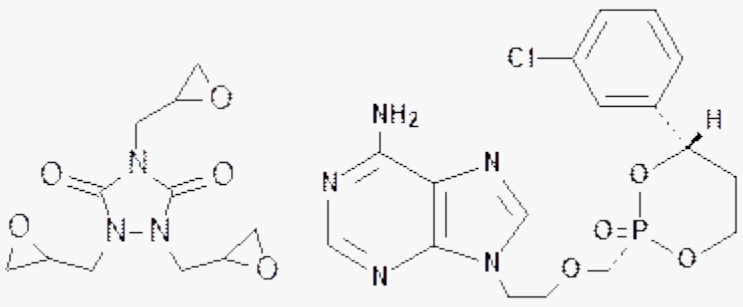
Such halides are classified in the same heading as the corresponding acids. For example, isobutyryl chloride is classified (like the isobutyric acid to which it corresponds) in heading 29.15.

(H) Classification in headings 29.32, 29.33 and 29.34

(Chapter Note 7)

Headings 29.32, 29.33 and 29.34 do not include epoxides with a three-membered ring, ketone peroxides, cyclic polymers of aldehydes or of thioaldehydes, anhydrides of polybasic carboxylic acids, cyclic esters of polyhydric alcohols or phenols with polybasic acids, or imides of polybasic acids, if the ring-position hetero-atoms are those resulting solely from the cyclising function or functions here listed.

If, in addition to functions listed in the first sentence of Note 7 to Chapter 29, there are other ring-position hetero-atoms present in the structure, the classification should be carried out with reference to all the cyclising functions present. Thus, for example, anaxirone (INN) and pradefovir (INN) should be classified in heading 29.34 as heterocyclic compounds with two or more different hetero-atoms and **not** in heading 29.33 as heterocyclic compounds with nitrogen hetero-atoms only.



Anaxirone (INN) *Pradefovir (INN)*

(IJ) Classification of derivatives

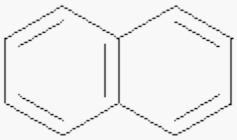
The classification of derivatives of chemical compounds at heading level is to be determined by application of the General Interpretative Rules. Note 3 to this Chapter applies when a derivative is potentially classifiable in two or more headings.

Within any one heading of this Chapter, derivatives are to be classified by application of Subheading Note 1.

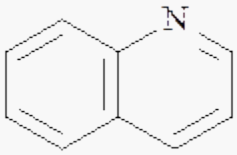
(K) Fused ring systems

A fused ring system is one in which there are at least two rings which have one, and only one, common bond and have two, **and** only two, atoms in common.

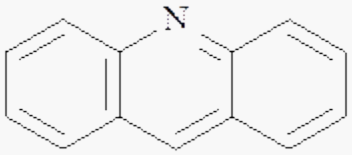
Fused ring systems appear in the molecules of polycyclic compounds (e.g., polycyclic hydrocarbons, heterocyclic compounds) in which two cyclic rings are joined by a common side involving two adjacent atoms. Examples are shown below :



Naphthalene

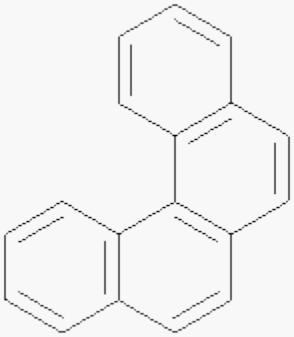


Quinoline



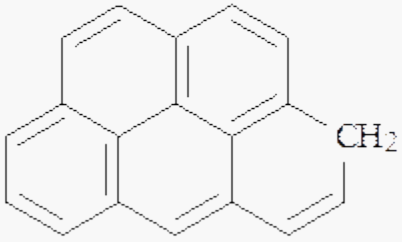
Fused quinoline

In complex ring systems, fusion can take place to more than one side of any particular ring. Polycyclic compounds in which two rings have two, and only two, atoms in common are said to be “ortho-fused”. On the other hand, polycyclic compounds in which one ring contains two, and only two, atoms in common with each of the two or more rings of a contiguous series of rings are said to be “ortho- and peri-fused”. These two different types of fused ring systems are illustrated by the following examples :



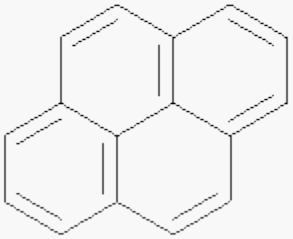
3 common faces

6 common atoms



7 common faces

8 common atoms



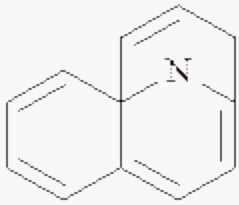
5 common faces

6 common atoms

“Ortho-fused” system

“Ortho- and peri-fused” systems

On the other hand, the following is an example of a bridged (**not fused**) quinoline :



Bridged quinoline.

For the purposes of the body of the Explanatory Notes to this Chapter, an asterisk "*" following a chemical formulae means that its chemical structure can be consulted in the Annex to the Explanatory Notes to Chapter 29.

Heading 2901

Acyclic hydrocarbons.
EXPLANATORY NOTES

Sub-Chapter I

HYDROCARBONS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES

29.01 - Acyclic hydrocarbons.

2901.10 - Saturated

- Unsaturated :

2901.21 - - Ethylene

2901.22 - - Propene (propylene)

2901.23 - - Butene (butylene) and isomers thereof

2901.24 - - Buta-1,3-diene and isoprene

2901.29 - - Other

Acyclic hydrocarbons are compounds containing only carbon and hydrogen which have no rings in their structure. They can be classified in two categories :

(A) **Saturated acyclic hydrocarbons**.

(B) **Unsaturated acyclic hydrocarbons**.

(A) SATURATED ACYCLIC HYDROCARBONS

These form a homologous series which may be represented by the general formula (C_nH_{2n+2}). They occur abundantly in nature and are the main components of petroleum oils.

The basic hydrocarbon is **methane** (CH_4) with one atom of carbon. Methane and also **propane** (C_3H_8) with three atoms of carbon are, however, classified in **heading 27.11** even if they are pure.

The saturated acyclic hydrocarbons of this heading include :

(1) **Ethane** (C_2H_6) with two atoms of carbon.

To be classified in this heading, ethane must have a purity of 95 % or more by volume. Ethane of lower purity is **excluded** (**heading 27.11**).

(2) **Butanes** (C_4H_{10}) with four atoms of carbon.

(3) **Pentanes**, with five atoms of carbon.

(4) **Hexanes**, with six atoms of carbon.

(5) **Heptanes**, with seven atoms of carbon.

(6) **Octanes**, with eight atoms of carbon.

(7) **Nonanes**, with nine atoms of carbon.

(8) **Decanes**, with ten atoms of carbon.

(9) **Pentadecanes**, with fifteen atoms of carbon.

(10) **Triacontanes**, with thirty atoms of carbon.

(11) **Hexacontanes**, with sixty atoms of carbon.

These saturated hydrocarbons are all insoluble in water. At normal temperature and pressure, such hydrocarbons containing up to four atoms of carbon are gaseous; those containing five to fifteen atoms of carbon are liquid; hydrocarbons with a greater number of carbon atoms are generally solid.

One or more of the hydrogen atoms in these hydrocarbon molecules may be replaced by alkyl radicals (e.g., methyl, ethyl, propyl); thus isobutane (2-methylpropane, trimethylmethane) has the same molecular formula as the normal butane.

In industry and commerce, the most important hydrocarbons of this heading are **ethane and butane gases** which are derived from petroleum oil and natural gas.

To fall in this heading, these saturated acyclic hydrocarbons must be in the form of separate chemically defined compounds, whether obtained by refining petroleum oils and natural gas or by synthesis (as regards the purity criterion for ethane, see Item (1) above). But the

heading **excludes** crude butane, crude petroleum gases and similar crude gaseous hydrocarbons of **heading 27.11**.

(B) UNSATURATED ACYCLIC HYDROCARBONS

These unsaturated hydrocarbons contain two, four, six, etc., less atoms of hydrogen than saturated acyclic hydrocarbons having the same number of atoms of carbon. This involves the presence of double or triple bonds.

(1) **Monoethylenic hydrocarbons**.

These constitute a homologous series represented by the general formula (C_nH_{2n}). They are found in the products obtained by thermal decomposition of numerous organic substances (coal gas, products of the cracking of petroleum oils, etc.); they may also be produced by synthesis.

(a) The first members of the series are gaseous, these are :

(i) **Ethylene (ethene)** (C_2H_4). Colourless gas with a faint odour of ether and strong anaesthetic properties. Used in the preparation of a wide range of organic compounds (e.g., ethylene oxide, ethylbenzene, synthetic ethanol, polyethylene).

To fall in this heading, ethylene must have a purity of 95 % or more by volume. Ethylene of lower purity is **excluded** (**heading 27.11**).

(ii) **Propene (propylene)** (C_3H_6). Colourless, highly inflammable gas which is an asphyxiant.

To fall in this heading, propene (propylene) must have a purity of 90 % or more by volume. Propylene of lower purity is **excluded** (**heading 27.11**).

(iii) **Butenes (butylenes)** (C_4H_8).

To fall in this heading, these unsaturated acyclic hydrocarbons must be in the form of separate chemically defined compounds. But the heading **excludes** crude gaseous hydrocarbons of **heading 27.11**.

In normal trade, all these products are in liquid form, under pressure.

(b) Monoethylenic hydrocarbons containing five to fifteen atoms of carbon are liquid. The most important include :

(i) **Pentenes** (amylenes).

(ii) **Hexenes**.

(iii) **Heptenes**.

(iv) **Octenes**.

(c) Those containing more than fifteen atoms of carbon are solids.

(2) **Polyethylenic hydrocarbons.**

These constitute a series with two or more double bonds.

They include :

(a) **Propadiene** (allene**)** (C_3H_4)

(b) **Buta-1,2-diene** (1,2-butadiene, methylallene) (C_4H_6)

(c) **Buta-1,3-diene** (1,3-butadiene) (C_4H_6) a colourless, highly inflammable gas and

(d) **2-Methylbuta-1,3-diene** (isoprene) (C_5H_8), a colourless, highly inflammable liquid.

(3) **Acetylene series.**

Acetylenic hydrocarbons contain either one triple bond (mono-acetylenes, general (C_nH_{2n-2}) or more than one triple bond (polyacetylenes).

The most important product is **acetylene** (C_2H_2), a colourless gas with a characteristic odour. From acetylene a wide range of products can be synthesised (e.g., acetic acid, acetone, isoprene, chloroacetic acid, ethanol).

It is presented dissolved in acetone under pressure in special steel cylinders packed with diatomite, and remains classified under the heading (see Chapter Note 1 (e)).

Other members of the series are :

(a) **Propyne** (allylene, methylacetylene).

(b) **Butyne** (ethylacetylene).

(4) **Ethylene-acetylene hydrocarbons.**

These contain both ethylenic and acetylenic bonds in their molecules. The most important of these are **vinylacetylene** (acetylene in which one hydrogen atom has been replaced by a vinyl group), and **methylvinylacetylene**, (in which both hydrogen atoms have been replaced - one by a vinyl group and the other by a methyl group).

2901.10

- Saturated

CLASSIFICATION OPINIONS

1. Separate isomers and mixtures of isomers of saturated acyclic hydrocarbons :

(i) Separate isomers not less than 95 % pure (*).

(ii) Mixtures of isomers containing not less than 95 % (*) of a single isomer.

See also Opinion Ch. 27/1. Adoption : 1969 + 1974

(*) Calculated on the dry product, by reference to volume for gaseous products and to weight for non-gaseous products.

2901.2

- Unsaturated :

2901.21

-- Ethylene

2901.22

-- Propene (propylene)

2901.23

-- Butene (butylene) and isomers thereof

CLASSIFICATION OPINIONS

1. Separate isomers and mixtures of isomers (including stereoisomers) of monoethylenic or polyethylenic acyclic hydrocarbons :

(i) Separate isomers not less than 90 % pure (*).

(ii) Mixtures of stereoisomers, containing not less than 90 % (*) of stereoisomers of a specific hydrocarbon.

(iii) Mixtures of other isomers containing not less than 90 % (*) of a single isomer.

See also Opinions Ch. 27/2 and 27/3.
Adoption : 1974

(*) Calculated on the dry product, by reference to volume for gaseous products and to weight for non-gaseous products.

2901.24

-- Buta-1,3-diene and isoprene

CLASSIFICATION OPINIONS

1. Separate isomers and mixtures of isomers (including stereoisomers) of monoethylenic or polyethylenic acyclic hydrocarbons :

(i) Separate isomers not less than 90 % pure (*).

(ii) Mixtures of stereoisomers, containing not less than 90 % (*) of stereoisomers of a specific hydrocarbon.

(iii) Mixtures of other isomers containing not less than 90 % (*) of a single isomer.

See also Opinions Ch. 27/2 and 27/3.
Adoption : 1974

(*) Calculated on the dry product, by reference to volume for gaseous products and to weight for non-gaseous products.

2901.29

-- Other

CLASSIFICATION OPINIONS

1. Separate isomers and mixtures of isomers (including stereoisomers) of monoethylenic or polyethylenic acyclic hydrocarbons :

(i) Separate isomers not less than 90 % pure (*).

(ii) Mixtures of stereoisomers, containing not less than 90 % (*) of stereoisomers of a specific hydrocarbon.

(iii) Mixtures of other isomers containing not less than 90 % (*) of a single isomer.

See also Opinions Ch. 27/2 and 27/3.
Adoption : 1974

(*) Calculated on the dry product, by reference to volume for gaseous products and to weight for non-gaseous products.

Heading 2902

Cyclic hydrocarbons.

EXPLANATORY NOTES

29.02 - Cyclic hydrocarbons.

- Cyclanes, cyclenes and cycloterpenes :

2902.11 - - Cyclohexane

2902.19 - - Other

2902.20 - Benzene

2902.30 - Toluene

- Xylenes :

2902.41 - - *o*-Xylene

2902.42 - - *m*-Xylene

2902.43 - - *p*-Xylene

2902.44 - - Mixed xylene isomers

2902.50 - Styrene

2902.60 - Ethylbenzene

2902.70 - Cumene

2902.90 - Other

Cyclic hydrocarbons are compounds containing only carbon and hydrogen which have at least one ring in their structure. They can be classified in three categories :

(A) **Cyclanes and cyclenes**.

(B) **Cycloterpenes**.

(C) **Aromatic hydrocarbons**.

(A) CYCLANES AND CYCLENES

These are cyclic hydrocarbons which correspond to the general formula C_nH_{2n} when they are saturated monocyclic cyclanes and to the general formula C_nH_{2n-x} (in which x may be 2, 4, 6, etc.) when they are polycyclic cyclanes or when they are unsaturated (cyclenes).

(1) The **monocyclic cyclanes** include the polymethylene and naphthene hydrocarbons found in certain petroleum oils; examples are :

(a) **Cyclopropane** (C_3H_6) (gas).

(b) **Cyclobutane** (C_4H_8) (gas).

(c) **Cyclopentane** (C_5H_{10}) (liquid).

(d) **Cyclohexane** (C_6H_{12}) (liquid).

(2) The **polycyclic cyclanes** include :

(a) **Decahydronaphthalene** ($C_{10}H_{18}$), a colourless liquid used as a solvent for paints and lacquers, for polishes, etc.

(b) **Bridge-linked compounds** such as 1,4,4a,5,6,7,8,8a-octahydro-*exo*-1,4-*endo*-5,8-dimethanonaphthalene ($C_{12}H_{16}$) from which the pesticide HEOD is derived.

(c) **Compounds with a "cage" structure** such as pentacyclo [5.2.1.$0^{2,6}$.$0^{3,9}$.$0^{5,8}$] decane ($C_{10}H_{12}$) from which the formula of dodecachloropentacyclo [5.2.1.$0^{2,6}$.$0^{3,9}$.$0^{5,8}$] decane is derived.

(3) The **cyclenes** include :

(a) **Cyclobutene** (C_4H_6) gas.

(b) **Cyclopentene** (C_5H_8), liquid.

(c) **Cyclohexene** (C_6H_{10}), liquid.

(d) **Cyclo-octatetraene** (C_8H_8), liquid.

(e) **Azulene** ($C_{10}H_8$), solid.

This heading **does not**, however, **include** synthetic carotenes which fall in **heading 32.04**.

(B) CYCLOTERPENES

These hydrocarbons do not differ in general chemical structure from the cyclene group and have the general formula $(C_5H_8)_n$ where n may be 2 or more. They occur naturally in the vegetable kingdom as odoriferous, volatile liquids, for example :

(1) **Pinene**, a constituent of spirits of turpentine, pinewood oil, cinnamon oil, etc.; it is a colourless liquid.

(2) **Camphene**, contained in nutmeg oil, petitgrain oil, etc.

(3) **Limonene***, found in citrus fruit oils; **dipentene**, being the mixed optical isomers of limonene. Crude dipentene is **excluded** (**heading 38.05**).

This heading **excludes** essential oils (**heading 33.01**), and gum, wood or sulphate turpentine and other terpenic oils produced by the distillation or other treatment of coniferous woods (**heading 38.05**).

(C) AROMATIC HYDROCARBONS

These compounds contain one or more fused or unfused benzene rings, benzene being a hydrocarbon composed of 6 atoms of carbon and 6 atoms of hydrogen, arranged in 6 groups of (CH) to form a hexagonal ring.

(I) **Hydrocarbons with only one benzene ring**. These include benzene and its homologues.

(a) **Benzene** (C_6H_6). Occurs in coal gas, in some petroleum oils, and in the liquid products of the dry distillation of numerous organic compounds rich in carbon (coal, lignite, etc.); also obtained synthetically. In the pure state, it is a colourless, mobile, refractive liquid, volatile and inflammable, with an aromatic odour. It readily dissolves resins, fats, essential oils, rubber, etc. Numerous products can be obtained from benzene synthesis.

To fall in this heading, benzene must have a purity of 95 % or more by weight. Benzene of lower purity is **excluded** (**heading 27.07**).

(b) **Toluene** (methylbenzene) ($C_6H_5CH_3$). A benzene derivative in which one atom of hydrogen has been replaced by a methyl group. Obtained by distilling light coal tar oil, or by cyclisation of acyclic hydrocarbons. Colourless, mobile, refractive, inflammable liquid, with an aromatic odour similar to that of benzene.

To fall in this heading, toluene must have a purity of 95 % or more by weight. Toluene of lower purity is **excluded** (**heading 27.07**).

(c) **Xylene** (dimethylbenzene) ($C_6H_4(CH_3)_2$)*. A benzene derivative in which two atoms of hydrogen have been replaced by two methyl groups. There are three isomers : *o*-xylene, *m*-xylene and *p*-xylene. Xylene is a clear, inflammable liquid found in light coal tar oil.

To fall in this heading, xylene must contain 95 % or more by weight of xylene isomers, all isomers being taken together. Xylene of lower purity is **excluded** (**heading 27.07**).

(d) Other aromatic hydrocarbons of this group are formed by a benzene ring and one or more side chains, open or closed; these include :

(1) **Styrene** ($C_6H_5CH=CH_2$)*. A colourless, oily liquid used mainly in the preparation of plastics (polystyrene) and of synthetic rubber.

(2) **Ethylbenzene** ($C_6H_5C_2H_5$). A colourless inflammable, mobile liquid, contained in coal tar, normally manufactured from benzene and ethylene.

(3) **Cumene** ($C_6H_5CH(CH_3)_2$). A colourless liquid found in certain petroleum oils. Used mainly in the production of phenol, acetone a- methylstyrene or as a solvent.

(4) *p*-**Cymene** ($CH_3C_6H_4CH(CH_3)_2$)*. Found abundantly in several essential oils. Colourless liquid with an agreeable odour.

Crude *p*-cymene is **excluded** (**heading 38.05**).

(5) **Tetrahydronaphthalene** (tetralin) ($C_{10}H_{12}$). Obtained by the catalytic hydrogenation of naphthalene. Colourless liquid, with a terpene-like odour, used as a solvent, etc.

(II) **Hydrocarbons with two or more unfused benzene rings**; these include :

(a) **Biphenyl** ($C_6H_5C_6H_5$). Sparkling white crystals with an agreeable odour; used in particular for the preparation of the chlorinated derivatives (plasticisers), as a coolant (alone or mixed with biphenyl ether), and as a moderator in nuclear reactors.

(b) **Diphenylmethane** ($C_6H_5CH_2C_6H_5$). A hydrocarbon with two benzene rings linked by a methylene group (CH_2). Crystallises in colourless needles with a strong odour reminiscent of geraniums; used in organic synthesis.

(c) **Triphenylmethane** ($CH(C_6H_5)_3$). A methane with three atoms of hydrogen replaced by three benzene rings.

(d) **Terphenyls**. The mixed terphenyl isomers are used as coolants and as moderators in nuclear reactors.

(III) **Hydrocarbons with two or more benzene rings fused**.

(a) **Naphthalene** ($C_{10}H_8$). Results from the fusion of two benzene rings. It occurs in coal tar, in petroleum oils, in coal gas, in lignite tar, etc. It crystallises in fine white flakes, with a characteristic odour.

To fall in this heading, naphthalene must have a crystallising point of 79.4 °C or more. Naphthalene of lower purity is **excluded** (**heading 27.07**).

(b) **Phenanthrene** ($C_{14}H_{10}$). Results from the fusion of three benzene rings. One of the products of the distillation of coal tar; fine, colourless, fluorescent crystals.

Phenanthrene falls here only when it is a separate chemically defined compound in the pure or commercially pure state. When crude, it is **excluded** (**heading 27.07**).

(c) **Anthracene** ($C_{14}H_{10}$). Also results from the fusion of three benzene rings, and is found in coal tar. Colourless crystals or yellowish powder, and is purple-blue fluorescent.

To fall in this heading, anthracene must have a purity of 90 % or more by weight. Anthracene of lower purity is **excluded** (**heading 27.07**).

This group also includes the following hydrocarbons :

(1) **Acenaphthene**.

(2) **Methylanthracenes**.

(3) **Fluorene**.

(4) **Fluoranthene**.

(5) **Pyrene**.

This heading **excludes** those dodecylbenzenes and those nonylnaphthalenes which are mixed alkylarenes (**heading 38.17**).

2902.1

- Cyclanes, cyclenes and cycloterpenes :

2902.11

-- Cyclohexane

2902.19

-- Other

2902.20

- Benzene

2902.30

- Toluene
2902.4

- Xylenes :
2902.41

-- o-Xylene
2902.42

-- m-Xylene
2902.43

-- p-Xylene
2902.44

-- Mixed xylene isomers
2902.50

- Styrene
2902.60

- Ethylbenzene
2902.70

- Cumene
2902.90

- Other
Heading 2903

Halogenated derivatives of hydrocarbons.
EXPLANATORY NOTES

29.03 - Halogenated derivatives of hydrocarbons.

- Saturated fluorinated derivatives of acyclic hydrocarbons :

2903.41 - - Trifluoromethane (HFC-23)

2903.42 - - Difluoromethane (HFC-32)

2903.43 - - Fluoromethane (HFC-41), 1,2-difluoroethane (HFC-152) and 1,1-difluoroethane (HFC-152a)

2903.44 - - Pentafluoroethane (HFC-125), 1,1,1-trifluoroethane (HFC-143a) and 1,1,2-trifluoroethane (HFC-143)

2903.45 - - 1,1,1,2-Tetrafluoroethane (HFC-134a) and 1,1,2,2-tetrafluoroethane (HFC-134)

2903.46 - - 1,1,1,2,3,3,3-Heptafluoropropane (HFC-227ea), 1,1,1,2,2,3-hexafluoropropane (HFC-236cb), 1,1,1,2,3,3-hexafluoropropane (HFC-236ea) and 1,1,1,3,3,3-hexafluoropropane (HFC-236fa)

2903.47 - - 1,1,1,3,3-Pentafluoropropane (HFC-245fa) and 1,1,2,2,3-pentafluoropropane (HFC-245ca)

2903.48 - - 1,1,1,3,3-Pentafluorobutane (HFC-365mfc) and 1,1,1,2,2,3,4,5,5,5-decafluoropentane (HFC-43-10mee)

2903.49 - - Other

- Unsaturated fluorinated derivatives of acyclic hydrocarbons :

2903.51 - - 2,3,3,3-Tetrafluoropropene (HFO-1234yf), 1,3,3,3-tetrafluoropropene (HFO-1234ze) and (Z)-1,1,1,4,4,4-hexafluoro-2-butene (HFO-1336mzz)

2903.59 - - Other

- Brominated or iodinated derivatives of acyclic hydrocarbons :

2903.61 - - Methyl bromide (bromomethane)

2903.62 - - Ethylene dibromide (ISO) (1,2-dibromoethane)

2903.69 - - Other

- Halogenated derivatives of acyclic hydrocarbons containing two or more different halogens :

2903.71 - - Chlorodifluoromethane (HCFC-22)

2903.72 - - Dichlorotrifluoroethanes (HCFC-123)

2903.73 - - Dichlorofluoroethanes (HCFC-141, 141b)

2903.74 - - Chlorodifluoroethanes (HCFC-142, 142b)

2903.75 - - Dichloropentafluoropropanes (HCFC-225, 225ca, 225cb)

2903.76 - - Bromochlorodifluoromethane (Halon-1211), bromotrifluoromethane (Halon-1301) and dibromotetrafluoroethanes (Halon-2402)

2903.77 - - Other, perhalogenated only with fluorine and chlorine

2903.78 - - Other perhalogenated derivatives

2903.79 - - Other

- Halogenated derivatives of cyclanic, cyclenic or cycloterpenic hydrocarbons :

2903.81 - - 1,2,3,4,5,6-Hexachlorocyclohexane (HCH (ISO)), including lindane (ISO, INN)

2903.82 - - Aldrin (ISO), chlordane (ISO) and heptachlor (ISO)

2903.83 - - Mirex (ISO)

2903.89 - - Other

- Halogenated derivatives of aromatic hydrocarbons :

2903.91 - - Chlorobenzene, *o*-dichlorobenzene and *p*-dichlorobenzene

2903.92 - - Hexachlorobenzene (ISO) and DDT (ISO) (clofenotane (INN), 1,1,1-trichloro-2,2-bis(*p*-chlorophenyl)ethane)

2903.93 - - Pentachlorobenzene (ISO)

2903.94 - - Hexabromobiphenyls

2903.99 - - Other

These are compounds obtained by the substitution in the structural formula of a hydrocarbon of one or more halogen atoms (fluorine, chlorine, bromine, iodine) for an equal number of hydrogen atoms.

(A) SATURATED CHLORINATED DERIVATIVES OF ACYCLIC HYDROCARBONS

(1) **Chloromethane** (methyl chloride). Colourless gas, usually presented liquefied in steel cylinders. Used as a refrigerant, as an anaesthetic and in organic synthesis.

(2) **Dichloromethane** (methylene chloride). A toxic, colourless, volatile liquid; used in organic synthesis.

(3) **Chloroform** (trichloromethane). A colourless volatile liquid, with a characteristic odour; used as an anaesthetic, as a solvent and in organic synthesis.

(4) **Carbon tetrachloride.** Colourless liquid; used in fire-extinguishers, and as a solvent for sulphur, oils, fats, varnishes, petroleum, resins, etc.

(5) **Chloroethane** (ethyl chloride). Gaseous, liquefied in special containers; used as an anaesthetic.

(6) **Ethylene dichloride** (ISO) (1,2-dichloroethane). Toxic, colourless liquid; used as a solvent.

(7) **1,2-Dichloropropane** (propylene dichloride). Colourless, stable liquid. Chloroform-like odour. Used in organic synthesis, and as a solvent for fats, oils, waxes, gums and resins.

(8) **Dichlorobutanes**.

This heading **excludes** :

(a) Chloroparaffins if they are mixtures of chlorinated derivatives; solid chloroparaffins having the character of artificial waxes are classified in **heading 34.04**, while liquid chloroparaffins are classified in **heading 38.24**.

(b) Products put up as charges for fire-extinguishers or put up in fire-extinguishing grenades, of **heading 38.13**.

(B) UNSATURATED CHLORINATED DERIVATIVES OF ACYCLIC HYDROCARBONS

(1) **Vinyl chloride** (chloroethylene). Gas with an odour of chloroform; presented in liquid form in steel containers; used for the preparation of poly(vinyl chloride) of heading 39.04.

(2) **Trichloroethylene**. Colourless liquid with an odour of chloroform; solvent for varnishes, oils and fats; used in organic synthesis.

(3) **Tetrachloroethylene** (perchloroethylene); colourless liquid used as a dry-cleaning solvent.

(4) **Vinylidene chloride**.

(C) SATURATED FLUORINATED DERIVATIVES OF ACYCLIC HYDROCARBONS

Trade in **trifluoromethane** (HFC-23), **difluoromethane** (HFC-32), **fluoromethane** (HFC-41), **1,2-difluoroethane** (HFC-152), **1,1-difluoroethane** (HFC-152a), **pentafluoroethane** (HFC-125), **1,1,1-trifluoroethane** (HFC-143a), **1,1,2-trifluoroethane** (HFC-143), **1,1,1,2-tetrafluoroethane** (HFC-134a), **1,1,2,2-tetrafluoroethane** (HFC-134), **1,1,1,2,3,3,3-heptafluoropropane** (HFC-227ea), **1,1,1,2,2,3-hexafluoropropane** (HFC-236cb), **1,1,1,2,3,3-hexafluoropropane** (HFC-236ea), **1,1,1,3,3,3-hexafluoropropane** (HFC-236fa), **1,1,1,3,3-pentafluoropropane** (HFC-245fa), **1,1,2,2,3-pentafluoropropane** (HFC-245ca), **1,1,1,3,3-pentafluorobutane** (HFC-365mfc) and **1,1,1,2,2,3,4,5,5,5-decafluoropentane** (HFC-43-10mee) is controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer under the Kigali Amendment to the Protocol.

(D) UNSATURATED FLUORINATED DERIVATIVES OF ACYCLIC HYDROCARBONS

2,3,3,3-Tetrafluoropropene (HFO-1234yf), **1,3,3,3-tetrafluoropropene** (HFO-1234ze)and **(Z)-1,1,1,4,4,4-hexafluoro-2-butene** (HFO-1336mzz). Hydrofluoroolefins (HFOs) are unsaturated fluorocarbons (i.e. molecules with a double bond between two carbon atoms). The presence of the double bond makes the molecule have a very short atmospheric life and a very low global warming potential (GWP). The majority of HFOs are unsaturated HFCs and have GWPs in the range of 4 to 9 and are not controlled under the Montreal Protocol. For example, HFO-1234yf, increasingly used in mobile air-conditioning has a GWP of 4.

(E) BROMINATED OR IODINATED DERIVATIVES OF ACYCLIC HYDROCARBONS

(1) **Bromomethane** (methyl bromide). Gaseous, liquefied in special containers; used in fire-extinguishers and as a refrigerant

(2) **Bromoethane** (ethyl bromide). Colourless liquid with an odour similar to that of chloroform; used in organic synthesis.

(3) **Bromoform**. Colourless liquid with a characteristic odour; used as a sedative.

(4) **Bromoform**. Colourless liquid with a characteristic odour; used as a sedative.

(5) **Iodomethane** (methyl iodide) and **iodoethane** (ethyl iodide). Liquids, used in organic synthesis.

(6) **Di-iodomethane** (methylene iodide).

(7) **Iodoform**. Yellow powder or yellow crystals with a characteristic odour; used in medicine as an antiseptic.

(8) **Allyl iodide** (3-iodopropene).

This heading **excludes** products put up as charges for fire-extinguishers or put up in fire-extinguishing grenades, of **heading 38.13**.

(F) HALOGENATED DERIVATIVES OF ACYCLIC HYDROCARBONS CONTAINING TWO OR MORE DIFFERENT HALOGENS

Trade in **chlorodifluoromethane** (HCFC-22), **dichlorotrifluoroethanes** (HCFC-123), **dichlorofluoroethanes** (HCFC-141, 141b), **chlorodifluoroethanes** (HCFC-142, 142b), **dichloropentafluoropropanes** (HCFC-225, 225ca, 225cb), **bromochlorodifluoromethane** (Halon-1211), **bromotrifluoromethane** (Halon-1301), **dibromotetrafluoroethanes** (Halon-2402), **trichlorofluoromethane** (CFC-11), **dichlorodifluoromethane** (CFC-12), **trichlorotrifluoroethanes** (CFC-113), **dichlorotetrafluoroethanes** (CFC-114) and **chloropentafluoroethanes** (CFC-115) is controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer.

This heading **excludes** products put up as charges for fire-extinguishers or put up in fire-extinguishing grenades, of **heading 38.13.**

(G) HALOGENATED DERIVATIVES OF CYCLANIC, CYCLENIC OR CYCLOTERPENIC HYDROCARBONS

(1) **1,2,3,4,5,6-Hexachlorocyclohexane** (HCH (ISO)), including lindane (ISO, INN). White or yellowish powder or flakes; a very strong insecticide.

(2) **Halogenated derivatives of cyclopropane or cyclobutane**.

(3) **Octachlorotetrahydro-4,7-endomethyleneindane**, also a very strong insecticide.

(4) **Halogenated derivatives of "cage" structure hydrocarbons**, such as dodecachloro-pentacyclo [5.2.1.$0^{2,6}$.$0^{3,9}$.$0^{5,8}$] decane.

(5) **Halogenated derivatives of cycloterpenes**, such as chlorocamphene, bornyl chloride.

(H) HALOGENATED DERIVATIVES OF AROMATIC HYDROCARBONS

(1) **Chlorobenzene**. Inflammable liquid with a slightly aromatic odour; used in organic synthesis and also as a solvent for varnishes, resins and bitumens.

(2) *o*-**Dichlorobenzene**. Colourless liquid.

(3) *m*-**Dichlorobenzene**. Colourless liquid.

(4) *p*-**Dichlorobenzene**. White crystals, used mainly as an insecticide, an air freshener or as an intermediate in the manufacture of dyes.

(5) **Hexachlorobenzene (ISO) and pentachlorobenzene (ISO)**. White needles insoluble in water.

(6) **DDT (ISO)** (clofenotane (INN), 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane or dichlorodiphenyltrichloroethane)*. Colourless crystals or white to slightly off-white powder. Insecticide.

(7) **Benzyl chloride**. Colourless liquid with an agreeable odour, highly lachrymatory; used in organic synthesis.

(8) **Monochloronaphthalenes**, a (mobile liquid) or *b* (volatile crystals). They have an odour of naphthalene; used in organic synthesis, as plasticisers, etc.

(9) **1,4-Dichloronaphthalene**, brilliant colourless crystals, and **octachloronaphthalene**, brilliant yellowish crystals, used as insecticides.

Liquid polychloronaphthalenes are classified in this heading if they are **not** mixtures; but those in the solid state which are mixtures having the character of artificial waxes are **excluded** (**heading 34.04**).

(10) **Bromostyrene**.

(11) **Hexabromobiphenyls***. Typical examples are : 2.2'.4.4'.5.5'-hexabromobiphenyl* and 3.3'.4.4'.5.5'-hexabromobiphenyl. Colourless to off-white solids.

This heading **excludes** mixtures of isomers of hexabromobiphenyls (**heading 38.24**). This heading also **excludes** polychlorobiphenyls which are mixtures of chlorinated derivatives; those in the solid form having the character of artificial waxes fall in **heading 34.04**, and liquid polychlorobiphenyls are classified in **heading 38.24**.

2903.1

- Saturated chlorinated derivatives of acyclic hydrocarbons :

2903.11

-- Chloromethane (methyl chloride) and chloroethane (ethyl chloride)

2903.12

-- Dichloromethane (methylene chloride)

2903.13

-- Chloroform (trichloromethane)

2903.14

-- Carbon tetrachloride

2903.15

-- Ethylene dichloride (ISO) (1,2-dichloroethane)
2903.19

-- Other
2903.2

- Unsaturated chlorinated derivatives of acyclic hydrocarbons :
2903.21

-- Vinyl chloride (chloroethylene)
2903.22

-- Trichloroethylene
2903.23

-- Tetrachloroethylene (perchloroethylene)
2903.29

-- Other
2903.4

- Saturated fluorinated derivatives of acyclic hydrocarbons :
2903.41

-- Trifluoromethane (HFC-23)
2903.42

-- Difluoromethane (HFC-32)
2903.43

-- Fluoromethane (HFC-41), 1,2-difluoroethane (HFC-152) and 1,1-difluoroethane (HFC-152a)
2903.44

-- Pentafluoroethane (HFC-125), 1,1,1-trifluoroethane (HFC-143a) and 1,1,2-trifluoroethane (HFC-143)
2903.45

-- 1,1,1,2-Tetrafluoroethane (HFC-134a) and 1,1,2,2-tetrafluoroethane (HFC-134)
2903.46

-- 1,1,1,2,3,3,3-Heptafluoropropane (HFC-227ea), 1,1,1,2,2,3-hexafluoropropane (HFC-236cb), 1,1,1,2,3,3-hexafluoropropane (HFC-236ea) and 1,1,1,3,3,3-hexafluoropropane (HFC-236fa)
2903.47

-- 1,1,1,3,3-Pentafluoropropane (HFC-245fa) and 1,1,2,2,3-pentafluoropropane (HFC-245ca)
2903.48

-- 1,1,1,3,3-Pentafluorobutane (HFC-365mfc) and 1,1,1,2,2,3,4,5,5,5-decafluoropentane (HFC-43-10mee)
2903.49

-- Other
2903.5

- Unsaturated fluorinated derivatives of acyclic hydrocarbons :
2903.51

-- 2,3,3,3-Tetrafluoropropene (HFO-1234yf), 1,3,3,3-tetrafluoropropene (HFO-1234ze) and (Z)-1,1,1,4,4,4-hexafluoro-2-butene (HFO-1336mzz)
2903.59

-- Other
2903.6

- Brominated or iodinated derivatives of acyclic hydrocarbons :
2903.61

-- Methyl bromide (bromomethane)
2903.62

-- Ethylene dibromide (ISO) (1,2-dibromoethane)
2903.69

-- Other
2903.7

- Halogenated derivatives of acyclic hydrocarbons containing two or more different halogens :
2903.71

-- Chlorodifluoromethane(HCFC-22)
2903.72

-- Dichlorotrifluoroethanes (HCFC-123)
2903.73

-- Dichlorofluoroethanes (HCFC-141, 141b)
2903.74

-- Chlorodifluoroethanes (HCFC-142, 142b)
2903.75

-- Dichloropentafluoropropanes (HCFC-225, 225ca, 225cb)
2903.76

-- Bromochlorodifluoromethane (Halon-1211), bromotrifluoromethane (Halon-1301) and dibromotetrafluoroethanes (Halon-2402)
2903.77

-- Other, perhalogenated only with fluorine and chlorine
2903.78

-- Other perhalogenated derivatives
2903.79

-- Other
2903.8

- Halogenated derivatives of cyclanic, cyclenic or cycloterpenic hydrocarbons :
2903.81

-- 1,2,3,4,5,6-Hexachlorocyclohexane (HCH (ISO)), including lindane (ISO, INN)
2903.82

-- Aldrin (ISO), chlordane (ISO) and heptachlor (ISO)
2903.83

-- Mirex (ISO)
2903.89

-- Other
2903.9

- Halogenated derivatives of aromatic hydrocarbons :

2903.91

-- Chlorobenzene, o-dichlorobenzene and p-dichlorobenzene

2903.92

-- Hexachlorobenzene (ISO) and DDT (ISO) (clofenotane (INN), 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane)

2903.93

-- Pentachlorobenzene (ISO)

2903.94

-- Hexabromobiphenyls

2903.99

-- Other

Heading 2904

Sulphonated, nitrated or nitrosated derivatives of hydrocarbons, whether or not halogenated.

EXPLANATORY NOTES

29.04 - Sulphonated, nitrated or nitrosated derivatives of hydrocarbons, whether or not halogenated.

2904.10 - Derivatives containing only sulpho groups, their salts and ethyl esters

2904.20 - Derivatives containing only nitro or only nitroso groups

- Perfluorooctane sulphonic acid, its salts and perfluorooctane sulphonyl fluoride :

2904.31 - - Perfluorooctane sulphonic acid

2904.32 - - Ammonium perfluorooctane sulphonate

2904.33 - - Lithium perfluorooctane sulphonate

2904.34 - - Potassium perfluorooctane sulphonate

2904.35 - - Other salts of perfluorooctane sulphonic acid

2904.36 - - Perfluorooctane sulphonyl fluoride

- Other :

2904.91 - - Trichloronitromethane (chloropicrin)

2904.99 - - Other

(A) SULPHONATED DERIVATIVES

These are hydrocarbons in which one or more atoms of hydrogen have been replaced by a like number of sulpho group ($-SO_3H$); they are generally called sulphonic acids. The heading also includes salts and ethyl esters of sulphonic acids (see Note 5 (B) to this Chapter).

(1) **Sulphonated derivatives of acyclic hydrocarbons**.

(a) Ethylenesulphonic acid*.

(b) Ethanesulphonic acid.

(2) **Sulphonated derivatives of cyclic hydrocarbons**.

(a) Benzenesulphonic acid.

(b) Toluenesulphonic acids (sometimes erroneously called benzylsulphonic acids).

(c) Xylenesulphonic acids.

(d) Benzenedisulphonic acids.

(e) Naphthalenesulphonic acids.

(B) NITRATED DERIVATIVES

These are hydrocarbons in which one or more hydrogen atoms have been replaced by a like number of nitro groups ($-NO_2$).

(1) **Nitrated derivatives of acyclic hydrocarbons**.

(a) Nitromethane.

(b) Nitroethane.

(c) Nitropropane.

(d) Trinitromethane*, etc.

(2) **Nitrated derivatives of cyclic hydrocarbons**.

(a) **Nitrobenzene** (oil of mirbane). Shining yellow crystals or oily yellowish liquid, with the odour of bitter almonds; used in perfumery, in soap-making, in organic synthesis, as a denaturing agent, etc.

(b) *m*-**Dinitrobenzene**. Colourless needles or flakes; used for the preparation of explosives.

(c) **Nitrotoluene** (*o*-, *m*- and *p*-).

(d) **2,4-Dinitrotoluene**. Crystals used in the manufacture of explosives.

(e) **2,4,6-Trinitrotoluene**. Powerful explosive.

Prepared explosive mixtures of these derivatives are **excluded** (**heading 36.02**).

(f) **5**-*tert*-**Butyl-2,4,6-trinitrometaxylene** (xylene musk); used in perfumery.

(g) **Nitroxylene, 3**-*tert*-**butyl-2,6-dinitro**-*p*-**cymene (cymene musk), nitronaphthalene, etc**.

(C) NITROSATED DERIVATIVES

These are hydrocarbons in which one or more atoms of hydrogen have been replaced by a like number of nitroso groups (-NO).

(1) **Nitrosobenzene**.

(2) **Nitrosotoluene**(*o*-, *m*- and *p*-)*.

(D) SULPHOHALOGENATED DERIVATIVES

These are hydrocarbon derivatives the molecules of which contain one or more sulpho groups ($-SO_3H$) or salts or ethyl esters thereof and one or more halogens, or else a halosulphonyl group.

(1) **Chloro-, bromo- and iodobenzenesulphonic acids** (*o*-, *m* and *p*-)*.

(2) **Chloro-, bromo- and iodobenzenedisulphonic acids**.

(3) **Chloronaphthalenesulphonic acids**.

(4) *p*-**Toluenesulphonyl chloride**.

(5) Perfluorooctane sulphonic acid (PFOS)*. The production and use of PFOS, its salts and perfluorooctane sulfonyl fluoride (PFOSF) is controlled by the Stockholm Convention on Persistent Organic Pollutants and by the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (see also **headings 29.22, 29.23, 29.35, 38.08 and 38.24**).

(E) NITROHALOGENATED DERIVATIVES

These are hydrocarbon derivatives the molecules of which contain one or more nitro groups ($-NO_2$) and one or more halogens.

(1) **Trichloronitromethane or chloropicrin**.

(2) **Iodotrinitromethane (iodopicrin)**.

(3) **Chloronitromethane**.

(4) **Bromonitromethane**.

(5) **Iodonitromethane**.

(6) **Chloronitrobenzene**.

(7) **Chloronitrotoluene**.

(F) NITROSULPHONATED DERIVATIVES

These are hydrocarbon derivatives the molecules of which contain one or more nitro groups ($-NO_2$) and one or more sulpho groups ($-SO_3H$) or salts or ethyl esters thereof.

(1) **Nitrobenzenesulphonic and di- and trinitrobenzenesulphonic acids**.

(2) **Nitrotoluenesulphonic and di- and trinitrotoluenesulphonic acids**.

(3) **Nitronaphthalenesulphonic acids**.

(4) **Dinitrostilbenedisulphonic acids**.

(G) NITROSULPHOHALOGENATED OR OTHER COMPOUND DERIVATIVES

These are compound derivatives of a kind not specified above, for example, those which contain one or more nitro groups ($-NO_2$), sulpho groups ($-SO_3H$) or salts or ethyl esters thereof and one or more halogens. Specific examples are the sulphonated derivatives of chloronitrobenzenes, of chloronitrotoluenes, etc.

2904.10

- Derivatives containing only sulpho groups, their salts and ethyl esters

2904.20

- Derivatives containing only nitro or only nitroso groups

2904.3

- Perfluorooctane sulphonic acid, its salts and perfluorooctane sulphonyl fluoride :

2904.31

-- Perfluorooctane sulphonic acid

2904.32

-- Ammonium perfluorooctane sulphonate

2904.33

-- Lithium perfluorooctane sulphonate

2904.34

-- Potassium perfluorooctane sulphonate

2904.35

-- Other salts of perfluorooctane sulphonic acid

2904.36

-- Perfluorooctane sulphonyl fluoride

2904.9

- Other :

2904.91

-- Trichloronitromethane (chloropicrin)
2904.99
-- Other
Heading 2905
Acyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives.
EXPLANATORY NOTES

Sub-Chapter II

ALCOHOLS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES

29.05 - Acyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives.

- Saturated monohydric alcohols :

2905.11 - - Methanol (methyl alcohol)

2905.12 - - Propan-1-ol (propyl alcohol) and propan-2-ol (isopropyl alcohol)

2905.13 - - Butan-1-ol (*n*-butyl alcohol)

2905.14 - - Other butanols

2905.16 - - Octanol (octyl alcohol) and isomers thereof

2905.17 - - Dodecan-1-ol (lauryl alcohol), hexadecan-1-ol (cetyl alcohol) and octadecan-1-ol (stearyl alcohol)

2905.19 - - Other

- Unsaturated monohydric alcohols :

2905.22 - - Acyclic terpene alcohols

2905.29 - - Other

- Diols :

2905.31 - - Ethylene glycol (ethanediol)

2905.32 - - Propylene glycol (propane-1,2-diol)

2905.39 - - Other

- Other polyhydric alcohols :

2905.41 - - 2-Ethyl-2-(hydroxymethyl)propane-1,3-diol (trimethylolpropane)

2905.42 - - Pentaerythritol

2905.43 - - Mannitol

2905.44 - - D-glucitol (sorbitol)

2905.45 - - Glycerol

2905.49 - - Other

- Halogenated, sulphonated, nitrated or nitrosated derivatives of acyclic alcohols :

2905.51 - - Ethchlorvynol (INN)

2905.59 - - Other

Acyclic alcohols are derivatives of acyclic hydrocarbons obtained by replacing one or more atoms of hydrogen by the hydroxyl group. They are oxygenated compounds which react with acids giving the compounds known as esters.

The alcohols may be primary (containing the characteristic group $-CH_2OH$), secondary (containing the characteristic group >CHOH) or tertiary (containing the characteristic group $\rangle COH$).

This heading covers the acyclic alcohols described below and their halogenated, sulphonated, nitrated, nitrosated, sulphohalogenated, nitrohalogenated, nitrosulphonated, nitrosulpho- halogenated or other compound derivatives (e.g., the monochlorohydrins of glycerol and of ethylene glycol). Aldehyde-bisulphite compounds and ketone-bisulphite compounds are classified as sulphonated derivatives of alcohols, e.g., acetaldehyde sodium bisulphite, formaldehyde sodium bisulphite, valeraldehyde sodium bisulphite and acetone sodium bisulphite. The heading also covers metal alcoholates of alcohols of this heading and of ethanol.

This heading **excludes** ethanol (ethyl alcohol), whether or not pure (see Explanatory Notes to **headings 22.07** and **22.08**).

(A) SATURATED MONOHYDRIC ALCOHOLS

(1) **Methanol** (methyl alcohol). Obtained by dry distillation of wood, or by synthesis. Pure methanol is a mobile, colourless, inflammable liquid, with a characteristic odour; used in organic synthesis, as a solvent, in the dyestuff industry, and for the manufacture of explosives, pharmaceutical products, etc. Wood naphtha (crude methyl alcohol) obtained by dry distillation of wood is **excluded** (**heading 38.07**).

(2) **Propan-1-ol** (propyl alcohol) **and propan-2-ol** (isopropyl alcohol). These products are **colourless** liquids. The latter is obtained by synthesis from propylene and is used in the preparation of acetone, and methacrylates, and as a solvent, etc.

(3) **Butan-1-ol** (*n*-butyl alcohol) **and other butanols** (4 isomers). Colourless liquids, used in organic synthesis and as solvents.

(4) **Pentanol** (amyl alcohol) **and isomers thereof**. There are eight possible isomers. Fermentation amyl alcohol is chiefly obtained from fusel oil (also known as grain oil, molasses oil, potato oil, etc., heading 38.24) which is itself obtained during the rectification of ethyl alcohol. Amyl alcohols may also be synthesised from the hydrocarbon gases obtained during the cracking of petroleum.

(5) **Hexanols and heptanols** (hexyl and heptyl alcohol).

(6) **Octanol** (octyl alcohol) and **isomers thereof**.

(7) **Dodecan-1-ol** (lauryl alcohol), **hexadecan-1-ol** (cetyl alcohol) **and octadecan-1-ol** (stearyl alcohol).

This heading **excludes** fatty alcohols of a purity of less than 90 % (calculated on the weight of the dry product) (**heading 38.23**).

(B) UNSATURATED MONOHYDRIC ALCOHOLS

(1) **Allyl alcohol***.

(2) **Ethylpropylallyl alcohol** (2-ethyl-2-hexen-1-ol).

(3) **Oleyl alcohol**.

(4) **Acyclic terpene alcohols**, e.g., phytol. Terpene alcohols are fairly readily converted into hydro-aromatic compounds and are found in certain essential oils. Examples are geraniol, citronellol, linalool, rhodinol and nerol, used in perfumery.

(C) DIOLS AND OTHER POLYHYDRIC ALCOHOLS

(I) **Diols**

(1) **Ethylene glycol** (ethanediol). A colourless, syrupy liquid with a faint, pungent odour. Used in the manufacture of nitroglycol (explosive), as a solvent for varnishes, as an anti-freeze agent or in organic synthesis.

(2) **Propylene glycol** (propane-1,2-diol). Colourless, viscous and hygroscopic liquid.

(II) **Other polyhydric alcohols**

(1) **Glycerol** (propane-1,2,3-triol). Glycerol (also known as glycerine) may be obtained either by purification of crude glycerol (e.g., by distillation, ion-exchange purification) or synthetically from propylene.

Glycerol has a sweet taste. It is in general colourless and odourless, but may sometimes have a slight yellowish shade.

To fall in this heading, glycerol must have a purity of 95 % or more (calculated on the weight of the dry product). Glycerol of lower purity (crude glycerol) is **excluded** (**heading 15.20**).

(2) **2-Ethyl-2-(hydroxymethyl)propane-1,3-diol** (trimethylolpropane). Used in the manufacture of varnishes and alkyd resins, synthetic drying oils, urethane foams and coatings.

(3) **Pentaerythritol**. White crystalline powder, used in the manufacture of explosives and plastics.

(4) **Mannitol***. White crystalline powder or granules. Found in the vegetable kingdom (sap of the *Fraxinus ornus*); obtained by synthesis. Used as a mild laxative and in the manufacture of explosives (mannitol hexanitrate).

(5) **D-glucitol** (sorbitol). White crystalline powder which is hygroscopic. Used in perfumery, in the manufacture of ascorbic acid (used in medicine) and of surface-active agents, as a substitute for glycerol and as a humectant (i.e., moisture-conditioning agent).

(6) **Pentanetriol, hexanetriol, etc**.

This heading **excludes** sorbitol of **heading 38.24**.

(D) HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES OF ACYCLIC ALCOHOLS

(1) **Chloral hydrate** ($CCl_3CH(OH)_2$) (2,2,2-trichloroethane-1,1-diol). Colourless toxic crystals; used as a hypnotic and in organic synthesis.

(2) **Trichloro-tertiary-butyl alcohol**; used in medicine.

(3) **Ethchlorvynol**. A psychotropic substance - see the list at the end of Chapter 29.

2905.1

- Saturated monohydric alcohols :

2905.11

-- Methanol (methyl alcohol)

2905.12

-- Propan-1-ol (propyl alcohol) and propan-2-ol (isopropyl alcohol)

2905.13

-- Butan-1-ol (n-butyl alcohol)

2905.14

-- Other butanols

2905.16

-- Octanol (octyl alcohol) and isomers thereof

2905.17

-- Dodecan-1-ol (lauryl alcohol), hexadecan-1-ol (cetyl alcohol) and octadecan-1-ol (stearyl alcohol)

2905.19

-- Other

2905.2

- Unsaturated monohydric alcohols :
2905.22
-- Acyclic terpene alcohols
2905.29
-- Other
2905.3
- Diols :
2905.31
-- Ethylene glycol (ethanediol)
2905.32
-- Propylene glycol (propane-1,2-diol)
2905.39
-- Other
2905.4
- Other polyhydric alcohols :
2905.41
-- 2-Ethyl-2-(hydroxymethyl)propane-1,3-diol (trimethylolpropane)
2905.42
-- Pentaerythritol
2905.43
-- Mannitol
2905.44
-- D-glucitol (sorbitol)
2905.45
-- Glycerol
2905.49
-- Other
2905.5
- Halogenated, sulphonated, nitrated or nitrosated derivatives of acyclic alcohols :
2905.51
-- Ethchlorvynol (INN)
2905.59
-- Other
Heading 2906

Cyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives.
EXPLANATORY NOTES

29.06 - Cyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives.

- Cyclanic, cyclenic or cycloterpenic :

2906.11 - - Menthol

2906.12 - - Cyclohexanol, methylcyclohexanols and dimethylcyclohexanols

2906.13 - - Sterols and inositols

2906.19 - - Other

- Aromatic :

2906.21 - - Benzyl alcohol

2906.29 - - Other

(A) CYCLANIC, CYCLENIC OR CYCLOTERPENIC ALCOHOLS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES

(1) **Menthol***, a secondary alcohol which is the main constituent of peppermint oil. Crystals; used as an antiseptic, as a local anaesthetic and also to relieve nasal congestion.

(2) **Cyclohexanol, methyl- and dimethylcyclohexanols** are compounds with a characteristic odour like camphor. They are used as solvents for varnishes. Dimethylcyclohexanol is used in soap-making.

(3) **Sterols** are alicyclic alcohols, saturated or unsaturated, the structure of which is derived from the hydrocarbon perhydro-1,2-cyclopentanophenanthrene, the hydroxyl group being linked to the 3-carbon, with a methyl group on the 10- and 13-carbons and a side chain of 8 to 10 carbon atoms linked to the 17-carbon. They exist abundantly both in the animal (zoosterols) and vegetable (phytosterols) kingdoms. The most important is **cholesterol** obtained mainly from the spinal cords of cattle and from wool grease; it is also obtained from bile, and as a by-product during the extraction of lecithin from egg-yolks. It is in the form of shiny, colourless tablets, insoluble in water.

This heading **excludes** ergosterol, found in fungi (mushrooms) and in spurred rye, a provitamin from which vitamin D_2 is obtained by ultra-violet irradiation. Both ergosterol and vitamin D_2 fall in **heading 29.36**.

(4) **Inositols**, constituents of body tissue. There are nine isomeric forms of inositol. White crystals. Widely distributed in plants and animals.

(5) **Terpineols**, very important alcohols used as a basis for perfumes such as lilac, etc. Found in nature either in the free state or esterified in many essential oils (e.g., of cardamoms, sweet orange, orange-flower, petit-grain, sweet marjoram, nutmeg, turpentine, cherry-laurel, camphor).

Commercial terpineol is usually a mixture of isomers but it remains in this heading (see Note 1 (b) to Chapter 29). It is a colourless, oily liquid, and is sometimes used as a bactericide. A solid isomer is used in medicine and may also be used as a bactericide.

(6) **Terpin**, obtainedsynthetically. White crystals. Terpin hydrate is obtained from turpentine; colourless crystals, aromatic. Used in medicine, and also for the preparation of terpineol.

(7) **Borneol** (Borneo camphor), the alcohol corresponding to the ketone camphor. Appearance and odour like natural camphor; crystalline white or sometimes brownish mass; volatile at room temperature.

(8) **Isoborneol**, lamellar crystals; an intermediate stage in the conversion of alphapinene to camphor.

(9) **Santalol**, main constituent of sandalwood oil.

(B) AROMATIC ALCOHOLS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES

Aromatic alcohols contain the hydroxyl group (-OH) linked not to the aromatic rings but to the side chains.

(1) **Benzyl alcohol** (phenylmethanol, phenylcarbinol). Found in the free state or esterified in oils of jasmine and tuberose, and esterified in storax and balsam of Tolu. Colourless liquid with a pleasant aromatic odour; used in organic synthesis and in the preparation of varnishes, dyestuffs, artificial perfumes, etc.

(2) **2-Phenylethanol** (phenylethyl alcohol). A liquid forming the main constituent in attar of roses.

(3) **3-Phenylpropanol** (phenylpropyl alcohol). Found in storax, in Sumatra gum benzoin, in cassia oil and in Chinese cinnamon oil; it is a dense, colourless liquid with a faint odour of hyacinths.

(4) **Cinnamyl alcohol**. Found in liquid storax and in balsam of Peru. Crystallises in needles with an odour of hyacinths.

(5) **Diphenylmethanol** (diphenylcarbinol, benzhydrol). Crystallises in needles.

(6) **Triphenylmethanol** (triphenylcarbinol). Crystals. This alcohol is the parent substance of an important group of dyes which includes aurine, rosaniline, etc.

*

* *

For the purposes of this heading, aldehyde-bisulphite compounds and ketone-bisulphite compounds are classified as sulphonated derivatives of alcohols. This heading also covers metal alcoholates of cyclic alcohols.

2906.1

- Cyclanic, cyclenic or cycloterpenic :

2906.11

-- Menthol

2906.12

-- Cyclohexanol, methylcyclohexanols and dimethylcyclo-hexanols

2906.13

-- Sterols and inositols

2906.19

-- Other

2906.2

- Aromatic :

2906.21

-- Benzyl alcohol

2906.29

-- Other

Heading 2907

Phenols; phenol-alcohols.

EXPLANATORY NOTES

Sub-Chapter III

PHENOLS, PHENOL-ALCOHOLS, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES

29.07 - Phenols; phenol-alcohols.

- Monophenols :

2907.11 - - Phenol (hydroxybenzene) and its salts

2907.12 - - Cresols and their salts

2907.13 - - Octylphenol, nonylphenol and their isomers; salts thereof

2907.15 - - Naphthols and their salts

2907.19 - - Other

- Polyphenols; phenol-alcohols :

2907.21 - - Resorcinol and its salts

2907.22 - - Hydroquinone (quinol) and its salts

2907.23 - - 4,4-Isopropylidenediphenol (bisphenol A, diphenylolpropane) and its salts

2907.29 - - Other

Phenols are obtained by replacing one or more hydrogen atoms of the benzene ring by the hydroxyl radical (-OH).

Replacement of one hydrogen atom gives monohydric phenols (monophenols); replacement of two or more hydrogen atoms results in polyhydric phenols (polyphenols).

This substitution in its turn may affect one or more benzene rings; in the first case mononuclear phenols are obtained, in the second, polynuclear phenols.

The hydroxyl group may also be present as a substitute in benzene homologues; in the case of toluene, a phenol homologue known as cresol is obtained, in the case of xylene, xylenol is obtained.

The heading also covers salts and metal alcoholates of phenols or phenol-alcohols.

(A) MONONUCLEAR MONOPHENOLS

(1) **Phenol** (hydroxybenzene) (C_6H_5OH). Obtained by fractional distillation of coal tars or by synthesis. White crystals, with a characteristic odour, which turn reddish when exposed to light, or may be in solution. It is an antiseptic product used in pharmacy. It is also used in the manufacture of explosives, synthetic resins, plastics, plasticisers and dyes.

To fall in this heading, phenol must have a purity of 90 % or more by weight. Phenol of lower purity is **excluded** (**heading 27.07**).

(2) **Cresols** ($CH_3C_6H_4OH$)*. These phenols derived from toluene are found in varying proportions in coal tar oil.

o-Cresol is a white crystalline powder with a characteristic odour of phenol, deliquescent, turning brown with age; *m*-cresol is a colourless or yellowish oily liquid, strongly refractive, with an odourof creosote; p-cresol is a colourless crystalline mass which turns reddish and then brownish when exposed to light; it has the odour of phenol.

To fall in this heading, single or mixed cresols must contain 95 % or more by weight of cresol, all cresol isomers being taken together. Cresols of lower purity are **excluded** (**heading 27.07**).

(3) **Octylphenol, nonylphenol and their isomers**.

(4) **Xylenols** ($(CH_3)_2C_6H_3OH$). These are phenol derivatives of xylene. Six isomers are known; they are obtained from coal tar oils.

To fall in this heading, single or mixed xylenols must contain 95 % or more by weight of xylenol, all xylenol isomers being taken together. Xylenols of lower purity are **excluded** (**heading 27.07**).

(5) **Thymol** (5-methyl-2-isopropylphenol). Found in thyme oil. Colourless crystals with an odour of thyme; used in medicine, in perfumery, etc.

(6) **Carvacrol** (2-methyl-5-isopropylphenol). An isomer of thymol obtained from origanum oil; a viscous liquid with a penetrating odour.

(B) POLYNUCLEAR MONOPHENOLS

(1) **Naphthols** ($C_{10}H_7OH$)*. These are the phenols derived from naphthalene. There are two isomers :

(a) a-**Naphthol**. Colourless, shining crystalline needles, grey lumps or white powder, with a disagreeable odour faintly reminiscent of phenol. It is toxic and is used in organic synthesis (dyes, etc.).

(b) *b*-**Naphthol**. Brilliant colourless flakes or crystalline powder, white or slightly pink, with a very slight odour of phenol. It has the same uses as a-naphthol, and is also used in medicine and as an antioxidant for rubber, etc.

(2) *o*-**Phenylphenol**.

(C) POLYPHENOLS

(1) **Resorcino**l (*m*-dihydroxybenzene)*. Dihydric phenol; crystallises in tablets or in needles; colourless but turns brown in contact with air. Slight odour of phenol. Used for the manufacture of synthetic dyes and explosives, and in medicine and photography.

(2) **Hydroquinone** (quinol, *p*-dihydroxybenzene). Small shining crystalline flakes. Used for preparing organic dyes, in medicine and photography, or as an antioxidant especially for the manufacture of rubber.

(3) **4,4'-Isopropylidenediphenol** (bisphenol A, diphenylolpropane)*. White flakes.

(4) **Pyrocatechol** (*o*-dihydroxybenzene). Colourless, shining crystalline needles or tablets, with a slight odour of phenol; used for preparing pharmaceutical and photographic products, etc.

(5) **Hexylresorcinol**.

(6) **Heptylresorcinol**.

(7) **2,5-Dimethylhydroquinone** (2,5-dimethylquinol).

(8) **Pyrogallol**. Small scales or in a shining white crystalline powder, light and odourless; it readily turns brown in contact with air and light and is toxic. It is used for preparing dyes, as a mordant, in photography, etc.

(9) **Phloroglucinol**. Large colourless crystals, fluorescent in aqueous solution; used as a reagent in chemical analysis, in medicine, photography, etc.

(10) **Hydroxyhydroquinone** (1,2,4-trihydroxybenzene). Microscopic colourless crystals or powder which darkens on exposure to light.

(11) **Dihydroxynaphthalenes** ($C_{10}H_6(OH)_2$). A group of ten compounds obtained by replacing two hydrogen atoms in the ring of the naphthalene molecule by two hydroxyl groups. Some are used in the manufacture of dyes.

(D) PHENOL-ALCOHOLS

These are derived from aromatic hydrocarbons by replacing one hydrogen atom on the benzene ring with a phenolic hydroxyl group, and another hydrogen atom not on the ring with an alcoholic hydroxyl group; thus they have the characteristics of both phenols and alcohols.

The most important is **salicyl alcohol** (saligenin) ($HOC_6H_4CH_2OH$), white crystals, used in medicine as an analgesic and a febrifuge (antipyretic).

2907.1

- Monophenols :

2907.11

-- Phenol (hydroxybenzene) and its salts

2907.12

-- Cresols and their salts

2907.13

-- Octylphenol, nonylphenol and their isomers; salts thereof

2907.15

-- Naphthols and their salts

2907.19

-- Other

2907.2

- Polyphenols; phenol-alcohols :

2907.21

-- Resorcinol and its salts

2907.22

-- Hydroquinone (quinol) and its salts

2907.23

-- 4,4'-Isopropylidenediphenol (bisphenol A, diphenylolpropane) and its salts

2907.29

-- Other

Heading 2908

Halogenated, sulphonated, nitrated or nitrosated derivatives of phenols or phenol-alcohols.

EXPLANATORY NOTES

29.08 - Halogenated, sulphonated, nitrated or nitrosated derivatives of phenols or phenol-alcohols.

- Derivatives containing only halogen substituents and their salts :

2908.11 - - Pentachlorophenol (ISO)

2908.19 - - Other

- Other :

2908.91 - - Dinoseb (ISO) and its salts

2908.92 - - 4,6-Dinitro-*o*-cresol (DNOC (ISO)) and its salts

2908.99 - - Other

These are derived from phenols and phenol-alcohols by replacing one or more hydrogen atoms by a halogen, a sulpho group ($-SO_3H$), a nitro group ($-NO_2$), a nitroso group (-NO) or by any combination thereof.

(A) HALOGENATED DERIVATIVES

(1) *o*-**Chlorophenol**. Liquid with a strong odour.

(2) *m*-**Chlorophenol**. Colourless crystals.

(3) *p*-**Chlorophenol**. Crystalline mass with a disagreeable odour.

The three products above are used in organic synthesis (e.g., dyes).

(4) *p*-**Chloro-*m*-cresol** (4-chloro-3-methylphenol). An odourless, disinfectant product, slightly soluble in water but easily emulsified with soap.

(5) **Chlorohydroquinone** (chloroquinol).

(B) SULPHONATED DERIVATIVES

(1) **Phenolsulphonic acids** ($HOC_6H_4SO_3H$), obtained by sulphonating phenol.

(2) **Naphtholsulphonic acids**, prepared by direct sulphonation of naphthols, or by other processes of synthesis. They constitute an extensive group of compounds used for the manufacture of dyes and include :

(a) **1-Naphthol-4-sulphonic acid** (Neville-Winther acid), brilliant transparent flakes or yellowish-white powder.

(b) **2-Naphthol-6-sulphonic acid** (Schaeffer acid), a pinkish-white powder.

(c) **2-Naphthol-7-sulphonic acid** (F acid), white powder.

(d) **1-Naphthol-5-sulphonic acid**, deliquescent crystals.

(e) **2-Naphthol-8-sulphonic acid** (crocein acid), yellowish-white powder.

(C) NITRATED DERIVATIVES

(1) *o*-, *m*- and *p*-**Nitrophenols** ($HOC_6H_4NO_2$). Yellowish crystals; used for preparing organic dyestuffs and pharmaceutical products.

(2) **Dinitrophenols** ($HOC_6H_3(NO_2)_2$). These are crystalline powders; used for the preparation of explosives, sulphur dyes, etc.

(3) **Trinitrophenol (picric acid)** ($HOC_6H_2(NO_2)_3$). Brilliant yellow crystals, odourless and toxic. Used for the treatment of burns and also as an explosive; its salts are known as picrates.

(4) **Dinitro-*o*-cresols**.

(5) **Trinitroxylenols**.

(D) NITROSATED DERIVATIVES

(1) *o*-, *m*- and *p*-**Nitrosophenols**. The fact that nitrosophenols may react in the tautomeric form of quinone oximes does not affect their classification in this heading.

(2) **Nitrosonaphthols**.

2908.1

- Derivatives containing only halogen substituents and their salts :

2908.11

-- Pentachlorophenol (ISO)

2908.19

-- Other

2908.9

- Other :

2908.91

-- Dinoseb (ISO) and its salts

2908.92

-- 4,6-Dinitro-o-cresol (DNOC (ISO)) and its salts

2908.99

-- Other

CLASSIFICATION OPINIONS

1. Antimony(III)bis(disodium sulphocatechol).

Adoption : 1957

Heading 2909

Ethers, ether-alcohols, ether-phenols, ether-alcohol-phenols, alcohol peroxides, ether peroxides, acetal and hemiacetal peroxides, ketone peroxides (whether or not chemically defined), and their halogenated, sulphonated, nitrated or nitrosated derivatives.

EXPLANATORY NOTES

Sub-Chapter IV

ETHERS, ALCOHOL PEROXIDES, ETHER PEROXIDES, ACETAL AND HEMIACETAL PEROXIDES, KETONE PEROXIDES, EPOXIDES WITH A THREE-MEMBERED RING, ACETALS AND HEMIACETALS, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES

29.09 - Ethers, ether-alcohols, ether-phenols, ether-alcohol-phenols, alcohol peroxides, ether peroxides, acetal and hemiacetal peroxides, ketone peroxides (whether or not chemically defined), and their halogenated, sulphonated, nitrated or nitrosated derivatives.

- Acyclic ethers and their halogenated, sulphonated, nitrated or nitrosated derivatives :

2909.11 - - Diethyl ether

2909.19 - - Other

2909.20 - Cyclanic, cyclenic or cycloterpenic ethers and their halogenated, sulphonated, nitrated or nitrosated derivatives

2909.30 - Aromatic ethers and their halogenated, sulphonated, nitrated or nitrosated derivatives

- Ether-alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives :

2909.41 - - 2,2'-Oxydiethanol (diethylene glycol, digol)

2909.43 - - Monobutyl ethers of ethylene glycol or of diethylene glycol

2909.44 - - Other monoalkylethers of ethylene glycol or of diethylene glycol

2909.49 - - Other

2909.50 - Ether-phenols, ether-alcohol-phenols and their halogenated, sulphonated, nitrated or nitrosated derivatives

2909.60 - Alcohol peroxides, ether peroxides, acetal and hemiacetal peroxides, ketone peroxides and their halogenated, sulphonated, nitrated or nitrosated derivatives

(A) ETHERS

Ethers may be considered as alcohols or phenols in which the hydrogen atom of the hydroxyl group is replaced by a hydrocarbon radical (alkyl or aryl). They have the general formula :

($R\text{-}O\text{-}R^1$), where R and R^1 may be the same or different.

These ethers are very stable, neutral substances.

If the radicals belong to the acyclic series, the ether is also acyclic; cyclic radicals give cyclic ethers.

The first ether in the acyclic series is gaseous, but others are volatile liquids with a characteristic odour of ether; the higher members are liquids or sometimes solids.

(I) **Symmetrical acyclic ethers**.

(1) **Diethyl ether** ($C_2H_5OC_2H_5$). Colourless, refractive liquid, with a characteristic burning odour; extremely volatile and very inflammable. Used as an anaesthetic and in organic synthesis.

(2) **Di(chloroethyl) ether, or dichlorodiethyl ether**.

(3) **Di-isopropyl ether**.

(4) **Dibutyl ether**.

(5) **Dipentyl ether** (diamyl ether).

(II) **Non symmetrical acyclic ethers**.

(1) **Ethyl methyl ether**.

(2) **Ethyl isopropyl ether**.

(3) **Butyl ethyl ethers**.

(4) **Pentyl ethyl ethers**.

(III) **Cyclanic, cyclenic or cycloterpenic ethers**.

(IV) **Aromatic ethers**.

(1) **Anisole** ($C_6H_5OCH_3$) (methyl phenyl ether). Colourless liquid with a pleasant odour; used in organic synthesis (e.g., synthetic perfumes) and also as a solvent and vermifuge (anthelmintic).

(2) **Phenetole** (ethyl phenyl ether) ($C_6H_5OC_2H_5$).

(3) **Diphenyl ether** ($C_6H_5OC_6H_5$). Colourless crystalline needles with an odour like that of geraniums; used in perfumery.

(4) **1,2-Diphenoxyethane** (ethylene glycol diphenyl ether).

(5) **Anethole**, contained in aniseed oil. Small crystals at a temperature below 20 °C; at a higher temperature, it is a mobile liquid with a strong odour of aniseed oil.

(6) **Dibenzyl ether**.

(7) **Nitrophenetoles**, nitrated derivatives of phenetole. *o*-Nitrophenetole is a yellow oil. *p*-Nitrophenetole is crystalline.

(8) **Nitroanisoles**, nitrated derivatives of anisole. *o*-Nitroanisole is liquid. *m*- and *p*-Nitroanisoles are lamelliform crystals. Trinitroanisole is a very violent explosive.

(9) **2-tert-Butyl-5-methyl-4,6-dinitroanisole** (musk ambrette), yellowish crystals combining the perfumes of ambrette oil and natural musk.

(10) *b*-**Naphthyl methyl and ethyl ethers** (artificial neroli oil). Colourless crystalline powders with an odour similar to that of orange-flower oil.

(11) **Methyl ethers of** *m*-**cresol and butyl**-*m*-**cresols**.

(12) **Phenyl tolyl ether**.

(13) **Ditolyl ether**.

(14) **Benzyl ethyl ether**.

(B) ETHER-ALCOHOLS

These are derived from polyhydric alcohols or phenol-alcohols by replacing the hydrogen of the phenolic hydroxyl group (in the case of phenol-alcohols), or of one of the alcoholic hydroxyl groups (in the case of polyhydric alcohols), by an alkyl or aryl radical.

(1) **2,2'-Oxydiethanol** (diethylene glycol, digol). Colourless liquid; used in organic synthesis, as a solvent for gums and resins, for the preparation of explosives and plastic materials.

(2) **Monomethyl, monoethyl, monobutyl and other monoalkylethers of ethylene glycol or diethylene glycol**.

(3) **Monophenyl ethers of ethylene glycol or of diethylene glycol**.

(4) **Anisyl alcohol**.

(5) **Guaietolin** (INN) (glycerol mono (2-ethoxyphenyl)ether); **guaifenesin** (INN) (glycerol mono(2-methoxyphenyl)ether).

(C) ETHER-PHENOLS AND ETHER-ALCOHOL-PHENOLS

These are derived from dihydric phenols or phenol alcohols by replacing the hydrogen of the alcohol hydroxyl group (in the case of phenol alcohols), or of one of the phenol hydroxyl groups (in the case of dihydric phenols), by an alkyl or aryl radical.

(1) **Guaiacol***, found in beech-wood tar. The main component of wood creosote. Colourless crystals with a characteristic aromatic odour; but once melted, guaiacol remains liquid. Used in medicine and in organic synthesis.

(2) **Sulfogaiacol** (INN) (potassium guaiacolsulphonate), a fine powder, extensively used in medicine.

(3) **Eugenol**, obtained from cloves, a colourless liquid with an odour of carnations.

(4) **Isoeugenol**, obtained synthetically from eugenol. A component of nutmeg oil.

(5) **Pyrocatechol monoethyl ether** (guaethol), found in Swedish pine-wood oil. Caustic, colourless crystals with an aromatic odour.

(D) ALCOHOL PEROXIDES, ETHER PEROXIDES, ACETAL AND HEMIACETAL PEROXIDES AND KETONE PEROXIDES

These are compounds of the ROOH and $ROOR^1$ series, in which R and R^1 are organic radicals.

Examples are **ethyl hydroperoxide** and **diethyl peroxide.**

This heading also includes **acetal and hemiacetal peroxides** (including peroxyketals), e.g., 1,1-di(tert-butylperoxy)cyclohexane*, as well as **ketone peroxides** (whether or not chemically defined), e.g., cyclohexanone peroxide (1-hydroperoxycyclohexyl 1-hydroxycyclohexyl peroxide)*.

*

* *

This heading also covers the halogenated, sulphonated, nitrated or nitrosated derivatives of ethers, ether-alcohols, ether-phenols, ether-alcohol-phenols, alcohol peroxides, ether peroxides, acetal or hemiacetal peroxides or ketone peroxides, and compound derivatives (for example, nitrosulphonated, sulphohalogenated, nitrohalogenated and nitrosulphohalogenated derivatives).

2909.1

- Acyclic ethers and their halogenated, sulphonated, nitrated or nitrosated derivatives :

2909.11

-- Diethyl ether

2909.19

-- Other

2909.20

- Cyclanic, cyclenic or cycloterpenic ethers and their halogenated, sulphonated, nitrated or nitrosated derivatives

2909.30

- Aromatic ethers and their halogenated, sulphonated, nitrated or nitrosated derivatives

2909.4

- Ether-alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives :

2909.41

-- 2,2'-Oxydiethanol (diethylene glycol, digol)
2909.43

-- Monobutyl ethers of ethylene glycol or of diethylene glycol
2909.44

-- Other monoalkylethers of ethylene glycol or of diethylene glycol
2909.49

-- Other
2909.50

- Ether-phenols, ether-alcohol-phenols and their halogenated, sulphonated, nitrated or nitrosated derivatives
2909.60

- Alcohol peroxides, ether peroxides, acetal and hemiacetal peroxides, ketone peroxides and their halogenated, sulphonated, nitrated or nitrosated derivatives

Heading 2910

Epoxides, epoxyalcohols, epoxyphenols and epoxyethers, with a three-membered ring, and their halogenated, sulphonated, nitrated or nitrosated derivatives.

EXPLANATORY NOTES

29.10 - Epoxides, epoxyalcohols, epoxyphenols and epoxyethers, with a three-membered ring, and their halogenated, sulphonated, nitrated or nitrosated derivatives.

2910.10 - Oxirane (ethylene oxide)

2910.20 - Methyloxirane (propylene oxide)

2910.30 - 1-Chloro-2,3-epoxypropane (epichlorohydrin)

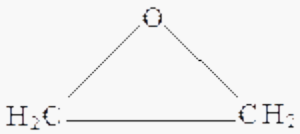
2910.40 - Dieldrin (ISO, INN)

2910.50 - Endrin (ISO)

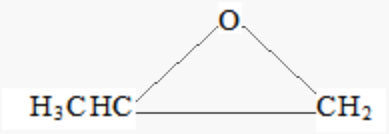
2910.90 - Other

If one molecule of water is removed from organic compounds (diols, glycols) having two hydroxyl groups in the molecule, stable internal ethers are formed.

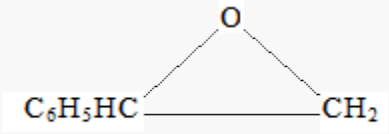
Thus ethylene glycol minus one molecule of water gives **oxirane (ethylene oxide or epoxyethane)** :



The epoxide derived from propylene glycol (i.e., ethylene glycol in which one atom of hydrogen has been replaced by a methyl radical ($-CH_3$) is known as **methyloxirane (1,2-epoxypropane or propylene oxide) :**



The epoxide derived from ethylene glycol in which one atom of hydrogen has been replaced by a phenyl radical (-C_6H_5) is known as **styrene oxide** (a- *b*-**epoxyethylbenzene**) :



This heading covers **only** compounds with three-membered epoxy rings, e.g. :

(1) **Oxirane** (ethylene oxide)*. Colourless gas at room temperature; liquid below 12 °C. Obtained by catalytic oxidation of ethylene derived from cracking gases. An insecticide and fungicide; extensively used for preserving fruit and other foodstuffs. Also used in organic synthesis, and in the manufacture of plasticisers and surface-active products.

(2) **Methyloxirane** (propylene oxide). Colourless liquid with an ether-like odour; used as a solvent for cellulose nitrate, cellulose acetate, gums and resins, and as an insecticide; also employed in organic synthesis (plasticisers and surface-active products, etc.).

(3) **Styrene oxide**.

This heading also includes :

(A) **Epoxyalcohols, epoxyphenols** and **epoxyethers**. These contain alcohol, phenol and ether functions, respectively, in addition to the epoxide grouping.

(B) **Halogenated, sulphonated, nitrated or nitrosated derivatives of epoxides**, and any combinations of these derivatives (for example, nitrosulphonated, sulphohalogenated, nitrohalogenated and nitrosulphohalogenated derivatives).

These halogenated derivatives include : **1-chloro-2,3-epoxypropane** (epichlorohydrin), a highly volatile, unstable liquid.

This heading **excludes** epoxides with four-membered rings (**heading 29.32**).

2910.10

- Oxirane (ethylene oxide)

2910.20

- Methyloxirane (propylene oxide)

2910.30

- 1-Chloro-2,3-epoxypropane (epichlorohydrin)
2910.40

- Dieldrin (ISO, INN)
2910.50

- Endrin (ISO)
2910.90

- Other
Heading 2911

Acetals and hemiacetals, whether or not with other oxygen function, and their halogenated, sulphonated, nitrated or nitrosated derivatives.

EXPLANATORY NOTES

29.11 - Acetals and hemiacetals, whether or not with other oxygen function, and their halogenated, sulphonated, nitrated or nitrosated derivatives.

(A) ACETALS AND HEMIACETALS*

Acetals may be regarded as di-ethers of (normally hypothetical) hydrates of aldehydes and ketones.

Hemiacetals are mono-ethers in which the carbon-atom adjacent to the ether-oxygen atom also bears a hydroxyl group.

“Acetals and hemiacetals with other oxygen function” are acetals and hemiacetals containing one or more of the oxygen functions (e.g., alcohol function) referred to in the previous headings of this Chapter.

(1) **Methylal** ($CH_2(OCH_3)_2$). Dimethyl ether of the hypothetical hydrate of formaldehyde. Colourless liquid with an ether-like odour; used as a solvent, as an anaesthetic and in organic synthesis.

(2) **Dimethylacetal** ($CH_3CH(OCH_3)_2$). Dimethyl ether of the hypothetical hydrate of acetaldehyde; used as an anaesthetic.

(3) **Diethylacetal** ($CH_3CH(OC_2H_5)_2$). Also derived from the hypothetical hydrate of acetaldehyde. A colourless liquid with an agreeable ether-like odour; used as a solvent and as an anaesthetic.

The heading **excludes** polyvinyl acetals (**heading 39.05**).

(B) HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES OF ACETALS AND HEMIACETALS

These are compounds obtained by wholly or partly replacing one or more of the hydrogen atoms in the acetal by halogens (e.g., chloral alcoholate, chloropropyl acetal), sulpho groups ($-SO_3H$), nitro groups ($-NO_2$) or nitroso groups (-NO).

This heading also covers any combinations of these derivatives (for example, nitrohalogenated, nitrosulphonated, sulphohalogenated and nitrosulphohalogenated derivatives).

2911.00

Acetals and hemiacetals, whether or not with other oxygen function, and their halogenated, sulphonated, nitrated or nitrosated derivatives.

Heading 2912

Aldehydes, whether or not with other oxygen function; cyclic polymers of aldehydes; paraformaldehyde.

EXPLANATORY NOTES

Sub-Chapter V

ALDEHYDE-FUNCTION COMPOUNDS

29.12 - Aldehydes, whether or not with other oxygen function; cyclic polymers of aldehydes; paraformaldehyde.

- Acyclic aldehydes without other oxygen function :

2912.11 - - Methanal (formaldehyde)

2912.12 - - Ethanal (acetaldehyde)

2912.19 - - Other

- Cyclic aldehydes without other oxygen function :

2912.21 - - Benzaldehyde

2912.29 - - Other

- Aldehyde-alcohols, aldehyde-ethers, aldehyde-phenols and aldehydes with other oxygen function :

2912.41 - - Vanillin (4-hydroxy-3-methoxybenzaldehyde)

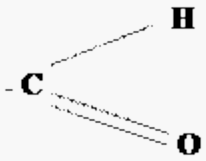
2912.42 - - Ethylvanillin (3-ethoxy-4-hydroxybenzaldehyde)

2912.49 - - Other

2912.50 - Cyclic polymers of aldehydes

2912.60 - Paraformaldehyde

These are compounds formed by oxidising primary alcohols; they contain the characteristic group :



They are generally colourless liquids with a strong, penetrating odour; many aromatic aldehydes readily oxidise on contact with air, being converted into acids.

The term “aldehydes, with other oxygen function” means aldehydes which contain also one or more of the oxygen functions referred to in previous sub-Chapters (alcohol, phenol, ether, etc., functions).

(A) ALDEHYDES*

(I) **Saturated acyclic aldehydes**.

(1) **Methanal** (formaldehyde) (HCHO). Obtained by catalytic oxidation of methanol. Colourless gas with a penetrating odour, highly soluble in water. Its aqueous solutions at about 40 % are known as formalin or formol, a colourless liquid with a penetrating and suffocating odour. These solutions may contain methanol as a stabiliser.

Methanal has many applications; in organic synthesis (dyestuffs, explosives, pharmaceutical products, synthetic tanning agents, plastics, etc.), as an antiseptic, deodorant and reducing agent.

(2) **Ethanal** (acetaldehyde) (CH_3CHO). Obtained by oxidation of ethanol or from acetylene. Mobile, colourless liquid with a pungent, fruity odour; caustic; very volatile, inflammable; miscible with water, alcohol and ether. Used in organic synthesis to make plastics, varnishes, or in medicine as an antiseptic.

(3) **Butanal** (butyraldehyde, normal isomer) ($CH_3CH_2CH_2CHO$). Colourless liquid, miscible with water, alcohol and ether; used for the preparation of plastics, perfumes and accelerators for vulcanising rubber.

(4) **Heptanal** (heptaldehyde, oenanthol) ($CH_3(CH_2)_5CHO$). Obtained by distilling castor oil; a colourless liquid with a penetrating odour.

(5) **Octanal** (caprylaldehyde) ($C_8H_{16}O$); **nonanal** (pelargonaldehyde) ($C_9H_{18}O$); **decanal** (capraldehyde) ($C_{10}H_{20}O$); **undecanal** (undecylic aldehyde) ($C_{11}H_{22}O$); **dodecanal** (lauraldehyde) ($C_{12}H_{24}O$), etc. These are used as raw materials in the perfumery industry.

(II) **Unsaturated acyclic aldehydes**.

(1) **Propenal** (acrylaldehyde, acraldehyde, acrolein) ($CH_2=CHCHO$). Formed when fatty matter is burned; a liquid with a characteristic bitter and irritating odour; used in organic synthesis.

(2) **2-Butenal** (crotonaldehyde) ($CH_3CH=CHCHO$). Found in the first distillation products of crude alcohol; a colourless liquid with a penetrating odour.

(3) **Citral**. Liquid with an agreeable odour, found in essential oil of tangerine, of citron, of lemons and, more especially, in lemon grass oil.

(4) **Citronellaldehyde**. Found in citron oil.

(III) **Cyclanic, cyclenic and cycloterpenic aldehydes**.

(1) **Phellandral** or tetrahydrocuminaldehyde. Found in fennel and eucalyptus oils.

(2) **Cyclocitrals A and B**. Obtained from citral.

(3) **Perillaldehyde**. Found in essential oils of the *Perilla mankinensis*.

(4) **Safranal**.

(IV) **Aromatic aldehydes**.

(1) **Benzaldehyde**(C_6H_5CHO)*. Highly refractive, colourless liquid with a characteristic odour of bitter almonds; used in organic synthesis, in medicine, etc.

(2) **Cinnamaldehyde** ($C_6H_5CH=CHCHO$). Oily yellowish liquid with a strong odour of cinnamon; used in perfumery.

(3) α-**Amylcinnamaldehyde**.

(4) **3**-*p*-**Cumenyl-2-methylpropionaldehyde**.

(5) **Phenylacetaldehyde** ($C_6H_5CH_2CHO$). Liquid with a pronounced odour of hyacinths; used in perfumery.

(B) ALDEHYDE-ALCOHOLS, ALDEHYDE-ETHERS, ALDEHYDE-PHENOLS AND ALDEHYDES WITH OTHER OXYGEN FUNCTION

Aldehyde-alcohohols are compounds which contain both the aldehyde function and the alcohol function.

Aldehyde-ethers are ethers which contain also the aldehyde group (-CHO).

Aldehyde-phenols are compounds which contain both the phenolic hydroxyl group (C_6H_5OH) and the aldehyde group (-CHO).

The most important aldehyde-alcohols, aldehyde-phenols and aldehyde-ethers are :

(1) **Aldol** ($CH_3CH(OH)CH_2CHO$). Obtained by aldol condensation of acetaldehyde; colourless liquid which, when left undisturbed, polymerises to a crystalline mass (paraldol). Used in organic synthesis, for the manufacture of plastics, and in the flotation of ores.

(2) **Hydroxycitronellaldehyde** ($C_{10}H_{20}O_2$). Colourless, slightly syrupy liquid with a very pronounced odour of lily of the valley; used as a fixative in perfumery.

(3) **Glycollaldehyde** ($HOCH_2CHO$). Crystallises in colourless crystals.

(4) **Vanillin** (4-hydroxy-3-methoxybenzaldehyde)*. The methyl ether of 3,4-dihydroxybenzaldehyde (protocatechualdehyde); found in vanilla. Brilliant needles or crystalline white powder.

(5) **Ethylvanillin** (3-ethoxy-4-hydroxybenzaldehyde). Fine white crystals.

(6) **Salicylaldehyde** (*o*-hydroxybenzaldehyde) (HOC_6H_4CHO). Colourless oily liquid with a characteristic odour of bitter almonds; used for the manufacture of synthetic perfumes.

(7) **3,4-Dihydroxybenzaldehyde** (protocatechualdehyde) ($(HO)_2C_6H_3CHO$). Brilliant colourless crystals.

(8) **Anisaldehyde** ($CH_3OC_6H_4CHO$) (*p*-methoxybenzaldehyde). Found in aniseed and fennel oils; colourless liquid. Used in perfumery under the name of "hawthorn essence (aubepine)".

(C) CYCLIC POLYMERS OF ALDEHYDES

(1) **Trioxan**(trioxymethylene)*. A solid polymer of formaldehyde; white crystalline substance, soluble in water, alcohol or ether.

(2) **Paraldehyde**. A polymer of ethanal; colourless liquid with an agreeable ether-like odour, highly inflammable. Used in organic synthesis, as a soporific and disinfectant in medicine, etc.

(3) **Metaldehyde**. Also a polymer of ethanal; crystalline white powder, insoluble in water. This heading covers **only** metaldehyde in the form of crystals or powders.

Metaldehyde put up in forms (for example, tablets, sticks or similar forms) for use as fuels is **excluded** (**heading 36.06**) (see Note 2 (a) to Chapter 36).

(D) PARAFORMALDEHYDE

This polymer ($HO(CH_2O)_nH$) is obtained by evaporating aqueous solutions of formaldehyde. A solid, white, flaky or powdered substance with a pronounced odour of formaldehyde. It is used to prepare plastics, waterproof glues and pharmaceutical products, and also as a disinfectant and a preserving agent.

This heading **excludes** aldehyde-bisulphite compounds which are classified as sulphonated derivatives of alcohols (**headings 29.05 to 29.11**).

2912.1

- Acyclic aldehydes without other oxygen function :

2912.11

-- Methanal (formaldehyde)

2912.12

-- Ethanal (acetaldehyde)
2912.19

-- Other
2912.2

- Cyclic aldehydes without other oxygen function :
2912.21

-- Benzaldehyde
2912.29

-- Other
2912.4

- Aldehyde-alcohols, aldehyde-ethers, aldehyde-phenols and aldehydes with other oxygen function :
2912.41

-- Vanillin (4-hydroxy-3-methoxybenzaldehyde)
2912.42

-- Ethylvanillin (3-ethoxy-4-hydroxybenzaldehyde)
2912.49

-- Other
2912.50

- Cyclic polymers of aldehydes
2912.60

- Paraformaldehyde
Heading 2913

Halogenated, sulphonated, nitrated or nitrosated derivatives of products of heading 29.12.
EXPLANATORY NOTES

29.13 - Halogenated, sulphonated, nitrated or nitrosated derivatives of products of heading 29.12.

These are derived from aldehydes by replacing one or more of the hydrogen atoms (other than a hydrogen in the aldehyde group (-CHO) by one or more halogens, sulpho groups ($-SO_3H$), nitro groups ($-NO_2$) or nitroso groups (-NO) or by any combination thereof.

The most important is **chloral** (trichloroacetaldehyde) (Cl_3CCHO); anhydrous, mobile, colourless liquid with a penetrating odour; a hypnotic.

This heading **excludes** chloral hydrate ($Cl_3CCH(OH)_2$) (2,2,2-trichloroethane-1,1-diol) which falls in **heading 29.05**.

This heading also **excludes** aldehyde-bisulphite compounds which are classified as sulphonated derivatives of alcohols (**headings 29.05 to 29.11**).

2913.00

Halogenated, sulphonated, nitrated or nitrosated derivatives of products of heading 29.12.

Heading 2914

Ketones and quinones, whether or not with other oxygen function, and their halogenated, sulphonated, nitrated or nitrosated derivatives.

EXPLANATORY NOTES

Sub-Chapter VI

KETONE-FUNCTION COMPOUNDS AND QUINONE-FUNCTION COMPOUNDS

29.14 - Ketones and quinones, whether or not with other oxygen function, and their halogenated, sulphonated, nitrated or nitrosated derivatives.

- Acyclic ketones without other oxygen function :

2914.11 - - Acetone

2914.12 - - Butanone (methyl ethyl ketone)

2914.13 - - 4-Methylpentan-2-one (methyl isobutyl ketone)

2914.19 - - Other

- Cyclanic, cyclenic or cycloterpenic ketones without other oxygen function :

2914.22 - - Cyclohexanone and methylcyclohexanones

2914.23 - - Ionones and methylionones

2914.29 - - Other

- Aromatic ketones without other oxygen function :

2914.31 - - Phenylacetone (phenylpropan-2-one)

2914.39 - - Other

2914.40 - Ketone-alcohols and ketone-aldehydes

2914.50 - Ketone-phenols and ketones with other oxygen function

- Quinones :

2914.61 - - Anthraquinone

2914.62 - - Coenzyme Q10 (ubidecarenone (INN))

2914.69 - - Other

- Halogenated, sulphonated, nitrated or nitrosated derivatives :

2914.71 - - Chlordecone (ISO)

2914.79 - - Other

The term “ketones and quinones with other oxygen function” means ketones and quinones which contain also one or more of the oxygen functions referred to in previous sub-Chapters (alcohol, ether, phenol, aldehyde, etc., functions).

(A) KETONES*

These are compounds containing the group (>C=O), so-called “carbonyl” group, and can be represented by the general formula ($R\text{-}CO\text{-}R^1$), in which R and R^1stand for alkyl or aryl radicals (methyl, ethyl, propyl, phenyl, etc.).

Ketones may have two tautomeric forms, the true ketonic form (-CO-) and the enolic form (=C(OH)-), both of which fall in this heading.

(I) **Acyclic ketones**.

(1) **Acetone** (propanone) (CH_3COCH_3). Found in the products of the dry distillation of wood (methyl alcohol and crude pyroligneous acid), but is mainly obtained by synthesis. Colourless liquid with an agreeable ether-like odour. Used in numerous organic syntheses, for the manufacture of plastics, as a solvent for acetylene, acetylcellulose and resins, etc.

(2) **Butanone** (methyl ethyl ketone) ($CH_3COC_2H_5$). Colourless liquid found in the by-products of the distillation of alcohol from beet molasses. Also obtained by the oxidation of secondary butyl alcohol.

(3) **4-Methylpentan-2-one** (methyl isobutyl ketone) ($(CH_3)_2CHCH_2COCH_3$). Liquid with an agreeable odour; used as a solvent for cellulose nitrate, gums and resins.

(4) **Mesityl oxide**. Colourless liquid formed by the condensation of two acetone molecules.

(5) **Phorones**. Compounds formed by the condensation of three acetone molecules.

(6) **Pseudoionones**. Complex ketones, liquid, yellowish in colour, smelling of violets; used for the preparation of ionone (artificial violet oil).

(7) **Pseudomethylionones**. Liquids with the same properties as pseudoionones, with a violet-like odour. Used in perfumery.

(8) **Diacetyl** ($CH_3COCOCH_3$)*. Greenish-yellow liquid, with a penetrating quinone-like odour. Used for flavouring butter and margarine.

(9) **Acetylacetone** ($CH_3COCH_2COCH_3$)*. Colourless liquid, with an agreeable odour; used in organic synthesis.

(10) **Acetonylacetone** ($CH3COCH_2CH_2COCH_3$)*. Colourless liquid with an agreeable odour; used in organic synthesis.

(II) **Cyclanic, cyclenic or cycloterpenic ketones**.

(1) **Camphor** ($C_{10}H_{16}O$)*. The heading covers **both** natural and synthetic camphor. The former is obtained from the *Laurus camphora* tree, indigenous to China and Japan. Synthetic camphor is derived from pinene (obtained from spirits of turpentine). Both are colourless crystalline masses, translucent, soft to the touch, and with a characteristic odour. Natural and synthetic camphor are used in medicine as an antiseptic, for the manufacture of celluloid and in moth balls.

So-called "Borneo camphor" or "borneol" is not a ketone but an alcohol, and is formed by reducing camphor; it is **excluded** (**heading 29.06**).

(2) **Cyclohexanone** ($C_6H_{10}O$). Obtained by synthesis; a liquid with an odour similar to that of acetone. Strong solvent for acetylcellulose and natural or artificial resins.

(3) **Methylcyclohexanones**. Liquids insoluble in water.

(4) **Ionones** ($C_{13}H_{20}O$), formed by the condensation of citral with acetone. They include :

(a) *α*-**Ionone**. Colourless liquid with a strong violet-like odour.

(b) *β*-**Ionone**. Colourless liquid with a violet-like odour less delicate than that of *α*-ionone.

Both are used in perfumery.

(5) **Methylionones**. Colourless to amber-yellow liquids.

(6) **Fenchone** ($C_{10}H_{16}O$). Occurs in fennel and thuja oils. A clear, colourless liquid, with a camphor-like odour; used as a camphor substitute.

(7) **Irone**. Occurs in the essential oil obtained from the roots of some varieties of iris. An oily liquid, colourless, with an iris-like odour; strongly diluted, it has a delicate, violet-like odour. Used in perfumery.

(8) **Jasmone** ($C_{11}H_{16}O$). Derived from jasmine-blossom. A light yellow oil with a strong jasmine odour, used in perfumery.

(9) **Carvone** ($C_{10}H_{14}O$). Occurs in caraway, aniseed and mint oils. A colourless liquid, with a strong aromatic odour.

(10) **Cyclopentanone** (adipoketone) (C_4H_8CO). Occurs in the distillation products of wood. A liquid with a mint-like odour.

(11) **Menthone** ($C_{10}H_{18}O$). Found in peppermint and other essential oils. Obtained synthetically by oxidation of menthol. An unstable, colourless, refractive liquid, with an odour of mint.

(III) **Aromatic ketones**.

(1) **Methyl naphthyl ketone**.

(2) **Benzylideneacetone** ($C_6H_5CH=CHCOCH_3$). Colourless crystals, smelling of sweet peas.

(3) **Acetophenone** ($CH_3COC_6H_5$). Oily, colourless or yellow liquid, with an agreeable aromatic odour; used in perfumery and for organic synthesis.

(4) **Propiophenone**.

(5) **Methylacetophenone** ($CH_3C_6H_4COCH_3$). Colourless or yellowish liquid, with an agreeable odour.

(6) **Butyldimethylacetophenone**.

(7) **Benzophenone** ($C_6H_5COC_6H_5$). Colourless or slightly yellow crystals with an agreeable ether-like odour. Used in the manufacture of synthetic perfumes and for organic synthesis.

(8) **Benzanthrone**. Yellowish needles.

(9) **Phenylacetone** (phenylpropan-2-one). Colourless to light yellow liquid. Used principally in organic synthesis and as a precursor in the production of amphetamines (see the list of precursors at the end of Chapter 29).

(B) KETONE-ALCOHOLS

Compounds whose molecules contain both the alcohol and ketone functions.

(1) **4-Hydroxy-4-methylpentan-2-one** (diacetone alcohol). Colourless liquid.

(2) **Acetol** (acetylcarbinol) (CH_3COCH_2OH). Colourless liquid with a penetrating odour; used as a solvent for cellulose varnishes and resins.

(C) KETONE-ALDEHYDES

Compounds whose molecules contain both the ketone and aldehyde functions.

(D) KETONE-PHENOLS

Compounds whose molecules contain both the ketone and phenol functions.

(E) QUINONES

These are diketones derived from aromatic compounds by conversion of two  CH groups into >C=O groups with any necessary rearrangement of double bonds.

(1) **Anthraquinone**($C_6H_4(CO)_2C_6H_4$)*. Yellow needles which, when ground, give a white powder. Used in the manufacture of dyes.

(2) *p*-**Benzoquinone** (quinone) ($C_6H_4O_2$). Yellow crystals with a penetrating odour.

(3) **1,4-Naphthoquinone** ($C_{10}H_6O_2$). Yellow needles.

(4) **2-Methylanthraquinone**. White needles.

(5) **Acenaphthenequinone**. Yellow needles.

(6) **Phenanthraquinone**. Yellow needles.

(F) QUINONE-ALCOHOLS, QUINONE-PHENOLS, QUINONE-ALDEHYDES AND OTHER OXYGEN FUNCTION QUINONES

Quinone-alcohols, quinone-phenols and quinone-aldehydes are compounds which, independently of their quinone function, also contain, in their molecules, alcohol, phenol and aldehyde functions, respectively.

(1) *α*-**Hydroxyanthraquinone**.

(2) **Quinizarin**.

(3) **Chrysazin**.

(4) **Coenzyme Q10*** (ubidecarenone (INN)).

(G) HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES OF KETONES, QUINONES, KETONE-ALCOHOLS, ETC., QUINONE-ALCOHOLS, ETC.

(1) **Bromocamphor** ($C_{10}H_{15}OBr$). Needles with a strong camphor-like odour. Used as a sedative.

(2) **4'-Tert-butyl-2',6'-dimethyl-3',5'-dinitroacetophenone** (ketone musk).

(3) **Camphorsulphonic acid**.

(4) **Chlordecone** (ISO).

*

* *

This heading also covers combinations of halogenated, sulphonated, nitrated or nitrosated derivatives (e.g., sulphohalogenated, nitrohalogenated, nitrosulphonated and nitrosulpho- halogenated derivatives).

Organic colouring matter is **excluded** from this heading (**Chapter 32**). The heading also **excludes** ketone-bisulphite compounds which are classified as sulphonated derivatives of alcohols (**headings 29.05 to 29.11**).

2914.1

- Acyclic ketones without other oxygen function :

2914.11

-- Acetone

2914.12

-- Butanone (methyl ethyl ketone)

2914.13

-- 4-Methylpentan-2-one (methyl isobutyl ketone)

2914.19

-- Other

2914.2

- Cyclanic, cyclenic or cycloterpenic ketones without other oxygen function :

2914.22

-- Cyclohexanone and methylcyclohexanones

2914.23

-- Ionones and methylionones

2914.29

-- Other

2914.3

- Aromatic ketones without other oxygen function :

2914.31

-- Phenylacetone (phenylpropan-2-one)

2914.39

-- Other

2914.40

- Ketone-alcohols and ketone-aldehydes

2914.50

- Ketone-phenols and ketones with other oxygen function

2914.6

- Quinones :

2914.61

-- Anthraquinone

2914.62

-- Coenzyme Q10 (ubidecarenone (INN))

2914.69

-- Other

2914.7

- Halogenated, sulphonated, nitrated or nitrosated derivatives :

2914.71

-- Chlordecone (ISO)

2914.79

-- Other

Heading 2915

Saturated acyclic monocarboxylic acids and their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives.

EXPLANATORY NOTES

Sub-Chapter VII

CARBOXYLIC ACIDS AND THEIR ANHYDRIDES, HALIDES, PEROXIDES AND PEROXYACIDS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES

GENERAL

This sub-Chapter covers the **carboxylic acids** which contain the characteristic function (–COOH), called the carboxyl group. In theory, the heading also covers the **ortho-acids** ($RC(OH)_3$) since these may be regarded as hydrated carboxylic acids($RCOOH + H_2O = RC(OH)_3$). In practice, however, these do not exist in the free state, but they do give rise to stable esters (ortho-esters, to be regarded as esters of hydrated carboxylic acids).

Carboxylic acids may contain one or more carboxyl groups (–COOH) (monocarboxylic acids or polycarboxylic acids, respectively).

If the hydroxyl group (–OH) is removed, the residue is an acyl radical which can be representedby the formula (RCO–) where R is an alkyl or aryl radical (methyl, ethyl, phenyl, etc.). Acyl radicals enter into the formulae of **anhydrides, halides, peroxides, peroxyacids, esters and salts**.

Sulphonic acids, which contain the group ($–SO_3H$) are quite different from carboxylic acids; they are classified as sulphonated derivatives in various sub-Chapters. This sub-Chapter includes only those which are sulphonated derivatives of the chemicals of this sub-Chapter.

(A) ACID ANHYDRIDES

Acid anhydrides result from the elimination of a molecule of water, either from two molecules of a monobasic acid, or from one molecule of dibasic acid. They are characterised by the group (–C(O)OC(O)–).

(B) ACID HALIDES

The halides (e.g., chlorides and bromides) of acids have the general formula (RCOX, where X is a halogen), i.e., they are represented by acyl radicals combined with chlorine, bromine or other halogens.

(C) ACID PEROXIDES

Acid peroxides, also known as diacyl peroxides, are compounds in which two acyl radicals are linked by two oxygen atoms; their general formula is $RC(O)OOC(O)R_1$*, in which R and R^1 may be the same or different.

(D) PEROXYACIDS

Peroxyacids have the general formula (RC(O)OOH).

(E) ESTERS OF ACIDS

Esters of carboxylic acids are obtained by replacing the hydrogen atom of the carboxyl group (–COOH) by an alkyl or aryl radical. They may be represented by the general formula ($RC(O)OR^1$) in which R and $R^1$are alkyl or aryl radicals (methyl, ethyl, phenyl, etc.).

(F) PEROXYESTERS

The general formula of peroxyesters is $RC(O)OOR^1$, in which R and R^1 are organic radicals that may be the same or different.

(G) SALTS OF ACIDS

Salts of carboxylic acids are obtained by replacing the hydrogen atom of the carboxyl group (–COOH) by an inorganic cation, for example, sodium, potassium, ammonium. They may be represented by the formula (RC(O)OM) in which R is an alkyl, aryl or alkaryl radical and M is a metallic or other inorganic cation.

(H) HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES OF ACIDS

In the halogenated, sulphonated, nitrated or nitrosated derivatives of the compounds described in Parts (A) to (F) above, the oxygen-containing functional groups remain intact, but one or more hydrogens in the radicals R or R^1have been replaced, respectively, by halogens, sulpho ($–SO_3H$), nitro ($–NO_2$) or nitroso (–NO) groups or by any combination thereof.

29.15 - Saturated acyclic monocarboxylic acids and their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives.

- Formic acid, its salts and esters :

2915.11 - - Formic acid

2915.12 - - Salts of formic acid

2915.13 - - Esters of formic acid

- Acetic acid and its salts; acetic anhydride :

2915.21 - - Acetic acid

2915.24 - - Acetic anhydride

2915.29 - - Other

- Esters of acetic acid :

2915.31 - - Ethyl acetate

2915.32 - - Vinyl acetate

2915.33 - - *n*-Butyl acetate

2915.36 - - Dinoseb (ISO) acetate

2915.39 - - Other

2915.40 - Mono-, di- or trichloroacetic acids, their salts and esters

2915.50 - Propionic acid, its salts and esters

2915.60 - Butanoic acids, pentanoic acids, their salts and esters

2915.70 - Palmitic acid, stearic acid, their salts and esters

2915.90 - Other

This heading covers saturated acyclic monocarboxylic acids and their anhydrides, halides, peroxides and peroxyacids, esters and salts, as well as the halogenated, sulphonated, nitrated or nitrosated derivatives (including compound derivatives) of any of these products.

(I) **Formic acid** (HCOOH) **and its salts and esters**.

(a) **Formic acid** is found in nature and obtained synthetically. A mobile, colourless liquid, giving off slight fumes when exposed to air; has an irritating odour and is caustic. Used in dyeing, in tanning, in the coagulation of latex, in medicine as an antiseptic, or in organic synthesis.

(b) **The main salts of formic acid are :**

(1) **Sodium formate** (HCOONa). Deliquescent crystalline white powder; used in medicine, in tanning and in organic synthesis.

(2) **Calcium formate** ($(HCOO)_2Ca$). Crystals.

(3) **Aluminium formate** ($(HCOO)_3Al$). White powder used in the textile industry as a mordant and for waterproofing. There is also a basic formate usually put up in aqueous solution.

(4) **Nickel formate** ($(HCOO)_2Ni$). Used as a catalyst for the hydrogenation of oil.

(c) **The main esters of formic acid are :**

(1) **Methyl formate** ($HCOOCH_3$). A colourless liquid with an agreeable odour.

(2) **Ethyl formate** ($HCOOC_2H_5$). A colourless, mobile, volatile and inflammable liquid with an odour of rum.

(3) **Benzyl, bornyl, citronellyl, geranyl, isobornyl, linalyl, menthyl, phenylethyl, rhodinyl** and **terpenyl formates**. Mainly used in perfumery.

(II) **Acetic acid** (CH_3COOH) **and its salts and esters.**

(a) **Acetic acid** is obtained by the dry distillation of wood, or synthetically. A very acid liquid with a characteristic and penetrating odour of vinegar caustic. When cold it solidifies into colourless crystals (glacial acetic acid). A solvent for phosphorus and sulphur and for many organic substances.

Commercial acetic acid is slightly yellowish in colour, and has very often a slight empyreumatic odour. Used in the textile industry, in tanning, as a coagulant for latex, or for the manufacture of acetates, synthetic plasticisers, pharmaceutical products, etc.

(b) **The main salts of acetic acid are :**

(1) **Sodium acetate** (CH_3COONa). Colourless and odourless crystals, or anhydrous white or faintly yellow powder. Used as a mordant and for many chemical preparations.

(2) **Cobalt acetate** ($(CH_3COO)_2Co$). Deliquescent violet-red crystals with an odour of acetic acid.

(3) **Calcium acetate** ($(CH_3COO)_2Ca$). Colourless crystals when pure.

(4) **Basic copper acetate** ($CH_3COOCuOH$). Needles or small crystalline flakes, blue in colour; disintegrates on contact with air and turns greenish.

(5) **Neutral copper acetate** ($(CH_3COO)_2Cu$). Greenish-blue powder or small crystals; disintegrates on contact with air and turns to a whitish powder

(6) **Lead acetate**, neutral ($(CH_3COO)_2Pb$), or basic (e.g., $Pb(CH_3COO)_2$. $3PbO.H_2O$). The neutral acetate occurs as colourless or faintly yellow or blue, toxic crystals. The basic acetate is a dense, white powder, used in medicine and as a reagent for chemical analyses.

(7) **Lithium and potassium acetates**, used in medicine; **chromium, aluminium and iron acetates**, used as mordants.

(c) **The main esters of acetic acid are :**

(1) **Methyl acetate** (CH_3COOCH_3). Found amongst the products of the dry distillation of wood. A liquid with a fruity odour; used for preparing artificial fruit essences, and as a solvent for fats, resins and cellulose nitrate, etc.

(2) **Ethyl acetate** ($CH_3COOC_2H_5$). Colourless, very mobile, highly inflammable liquid with a fruity odour; it may contain ethanol as an impurity. Used as a solvent for cellulose nitrate, varnishes, etc.; also in medicine as an antispasmodic and analgesic.

(3) **Vinyl acetate** ($CH_3COOCH=CH_2$). Colourless liquid with a characteristic odour; a monomer used for preparing poly(vinyl acetate) (polymers of **heading 39.05**).

(4) *n*-**Propyl** and **isopropyl acetates**. Used for making artificial fruit essences.

(5) *n*-**Butyl acetate**. Colourless liquid; used for making artificial fruit essences and as a solvent.

(6) **Isobutyl acetate**. Colourless liquid; used for making artificial fruit essences and as a solvent.

(7) *n*-**Pentyl acetate** (*n*-amyl acetate) and **3-methylbutyl acetate** (iso-amyl acetate). Used for making artificial fruit essences.

(8) **2-Ethoxyethyl acetate**.

(9) **Benzyl**, **terpenyl**, **linalyl**, **geranyl**, **citronellyl**, **anisyl**, **paratolyl**, **cinnamyl**, **phenylethyl**, **bornyl** and **isobornyl acetates**. All used in perfumery.

(10) **Glycerol acetates** (mono-, di-, triacetin).

Theheading also includes **acetic anhydride** ($(CH_3CO)_2O$). Colourless liquid with a strong, irritating odour; caustic; used for chemical syntheses.

(III) **Mono-, di- and trichloroacetic acids and their salts and esters.**

(a) **Monochloroacetic acid** ($ClCH_2COOH$). Colourless crystals.

(b) **Dichloroacetic acid** ($Cl_2CHCOOH$). Colourless liquid.

(c) **Trichloroacetic acid** (Cl_3CCOOH). Colourless crystals with penetrating odour; used in organic synthesis and in medicine.

(IV) **Propionic acid** (CH_3CH_2COOH) **and its salts and esters**. Propionic acid is a liquid with an odour similar to acetic acid.

(V) **Butanoic acids and their salts and esters.**

(a) **Butyric acid (butanoic acid)*** is a dense, oily liquid with a disagreeable rancid odour; colourless. Used for deliming hides.

(b) **Isobutyric acid (2-methylpropanoic acid).**

(VI) **Pentanoic acids and their salts and esters.**

(a) **Valeric acid (pentanoic acid)** is a colourless, transparent oily liquid with a disagreeable rancid odour.

(b) **Isovaleric acid (3-methylbutanoic acid).**

(c) **Pivalic acid (2,2-dimethylpropanoic acid).**

(d) **2-Methylbutanoic acid**.

(VII) **Palmitic acid** ($CH_3(CH_2)_{14}COOH$) **and its salts and esters.**

(a) **Palmitic acid** is found in fats as a glyceride; it is a white powder, shiny crystals or colourless flakes.

(b) **Its main salts are :**

(1) **Calcium palmitate**, used in perfumery.

(2) **Aluminium palmitate**, used for water-proofing textiles and for thickening lubricating oils.

The water-soluble palmitic salts (e.g., sodium, potassium and ammonium palmitates) are soaps but they remain classified in this heading.

(VIII) **Stearic acid** ($CH_3(CH_2)_{16}COOH$) **and its salts and esters.**

(a) **Stearic acid** is found in fats as a glyceride; white, amorphous, and similar to wax.

(b) **Its main salts are :**

(1) **Calcium stearate**, used in water-proofing textiles.

(2) **Magnesium stearate**, used in the manufacture of varnishes.

(3) **Zinc stearate**, used in medicine, in the rubber and plastics industries, and in the manufacture of oil-cloth.

(4) **Aluminium stearate**, used for the same purposes as aluminium palmitate.

(5) **Copper stearate**, used for bronzing plaster and as an antifouling agent.

(6) **Lead stearate**, used as a drier.

The water-soluble stearic salts (e.g., sodium, potassium and ammonium stearates) are soaps but they remain classified in this heading.

(c) The **esters also include** ethyl and butyl stearates (used as plasticisers), and glycol stearate (used as a substitute for natural wax).

(IX) **Other products of this heading include** :

(a) **Ethyl chloroformate**, sometimes called ethyl chlorocarbonate - a colourless, lachrymatory liquid with a suffocating odour; inflammable. Used in organic synthesis.

(b) **Acetyl chloride** (CH_3COCl). Colourless liquid; when exposed to air gives off fumes irritating to the eyes; it has a strong odour.

(c) **Acetyl bromide** (CH_3COBr). Same characteristics as the chloride; used in organic synthesis.

(d) **Mono-, di- and tribromoacetic acids and their salts and esters.**

(e) ***n*-Hexoic** (caproic) and **2-ethylbutyric acids and their salts and esters.**

(f) ***n*-Octoic** (caprylic) and **2-ethylhexoic acids and their salts and esters.**

*

* *

This heading **excludes** :

(a) Potable solutions of acetic acid in water containing 10 % or less by weight of acetic acid (**heading 22.09**).

(b) Salts and esters of crude stearic acid (generally **heading 34.01, 34.04** or **38.24**).

(c) Mixtures of glycerol mono-, di- and tristearates, fat emulsifiers (**heading 34.04** when they have the character of artificial waxes or **heading 38.24** in other cases).

(d) Fatty acids of a purity of less than 90 % (calculated on the weight of the dry product) (**heading 38.23**).

2915.1

- Formic acid, its salts and esters :

2915.11

-- Formic acid

2915.12

-- Salts of formic acid

2915.13

-- Esters of formic acid

2915.2

- Acetic acid and its salts; acetic anhydride :

2915.21

-- Acetic acid

2915.24

-- Acetic anhydride

2915.29

-- Other

2915.3

- Esters of acetic acid :

2915.31

-- Ethyl acetate

2915.32

-- Vinyl acetate

2915.33

-- n-Butyl acetate

2915.36

-- Dinoseb (ISO) acetate

2915.39

-- Other

2915.40

- Mono-, di- or trichloroacetic acids, their salts and esters

2915.50

- Propionic acid, its salts and esters

2915.60

- Butanoic acids, pentanoic acids, their salts and esters

2915.70

- Palmitic acid, stearic acid, their salts and esters

2915.90

- Other

Heading 2916

Unsaturated acyclic monocarboxylic acids, cyclic monocarboxylic acids, their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives.

EXPLANATORY NOTES

29.16 - Unsaturated acyclic monocarboxylic acids, cyclic monocarboxylic acids, their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives.

- Unsaturated acyclic monocarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives :

2916.11 - - Acrylic acid and its salts

2916.12 - - Esters of acrylic acid

2916.13 - - Methacrylic acid and its salts

2916.14 - - Esters of methacrylic acid

2916.15 - - Oleic, linoleic or linolenic acids, their salts and esters

2916.16 - - Binapacryl (ISO)

2916.19 - - Other

2916.20 - Cyclanic, cyclenic or cycloterpenic monocarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives

- Aromatic monocarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives :

2916.31 - - Benzoic acid, its salts and esters

2916.32 - - Benzoyl peroxide and benzoyl chloride

2916.34 - - Phenylacetic acid and its salts

2916.39 - - Other

This heading covers unsaturated acyclic monocarboxylic acids and cyclic monocarboxylic acids and their anhydrides, halides, peroxides, peroxyacids, esters and salts, as well as the halogenated, sulphonated, nitrated or nitrosated derivatives (including compound derivatives) of any of these products.

(A) UNSATURATED ACYCLIC MONOCARBOXYLIC ACIDS AND THEIR SALTS, ESTERS AND OTHER DERIVATIVES

(1) **Acrylic acid** (CH_2=CHCOOH)*. Colourless liquid with acrid odour. Polymerises readily; monomer for polyacrylic acids and other acrylic polymers.

(2) **Methacrylic acid**. The polymers of esters of this acid constitute plastics (Chapter 39).

(3) **Oleic acid** ($C_{18}H_{34}O_2$). Found in fats and oils as a glyceride. A colourless odourless liquid; crystallises in needles at a temperature of about 4 °C.

The water-soluble oleic salts (e.g., sodium, potassium, and ammonium oleates) are soaps but they remain classified in this heading.

(4) **Linoleic acid** ($C_{18}H_{32}O_2$). Contained in linseed oil as a glyceride; a drying acid.

(5) **Linolenic acid** ($C_{18}H_{30}O_2$).

(6) **Heptynoic and octynoic acids.**

(B) CYCLANIC, CYCLENIC OR CYCLOTERPENIC MONOCARBOXYLIC ACIDS AND THEIR SALTS, ESTERS AND OTHER DERIVATIVES

(1) **Cyclohexanecarboxylic acid.**

(2) **Cyclopentenylacetic acid.**

(C) AROMATIC SATURATED MONOCARBOXYLIC ACIDS AND THEIR SALTS, ESTERS AND OTHER DERIVATIVES

(1) **Benzoic acid** (C_6H_5COOH)*. Found in some resins and balsams. Prepared synthetically; crystallises in white needles or shiny white flakes, odourless if the acid is pure; an antiseptic and antiputrefaction agent.

Its main salts are ammonium, sodium, potassium and calcium benzoates.

Its main esters are benzyl, naphthyl, methyl, ethyl, geranyl, citronellyl, linalyl and rhodinyl benzoates.

The heading also includes, *inter alia*, the following derivatives of benzoic acid :

(a) **Benzoyl peroxide***. White, granular, crystalline solid. Used in medicine, in the rubber and plastics industries, for bleaching oils, fats, flours, etc.

(b) **Benzoyl chloride** (C_6H_5COCl)*. White crystals. Colourless liquid with a characteristic odour, lachrymatory; gives off fumes when exposed to air.

(c) **Nitrobenzoic acids** (*o*-, *m*- and *p*-) ($O_2NC_6H_4COOH$).

(d) **Nitrobenzoyl chlorides** (*o*-, *m*- and *p*-) ($O_2NC_6H_4COCl$).

(e) **Chlorobenzoic acids** (ClC_6H_4COOH).

(f) **Dichlorobenzoic acids** ($Cl_2C_6H_3COOH$).

(2) **Phenylacetic acid** ($C_6H_5CH_2COOH$). Shiny, white crystal plates with a floral odour. Used in perfumes and flavourings, in the manufacture of penicillin G and fungicides, in organic synthesis and as a precursor in the production of amphetamines (see the list of precursors at the end of Chapter 29).

Its main esters are ethyl phenylacetate, methyl phenylacetate and *o*-methoxyphenyl phenylacetate (guaiacol phenylacetate).

(3) **Phenylpropionic, naphthoic acids**.

(D) AROMATIC UNSATURATED MONOCARBOXYLIC ACIDS AND THEIR SALTS, ESTERS AND OTHER DERIVATIVES

Cinnamic acid ($C_6H_5CH=CHCOOH$). Found in cinnamon oil and in balsams of Tolu and Peru. Colourless crystals.

Its main salts are sodium and potassium cinnamates.

Its main esters are methyl, ethyl, benzyl and propyl cinnamates, used in perfumery.

*

* *

This heading **excludes** oleic acid of a purity of less than 85 % (calculated on the weight of the dry product) and other fatty acids of a purity of less than 90 % (calculated on the weight of the dry product) (**heading 38.23**).

2916.1

- Unsaturated acyclic monocarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives :

2916.11

-- Acrylic acid and its salts

2916.12

-- Esters of acrylic acid

2916.13

-- Methacrylic acid and its salts

916.14

-- Esters of methacrylic acid

2916.15

-- Oleic, linoleic or linolenic acids, their salts and esters

2916.16

-- Binapacryl (ISO)

2916.19

-- Other

2916.20

- Cyclanic, cyclenic or cycloterpenic monocarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives

2916.3

- Aromatic monocarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives :

2916.31

-- Benzoic acid, its salts and esters

2916.32

-- Benzoyl peroxide and benzoyl chloride

2916.34

-- Phenylacetic acid and its salts

2916.39

-- Other

Heading 2917

Polycarboxylic acids, their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives.

EXPLANATORY NOTES

29.17 - Polycarboxylic acids, their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives.

- Acyclic polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives :

2917.11 - - Oxalic acid, its salts and esters

2917.12 - - Adipic acid, its salts and esters

2917.13 - - Azelaic acid, sebacic acid, their salts and esters

2917.14 - - Maleic anhydride

2917.19 - - Other

2917.20 - Cyclanic, cyclenic or cycloterpenic polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives

- Aromatic polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives :

2917.32 - - Dioctyl orthophthalates

2917.33 - - Dinonyl or didecyl orthophthalates

2917.34 - - Other esters of orthophthalic acid

2917.35 - - Phthalic anhydride

2917.36 - - Terephthalic acid and its salts

2917.37 - - Dimethyl terephthalate

2917.39 - - Other

This heading covers polycarboxylic acids and their anhydrides, halides, peroxides, peroxyacids, esters and salts, as well as the halogenated, sulphonated, nitrated or nitrosated derivatives (including compound derivatives) of any of these products.

(A) ACYCLIC POLYCARBOXYLIC ACIDS AND THEIR ESTERS, SALTS AND DERIVATIVES

(1) **Oxalic acid** (HOOCCOOH). Fine crystals, colourless, transparent and odourless; toxic. Used as a bleaching agent for textiles and for hides, as a mordant in the textile industry, and in organic synthesis.

Its main salts are ammonium, potassium, sodium, calcium, iron and ammonium-iron oxalates.

Its main esters are dimethyl and diethyl oxalates.

(2) **Adipic acid** ($HOOC(CH_2)_4COOH$). Crystallises in colourless needles; used, *inter alia*, for the manufacture of some plastics such as polyamides.

(3) **Azelaic acid***. Yellowish to white crystalline powder; used, *inter alia*, for preparing plastics (alkyd resins, polyamides, polyurethanes) and in other organic syntheses.

(4) **Sebacic acid**. White leaflets; used, *inter alia*, as stabiliser in plastics (in alkyd resins, maleic and other polyesters, polyurethanes); in the manufacture of plastics.

(5) **Maleic anhydride***. Colourless crystalline mass; used for preparing plastics (polyesters) and in other organic syntheses.

(6) **Maleic acid** (HOOCCH=CHCOOH). Large colourless crystals or in cast blocks; used, *inter alia*, for the preparation of certain plastics (e.g., polyesters).

(7) **Malonic acid** ($HOOCCH_2COOH$). Crystallises in large colourless flakes.

The most important esters include **diethyl malonate**, which is used in organic syntheses (e.g., of medicaments such as the barbiturates).

(8) **Succinic acid** ($HOOC(CH_2)_2COOH$). Colourless, odourless and transparent crystals. Used in organic synthesis.

(B) CYCLANIC, CYCLENIC OR CYCLOTERPENIC POLYCARBOXYLIC ACIDS AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES

(C) AROMATIC POLYCARBOXYLIC ACIDS AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES

(1) **Phthalic anhydride** ($C_6H_4(CO)_2O$)*. Crystallises in translucent white needles, crystalline masses or white flakes; very light and voluminous, with a characteristic odour. Used in organic synthesis (of plastics (alkyd resins) and of plasticisers, etc.).

(2) **Benzenedicarboxylic acids** (*o-, m-, p-*) ($C_6H_4(COOH)_2$). *Ortho*-benzenedicarboxylic acid is commonly called phthalic acid (*ortho*-phthalic acid). *Meta*-benzenedicarboxylic acid is commonly called isophthalic acid, and *para*-benzenedicarboxylic acid is commonly called terephthalic acid. Crystals. They are used for preparing synthetic colouring matter, plastics (alkyd resins) and plasticisers.

The esters include dimethyl, diethyl, dibutyl (di-*n*-butyl, diisobutyl, etc.), dioctyl (di-*n*-octyl, diisooctyl, bis(2-ethylhexyl), etc.), dinonyl (di-*n*-nonyl, diisononyl, etc.), didecyl (di-*n*-decyl, etc.) or

dicyclohexyl orthophthalates and other esters of orthophthalic acid, e.g., phthalates of ethylene glycol esters, as well as the dimethyl and other esters of terephthalic acid*.

(3) **Dichlorophthalic and tetrachlorophthalic acids and their anhydrides.**

2917.1

- Acyclic polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives :

2917.11

-- Oxalic acid, its salts and esters

2917.12

-- Adipic acid, its salts and esters

2917.13

-- Azelaic acid, sebacic acid, their salts and esters

2917.14

-- Maleic anhydride

2917.19

-- Other

2917.20

- Cyclanic, cyclenic or cycloterpenic polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives

2917.3

- Aromatic polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives :

2917.32

-- Dioctyl orthophthalates

2917.33

-- Dinonyl or didecyl orthophthalates

2917.34

-- Other esters of orthophthalic acid

2917.35

-- Phthalic anhydride

2917.36

-- Terephthalic acid and its salts

2917.37

-- Dimethyl terephthalate

2917.39

-- Other

Heading 2918

Carboxylic acids with additional oxygen function and their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives.

EXPLANATORY NOTES

29.18 - Carboxylic acids with additional oxygen function and their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives.

- Carboxylic acids with alcohol function but without other oxygen function, their anhydrides, halides, peroxides, peroxyacids and their derivatives :

2918.11 - - Lactic acid, its salts and esters

2918.12 - - Tartaric acid

2918.13 - - Salts and esters of tartaric acid

2918.14 - - Citric acid

2918.15 - - Salts and esters of citric acid

2918.16 - - Gluconic acid, its salts and esters

2918.17 - - 2,2-Diphenyl-2-hydroxyacetic acid (benzilic acid)

2918.18 - - Chlorobenzilate (ISO)

2918.19 - - Other

- Carboxylic acids with phenol function but without other oxygen function, their anhydrides, halides, peroxides, peroxyacids and their derivatives :

2918.21 - - Salicylic acid and its salts

2918.22 - - *O*-Acetylsalicylic acid, its salts and esters

2918.23 - - Other esters of salicylic acid and their salts

2918.29 - - Other

2918.30 - Carboxylic acids with aldehyde or ketone function but without other oxygen function, their anhydrides, halides, peroxides, peroxyacids and their derivatives

- Other :

2918.91 - - 2,4,5-T (ISO) (2,4,5-trichlorophenoxyacetic acid), its salts and esters

2918.99 - - Other

This heading covers carboxylic acids with additional oxygen function and their anhydrides, halides, peroxides, peroxyacids, esters and salts, as well as the halogenated, sulphonated, nitrated or nitrosated derivatives (including compound derivatives) of any of these products.

The term “additional oxygen function” means carboxylic acids which contain also one or more of the oxygen functions referred to in previous sub-Chapters (alcohol, ether, phenol, aldehyde, ketone, etc., functions).

(A) CARBOXYLIC ACIDS WITH ALCOHOL FUNCTION AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES

These contain both the alcohol function (–CH_2OH, $>CHOH$ or $\geqslant COH$) and the acid function (–COOH). These two functions may each react according to their own nature, hence as alcohols, these compounds may give ethers, esters and other derivatives, and as acids, they may form salts, esters, etc. The main alcohol acids include :

(1) **Lactic acid** ($CH_3CH(OH)COOH$). Prepared by fermenting glucose or previously inverted cane-sugar with **lactic ferment**. Very hygroscopic crystalline masses, or a dense, syrupy liquid, colourless or faintly yellow. Used in medicine, for dyeing and for deliming hides. This heading includes lactic acid whether industrial, commercial or pharmaceutical. The **industrial acid** ranges from yellow to brown in colour and has a disagreeable, very acid odour. The **commercial or pharmaceutical acids** usually contain 75 % or more of lactic acid.

The main salts are calcium (used in medicine), strontium, magnesium, zinc, antimony, **iron** and bismuth lactates.

Its esters include ethyl and butyl lactates, used as solvents for varnishes.

Mercury lactate is **excluded (heading 28.52)**.

(2) **Tartaric acid** (HOOCCH(OH)CH(OH)COOH). Transparent colourless crystals. Used in dyeing, photography, manufacture of baking powder, in oenology and medicine.

Its salts include :

(a) **Sodium tartrate**.

(b) **Potassium tartrate**.

(c) **Refined potassium hydrogen tartrate** (cream of tartar).

Crude tartar (Argol) is **excluded (heading 23.07).**

(d) **Calcium tartrate**, small crystals.

Crude calcium citrate is **excluded (heading 38.24).**

(e) **Antimony potassium tartrate** (emetic), **sodium potassium tartrate** (*sel de Seignette*) and **iron potassium tartrate**.

Its esters include :

(i) **Ethyl tartrates**.

(ii) **Butyl tartrates**.

(iii) **Pentyl tartrates**.

(3) **Citric acid***. Found in the free state of citrus fruit juices; also obtained from the fermentation of glucose or sucrose by some citromyces. Crystallises in large, colourless, transparent prisms or in crystalline, white, odourless powder. Used for preparing beverages, in the textile industry, in oenology, in medicine, in making citrates, etc.

Its salts include :

(a) **Lithium citrate**.

(b) **Calcium citrate**.

Crude calcium citrate is **excluded (heading 38.24).**

(c) **Aluminium citrate**, used as a mordant in dyeing.

(d) **Iron citrate**, used in photography.

Its main esters are :

(i) **Triethyl citrate**.

(ii) **Tributyl citrate**.

(4) **Gluconic acid and its salts**. Gluconic acid is normally presented as an aqueous solution. Its calcium salt is used e.g., in medicine, for cleaning and as a concrete additive.

(5) **Glucoheptonic acid and its salts**, e.g., calcium glucoheptonate.

(6) **Phenylglycolic acid** (mandelic acid)*.

(7) **Malic acid** ($HOOCCH(OH)CH_2COOH$). Deliquescent, colourless, crystalline masses; used in organic synthesis, in medicine, etc.

(8) **2,2-Diphenyl-2-hydroxyacetic acid** (benzilic acid)*. White crystalline aromatic acid soluble in many primary alcohols; used in organic synthesis, in medicine and precursor in the production of chemical warfare agents.

(B) CARBOXYLIC ACIDS WITH PHENOL FUNCTION AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES

Phenol-acids, cyclic (aromatic) acids which contain both the acid group (–COOH) and one or more groups (–OH) in the nucleus. The simplest phenol-acid has the formula (HOC_6H_4COOH).

(I) **Salicylic acid** (orthohydroxybenzoic acid) (HOC_6H_4COOH)*. Crystallises in white, voluminous flakes, or in white, light, odourless powder. Extensively used in medicine and also for preparing azo-dyes, etc.

Its most important salts are :

(a) **Sodium salicylate**. Crystalline powder or white, odourless flakes. Used in medicine.

(b) **Bismuth salicylate**, an odourless, white powder, used in medicine.

Its most important esters are :

(a) **Methyl salicylate**. Constituent of oil of wintergreen. An oily, colourless liquid with a strong persistent aromatic odour; used in medicine.

(b) **Phenyl salicylate** (salol). Crystallises as colourless flakes with a faint, agreeable, aromatic odour. Used in medicine and as an antiseptic.

(c) **Ethyl, naphthyl, butyl, amyl, benzyl, bornyl, citronellyl, geranyl, menthyl, rhodinyl salicylates.**

(II) *o*-**Acetylsalicylic acid** ($CH_3C(O)OC_6H_4COOH$). Crystalline white powder; odourless; used in medicine.

(III) **Sulphosalicylic acid** (salicylsulphonic acid).

(IV) *p*-**Hydroxybenzoic acid**, crystalline.

Its main esters include :

(1) **Methyl *p*-hydroxybenzoate**.

(2) **Ethyl *p*-hydroxybenzoate**.

(3) **Propyl *p*-hydroxybenzoate.**

These esters are used as preservatives.

(V) **Cresotic acids**.

(VI) **Acetyl-*o*-cresotic acids**.

(VII) **Gallic acid** ($(HO)_3C_6H_2COOH$). Obtained from gall nuts. Fine, silky, shining colourless or faintly yellow, odourless crystals. Used for the preparation of dyes and inks, in photography, in tanning as a mordant, etc.

Its main salts and esters include :

(1) **Basic bismuth gallate**. An amorphous powder, lemon-yellow, odourless, astringent and absorbent; used in medicine.

(2) **Methyl gallate**, crystals. Used as a disinfectant and astringent, and also in ophthalmology.

(3) **Propyl gallate.**

(VIII) **Hydroxynaphthoic acids**.

(IX) **Hydroxyanthracenecarboxylic acids**.

(C) CARBOXYLIC ACIDS WITH ALDEHYDE OR KETONE FUNCTION AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES

(1) **Aldehyde-acids** contain both the aldehyde (–CHO) groupand the acid group (–COOH).

(2) **Ketone-acids** contain both the ketone group (>C=O) and the acid group (–COOH).

The most important ester of these acids is **ethyl aceto-acetate** and its **sodium derivative**.

(D) OTHER CARBOXYLIC ACIDS WITH ADDITIONAL OXYGEN FUNCTION AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES

Anisic acid ($CH_3OC_6H_4COOH$). Obtained by oxidation of anisaldehyde, of anethole and aniseed oil. Colourless crystals with a slight odour of anethole; used as an antiseptic, in medicine and in the manufacture of dyes.

2918.1

- Carboxylic acids with alcohol function but without other oxygen function, their anhydrides, halides, peroxides, peroxyacids and their derivatives :

2918.11

-- Lactic acid, its salts and esters

2918.12

-- Tartaric acid

2918.13

-- Salts and esters of tartaric acid

2918.14

-- Citric acid

2918.15

-- Salts and esters of citric acid

2918.16

-- Gluconic acid, its salts and esters

2918.17

-- 2,2-Diphenyl-2-hydroxyacetic acid (benzilic acid)

2918.18

-- Chlorobenzilate (ISO)

2918.19

-- Other

CLASSIFICATION OPINIONS

1. 12-Hydroxystearic acid, not less than 90 % pure.

See also Opinion 3823.19/2.

Adoption : 1995

2918.2

- Carboxylic acids with phenol function but without other oxygen function, their anhydrides, halides, peroxides, peroxyacids and their derivatives :

2918.21

-- Salicylic acid and its salts

2918.22

-- O-Acetylsalicylic acid, its salts and esters

2918.23

-- Other esters of salicylic acid and their salts

2918.29

-- Other

2918.30

- Carboxylic acids with aldehyde or ketone function but without other oxygen function, their anhydrides, halides, peroxides, peroxyacids and their derivatives

2918.9

- Other :

2918.91

-- 2,4,5-T (ISO) (2,4,5-trichlorophenoxyacetic acid), its salts and esters

2918.99

-- Other

Heading 2919

Phosphoric esters and their salts, including lactophosphates; their halogenated, sulphonated, nitrated or nitrosated derivatives.

EXPLANATORY NOTES

Sub-Chapter VIII

ESTERS OF INORGANIC ACIDS OF NON-METALS AND THEIR SALTS, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES

GENERAL

(A) ESTERS OF INORGANIC ACIDS OF NON-METALS

These compounds are usually formed by the reaction of an alcohol or phenol with inorganic acids of non-metals. They have the general formula (ROX) in which R is an alcoholic or phenolic radical and X is the residue of the inorganic acid molecule known as an acid radical.

The acid radical of nitric acid is ($–NO_2$), of sulphuric acid ($=SO_2$), of phosphoric acid (ºPO); and of carbonic acid (>CO).

This sub-Chapter **excludes** esters of later headings in this Chapter.

(B) SALTS OF ESTERS OF INORGANIC ACIDS OF NON-METALS

These can be obtained only from esters of inorganic polybasic acids of non-metals (sulphuric, phosphoric, silicic, etc.). Polybasic acids have more than one replaceable acidic element, and when all such elements are not esterified the result is an **acid ester**.

Appropriate treatment of these acid esters produces a **salt of an ester of an inorganic acid of a non-metal**.

Nitrous and nitric acids, on the other hand, being monobasic, can give only **neutral esters**.

29.19 - Phosphoric esters and their salts, including lactophosphates; their halogenated, sulphonated, nitrated or nitrosated derivatives*.

2919.10 - Tris(2,3-dibromopropyl) phosphate

2919.90 - Other

Phosphoric acid, being tribasic, gives three types of phosphoric esters according to whether one, two or all of its acidic groups are esterified.

The esters and their salts include :

(1) **Glycerophosphoric acid**. Derived from saturation of one of the primary alcoholic groups of glycerol with the residue of phosphoric acid.

The most important salts of these esters are used in medicine as tonics, e.g. :

(a) Calcium glycerophosphate.

(b) Iron glycerophosphate.

(c) Sodium glycerophosphate.

(2) **Inositolhexaphosphoric acid** and **inositolhexaphosphates.**

(3) **Tributyl phosphate***. Colourless, odourless liquid; used as a plasticiser.

(4) **Triphenyl phosphate**. Colourless and odourless crystals; used for the manufacture of plastics (e.g., celluloid), for waterproofing paper, etc.

(5) **Tritolyl phosphate**. Colourless or yellowish liquid; used as a plasticiser for cellulose products and synthetic resins, for the flotation of ores, etc.

(6) **Trixylyl phosphate**.

(7) **Triguaiacyl phosphate**.

(8) **Lactophosphates**, e.g., calcium lactophosphate, whether or not chemically defined.

2919.10

- Tris(2,3-dibromopropyl) phosphate

2919.90

- Other

Heading 2920

Esters of other inorganic acids of non-metals (excluding esters of hydrogen halides) and their salts; their halogenated, sulphonated, nitrated or nitrosated derivatives.

EXPLANATORY NOTES

29.20 - Esters of other inorganic acids of non-metals (excluding esters of hydrogen halides) and their salts; their halogenated, sulphonated, nitrated or nitrosated derivatives.

- Thiophosphoric esters (phosphorothioates) and their salts; their halogenated, sulphonated, nitrated or nitrosated derivatives :

2920.11 - - Parathion (ISO) and parathion-methyl (ISO) (methyl-parathion)

2920.19 - - Other

- Phosphite esters and their salts; their halogenated, sulphonated, nitrated or nitrosated derivatives :

2920.21 - - Dimethyl phosphite

2920.22 - - Diethyl phosphite

2920.23 - - Trimethyl phosphite

2920.24 - - Triethyl phosphite

2920.29 - - Other

2920.30 - Endosulfan (ISO)

2920.90 - Other

This heading covers esters of other inorganic acids of non-metals, that is, acids in which the anion contains only non-metal elements.

This heading **does not cover** :

(a) "Esters" of the hydrogen halides (generally **heading 29.03**), and

(b) Esters included in later headings of this Chapter (e.g., "esters" of isocyanic acid (isocyanates) (**heading 29.29**) and "esters" of hydrogen sulphide (generally **heading 29.30**).

The esters of this heading include :

(A) **Thiophosphoric esters** (phosphorothioates) **and their salts**, including sodium *O,O*-dibutyl- and *O,O*-ditolyldithiophosphates*.

(B) **Phosphite esters and their salts**. Phosphite esters or organophosphites have the general structure $P(OR)_3$ which can be considered as esters of phosphorous acid, H_3PO_3. Methyl and ethyl esters of phosphorous acid* can be converted by chemical synthesis to nerve gases.

(C) **Sulphuric esters and their salts.**

Sulphuric esters may be either neutral or acid.

(1) **Methyl hydrogen sulphate** (CH_3OSO_2OH). An oily liquid.

(2) **Dimethyl sulphate** ($(CH_3O)_2SO_2$)*. Colourless or slightly yellow liquid with a slight odour of mint; toxic, corrosive, lachrymatory and irritating to the respiratory tracts. Used in organic synthesis.

(3) **Ethyl hydrogen sulphate** ($C_2H_5OSO_2OH$). Syrupy liquid.

(4) **Diethyl sulphate** ($(C_2H_5O)_2SO_2$). Liquid with an odour of mint.

(D) **Nitrous and nitric esters***.

Nitrous esters are liquids with an aromatic odour, e.g., methyl, ethyl, propyl, butyl and pentyl nitrites.

Nitric esters are mobile liquids with an agreeable odour; they decompose when suddenly heated. They include methyl, ethyl, propyl, butyl and pentyl nitrates.

Nitroglycerol*, **tetranitropentaerythritol (penthrite)** and **nitroglycol** are classified here if unmixed; when presented in the form of prepared explosives they are **excluded** (**heading 36.02**).

(E) **Carbonic or peroxocarbonic esters and their salts.**

Esters of carbonic acid may be acid or neutral.

(1) **Diguaiacyl carbonate***. Crystalline light white powder, with a slight odour of **guaiacol**. Used in medicine and as an intermediate in synthesis of perfumes.

(2) **Tetraethyl orthocarbonate** ($C(OC_2H_5)_4$).

(3) **Diethyl carbonate** ($C(OC_2H_5)_2$).

(4) **Bis(4-tert-butylcyclohexyl) peroxodicarbonate**.

(5) **tert-Butylperoxy 2-ethylhexyl carbonate.**

Ethyl chlorocarbonate (or ethyl chloroformate) is **excluded** (**heading 29.15**).

(F) **Silicic acid esters and their salts** (tetraethyl silicate, etc.)*.

This heading **does not cover** alcoholates or esters of acid-function metal hydroxides, e.g., titanium tetra-*n*-butoxide (also known as tetrabutyl titanate) (**heading 29.05**).

2920.1

- Thiophosphoric esters (phosphorothioates) and their salts; their halogenated, sulphonated, nitrated or nitrosated derivatives :

2920.11

-- Parathion (ISO) and parathion-methyl (ISO) (methyl-parathion)

2920.19

-- Other

2920.2

- Phosphite esters and their salts; their halogenated, sulphonated, nitrated or nitrosated derivatives :

2920.21

-- Dimethyl phosphite

2920.22

-- Diethyl phosphite

2920.23

-- Trimethyl phosphite

2920.24

-- Triethyl phosphite

2920.29

-- Other

2920.30

- Endosulfan (ISO)

2920.90

- Other

Heading 2921

Amine-function compounds.

EXPLANATORY NOTES

Sub-Chapter IX

NITROGEN-FUNCTION COMPOUNDS

GENERAL

This sub-Chapter covers nitrogen-function compounds, for example, amines, amides, imides, but does not cover compounds containing nitro or nitroso groups as the only nitrogen function.

29.21 - Amine-function compounds (+)*.

- Acyclic monoamines and their derivatives; salts thereof :

2921.11 - - Methylamine, di- or trimethylamine and their salts

2921.12 - - 2-(N,N-Dimethylamino)ethylchloride hydrochloride

2921.13 - - 2-(N,N-Diethylamino)ethylchloride hydrochloride

2921.14 - - 2-(N,N-Diisopropylamino)ethylchloride hydrochloride

2921.19 - - Other

- Acyclic polyamines and their derivatives; salts thereof :

2921.21 - - Ethylenediamine and its salts

2921.22 - - Hexamethylenediamine and its salts

2921.29 - - Other

2921.30 - Cyclanic, cyclenic or cycloterpenic mono- or polyamines, and their derivatives; salts thereof

- Aromatic monoamines and their derivatives; salts thereof :

2921.41 - - Aniline and its salts

2921.42 - - Aniline derivatives and their salts

2921.43 - - Toluidines and their derivatives; salts thereof

2921.44 - - Diphenylamine and its derivatives; salts thereof

2921.45 - - 1-Naphthylamine (alpha-naphthylamine), 2-naphthylamine (beta-naphthylamine) and their derivatives; salts thereof

2921.46 - - Amfetamine (INN), benzfetamine (INN), dexamfetamine (INN), etilamfetamine (INN), fencamfamin (INN), lefetamine (INN), levamfetamine (INN), mefenorex (INN) and phentermine (INN); salts thereof

2921.49 - - Other

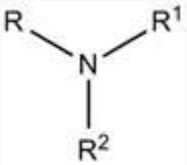
- Aromatic polyamines and their derivatives; salts thereof :

2921.51 - - *o*-, *m*-, *p*-Phenylenediamine, diaminotoluenes, and their derivatives; salts thereof

2921.59 - - Other

Amines are organic nitrogen compounds containing the amine function (i.e., a function derived from ammonia by replacing one, two or three hydrogen atoms by one, two or three alkyl or aryl radicals R (methyl, ethyl, phenyl, etc.), respectively).

If only one hydrogen atom in the ammonia has been replaced, the result is a primary amine (RNH_2); replacement of two hydrogen atoms gives a secondary amine ($R\text{-}NH\text{-}R^1$); and replacement of three hydrogen atoms results in a tertiary amine



Nitrosoamines, which may react in the tautomeric form of quinoneimine oximes, are included in this heading.

This heading covers also salts (for example, nitrates, acetates, citrates) and substitution derivatives of amines (for example, halogenated, sulphonated, nitrated or nitrosated derivatives); but it **excludes** substitution derivatives containing oxygen functions of **headings 29.05 to 29.20**, and salts thereof (**heading 29.22**). This heading also **excludes** substitution derivatives where one or more hydrogen atoms of the amine function have been replaced by one or more halogens, sulpho ($–SO_3H$), nitro ($–NO_2$) or nitroso (–NO) groups or by any combination thereof.

Diazotisable amines and their salts of this heading diluted to standard strengths for the production of azo-dyes are also included here.

(A) ACYCLIC MONOAMINES AND THEIR DERIVATIVES; SALTS THEREOF

(1) **Methylamine** (CH_3NH_2). Colourless, inflammable gas with a strong, ammoniacal odour; used for preparing organic dyes and in the tanning industry, etc.

(2) **Dimethylamine** ($(CH_3)_2NH$), similar to methylamine; used in organic synthesis, as a vulcanisation accelerator.

(3) **Trimethylamine** ($(CH_3)_3N$), similar to methylamine; used in organic synthesis.

(4) **Ethylamine***.

(5) **Diethylamine**.

(6) **Allylisopropylamine**.

(7) **2-(N,N-Dimethylamino)ethylchloride hydrochloride, 2-(N,N-diethylamino) ethylchloride hydrochloride and 2-(N,N-diisopropylamino)ethylchloride hydrochloride**.

(B) ACYCLIC POLYAMINES AND THEIR DERIVATIVES; SALTS THEREOF

(1) **Ethylenediamine** ($H_2NCH_2CH_2NH_2$). Caustic, colourless liquid with a faint ammoniacal odour; its salts.

(2) **Hexamethylenediamine** ($H_2N(CH_2)_6NH_2$) and its salts*. Crystals, needles, or elongated plates with a characteristic odour. Has a toxic action on the skin and causes lesions; used for the manufacture of man-made fibres (polyamides).

(C) CYCLANIC, CYCLENIC OR CYCLOTERPENIC MONO- OR POLYAMINES, AND THEIR DERIVATIVES; SALTS THEREOF

These include **cyclohexylamine**, **dimethylaminocyclohexane**, etc.

(D) AROMATIC MONOAMINES AND THEIR DERIVATIVES; SALTS THEREOF

(1) **Aniline** ($C_6H_5NH_2$) (phenylamine) and its salts*. Aniline is a colourless, oily liquid with a faint aromatic odour. It is extensively used in the preparation of dyes, pharmaceutical products, etc.

Aniline derivatives, largely used as intermediates for dyes, include :

(a) **Halogenated derivatives :** chloroanilines.

(b) **Sulphonated derivatives :** *m*- and *p*-aminobenzenesulphonic acids (e.g., sulphanilic acid).

(c) **Nitrated derivatives :** nitroanilines, etc.

(d) **Nitrosated derivatives** in which one or more hydrogen atoms (other than those of the amine function) have been replaced by one or more nitroso groups (e.g., nitrosoaniline, methyl nitrosoaniline).

(e) **Sulphohalogenated, nitrohalogenated and nitrosulphonated derivatives.**

(f) **Alkyl derivatives** (N-methylaniline and N,N-dimethylaniline; N-ethylaniline and N,N-diethylaniline).

(2) **Toluidines***.

(3) **Diphenylamine** ($(C_6H_5)_2NH$) a secondary amine. Crystallises in small colourless leaves; used in organic synthesis (dyes, etc.).

(4) **1-Naphthylamine** (a-naphthylamine) ($C_{10}H_7NH_2$)*. Crystallises in white needles, but may also occur as masses or crystalline flakes, white or brownish; has an agreeable and penetrating odour. Turns pale violet when exposed to light. Used in organic synthesis and for the flotation of copper ores, etc.

(5) **2-Naphthylamine** (*b*-naphthylamine) ($C_{10}H_7NH_2$). White powder or nacreous flakes, odourless; used in organic synthesis (dyes, etc.). This product is carcinogenic and should be handled with care.

(6) **Xylidines**.

(7) **Amfetamine** (INN) (Amphetamine).

(E) AROMATIC POLYAMINES AND THEIR DERIVATIVES; SALTS THEREOF

(1) *o*-, *m*-, *p*-**Phenylenediamine** ($C_6H_4(NH_2)_2$)*.

(a) *o*-**Phenylenediamine**. Colourless monoclinic crystals; darkens in air.

(b) *m*-**Phenylenediamine**. Colourless needles becoming red in air.

(c) *p*-**Phenylenediamine**. White to light purple crystals.

(2) **Diaminotoluenes** ($CH_3C_6H_3(NH_2)_2$).

(3) *N*-**Alkylphenylenediamines**, for example N,N-Dimethyl-p-phenylenediamine.

(4) *N*-**Alkyltolylenediamines**, for example N,N-Diethyl-3,4-tolylenediamine.

(5) **Benzidine** ($H_2NC_6H_4C_6H_4NH_2$). Shiny, white crystalline flakes with an agreeable odour. Used for preparing dyestuffs, and in analytical chemistry.

(6) **Polyamines**. Derived from di- and triphenylmethane and their homologues; their derivatives (tetramethyl- and tetraethyl-diaminodiphenylmethane, etc.).

(7) **Amino- and diaminodiphenylamines**.

(8) **Diaminostilbene**.

Certain substances of this heading, which are regarded as psychotropic substances under international instruments, are indicated in the list appearing at the end of Chapter 29.

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° °

Subheading Explanatory Note.

Subheadings 2921.42 to 2921.49

Hydrocarbon derivatives of an aromatic monoamine are derivatives obtained by the substitution of one or both hydrogens of the amine nitrogen only by an alkyl or cycloalkyl group. Substituents with one or more aromatic nuclei, whether or not linked to amine nitrogen by an alkyl chain, are therefore excluded.

Thus, for example, xylidine should be classified in subheading 2921.49 as "Other" aromatic monoamine and **not** as a derivative of aniline (subheading 2921.42) or of toluidine (subheading 2921.43).

2921.1

- Acyclic monoamines and their derivatives; salts thereof :
2921.11

-- Methylamine, di- or trimethylamine and their salts
2921.12

-- 2-(N,N-Dimethylamino)ethylchloride hydrochloride
2921.13

-- 2-(N,N-Diethylamino)ethylchloride hydrochloride
2921.14

-- 2-(N,N-Diisopropylamino)ethylchloride hydrochloride
2921.19

-- Other
CLASSIFICATION OPINIONS

1. N-**Methyltaurine, sodium salt**, in the form of an **aqueous slurry**.
Adoption : 1964

2921.2

- Acyclic polyamines and their derivatives; salts thereof :
2921.21

-- Ethylenediamine and its salts
2921.22

-- Hexamethylenediamine and its salts
2921.29

-- Other
2921.30

- Cyclanic, cyclenic or cycloterpenic mono- or polyamines, and their derivatives; salts thereof
2921.4

- Aromatic monoamines and their derivatives; salts thereof :
2921.41

-- Aniline and its salts
2921.42

-- Aniline derivatives and their salts
2921.43

-- Toluidines and their derivatives; salts thereof
2921.44

-- Diphenylamine and its derivatives; salts thereof
2921.45

-- 1-Naphthylamine (alpha-naphthylamine), 2-naphthylamine (beta-naphthylamine) and their derivatives; salts thereof
2921.46

-- Amfetamine (INN), benzfetamine (INN), dexamfetamine (INN), etilamfetamine (INN), fencamfamin (INN), lefetamine (INN), levamfetamine (INN), mefenorex (INN) and phentermine (INN); salts thereof
2921.49

-- Other
2921.5

- Aromatic polyamines and their derivatives; salts thereof :
2921.51

-- o-, m-, p-Phenylenediamine, diaminotoluenes, and their derivatives; salts thereof
2921.59

-- Other
Heading 2922

Oxygen-function amino-compounds.
EXPLANATORY NOTES

29.22 - Oxygen-function amino-compounds (+).

- Amino-alcohols, other than those containing more than one kind of oxygen function, their ethers and esters; salts thereof :

2922.11 - - Monoethanolamine and its salts

2922.12 - - Diethanolamine and its salts

2922.14 - - Dextropropoxyphene (INN) and its salts

2922.15 - - Triethanolamine

2922.16 - - Diethanolammonium perfluorooctane sulphonate

2922.17 - - Methyldiethanolamine and ethyldiethanolamine

2922.18 - - 2-(N,N-Diisopropylamino)ethanol

2922.19 - - Other

- Amino-naphthols and other amino-phenols, other than those containing more than one kind of oxygen function, their ethers and esters; salts thereof :

2922.21 - - Aminohydroxynaphthalenesulphonic acids and their salts

2922.29 - - Other

- Amino-aldehydes, amino-ketones and amino-quinones, other than those containing more than one kind of oxygen function; salts thereof :

2922.31 - - Amfepramone (INN), methadone (INN) and normethadone (INN); salts thereof

2922.39 - - Other

- Amino-acids, other than those containing more than one kind of oxygen function, and their esters; salts thereof :

2922.41 - - Lysine and its esters; salts thereof

2922.42 - - Glutamic acid and its salts

2922.43 - - Anthranilic acid and its salts

2922.44 - - Tilidine (INN) and its salts

2922.49 - - Other

2922.50 - Amino-alcohol-phenols, amino-acid-phenols and other amino-compounds with oxygen function

The term "oxygen-function amino-compounds" means amino-compounds which contain, in addition to an amine function, one or more of the oxygen functions defined in Note 4 to Chapter 29 (alcohol, ether, phenol, acetal, aldehyde, ketone, etc., functions), as well as their organic and inorganic acid esters. This heading therefore covers amino-compounds which are substitution derivatives of amines containing oxygen functions of headings 29.05 to 29.20, and esters and salts thereof.

Diazotisable amines and their salts of this heading diluted to standard strengths for the production of azo-dyes are also included here.

Organic dyes are **excluded** from this heading (**Chapter 32**).

(A) AMINO-ALCOHOLS, THEIR ETHERS AND ESTERS; SALTS THEREOF

These compounds contain one or more alcohol hydroxyl groups and one or more amino groups bound to atoms of carbon. These compounds contain as oxygen functions only alcohols, their ethers or esters, or a combination of these functions. Any oxygen function found in a non-parent segment attached to a parent amino-alcohol is disregarded for classification purposes.

(1) **Monoethanolamine** ($NH_2(CH_2CH_2OH)$)*. Rather viscous, colourless liquid; used for the manufacture of pharmaceutical products, soap, etc.

(2) **Diethanolamine** ($NH(CH_2CH_2OH)_2$). Colourless crystals or pale liquid; used for absorbing acid gases, in tanning for softening leathers, and in organic synthesis.

(3) **Triethanolamine** ($N(CH_2CH_2OH)_3$). Viscous liquid. A base used in the soap and emulsion industries, and for dressing and finishing fabrics.

(4) **Diethanolammonium perfluorooctane sulphonate**. An ammonium salt of perfluorooctane sulfonate (PFOS) (see **headings 29.04, 29.23, 29.35, 38.08 and 38.24**).

(5) **Methyldiethanolamine and ethyldiethanolamine**.

(6) **2-(N,N-Diisopropylamino)ethanol** or N,N-diisopropylethanolamine ($(((CH_3)_2CH)_2NCH_2CH_2OH$). Colourless to slightly yellow liquid.

(7) **(2-Benzoyloxy-2-methylbutyl)dimethylammonium chloride**. Crystalline white powder; used as a local anaesthetic.

(8) **Meclofenoxate**.

(9) **Arnolol**.

(10) **Sarpogrelate**.

(11) **Arylethanolamines**.

(12) **Tetramethyl- and tetraethyldiaminobenzhydrol**.

(13) **Aminoethyl nitrate.**

(B) AMINO-NAPHTHOLS AND OTHER AMINO-PHENOLS, THEIR ETHERS AND ESTERS; SALTS THEREOF

These are phenolic compounds in which one or more hydrogen atoms have been replaced by an amino group ($–NH_2$). These compounds contain as oxygen functions only phenol functions, their ethers or esters, or a combination of these functions. Any oxygen function found in a non-parent segment attached to a parent amino-naphthol or other amino-phenol is disregarded for classification purposes.

(1) **Aminohydroxynaphthalenesulphonic acids**, e.g.,*

(a) **7-Amino-1-naphthol-3-sulphonic acid** (gamma acid);

(b) **8-Amino-1-naphthol-3,6-disulphonic acid** (H acid).

(2) *o*-, *m*- **and** *p*-**Aminophenols**.

(3) **Amino**-*o*-, *m*- **and** *p*-**cresols**.

(4) **Diaminophenols**.

The ethers of **amino-phenols include** :

(a) **Anisidines***.

(b) **Dianisidines** (bianisidines)*.

(c) **Phenetidines**.

(d) **Cresidines**.

(e) **5-Nitro-2-propoxyaniline** (2-amino-4-nitrophenol *n*-propylether).

Hydroxy derivatives of diphenylamine and their salts are also included here.

(C) AMINO-ALDEHYDES, AMINO-KETONES AND AMINO-QUINONES; SALTS THEREOF

These contain the amino-group associated with the aldehyde group (–CHO), the ketone group (>C=O) or the quinone group (see the Explanatory Note to heading 29.14), respectively.

(1) **Aminobenzaldehydes**.

(2) **Tetramethyl- and tetraethyldiaminobenzophenones**.

(3) **Amino- and diaminoanthraquinones**.

(4) **Anthrimides**.

(D) AMINO-ACIDS AND THEIR ESTERS; SALTS THEREOF

These compounds contain one or more carboxylic acid functions and one or more amine functions. Anhydrides, halides, peroxides and peroxyacids of carboxylic acids are regarded as acid functions.

These compounds contain as oxygen functions only acids, their esters or their anhydrides, halides, peroxides and peroxyacids or a combination of these functions. Any oxygen function found in a non-parent segment attached to a parent amino-acid is disregarded for classification purposes.

The amino-acids classified under this heading with their esters, salts and substitution derivatives include :

(1) **Lysine** (diamino-*n*-hexanoic acid)*. Colourless crystals. A cleavage product of silk gum and other proteins.

(2) **Glutamic acid**. Cleavage product of proteins. Obtained from gluten. Crystals used in medicine or in food industries.

(3) **Glycine** (aminoacetic acid; glycocoll) (H_2NCH_2COOH). Large, colourless, regularly shaped crystals. Used in organic synthesis, etc.

(4) **Sarcosine** (CH_3NHCH_2COOH). Methyl derivative of glycine; crystallises in prisms.

(5) **Alanine** (2-aminopropionic acid). Hard needles.

(6) *b*-**Alanine** (3-aminopropionic acid). Crystalline.

(7) **Phenylalanine**.

(8) **Valine** (*a*-aminoisovaleric acid). Crystals.

(9) **Leucine** (*a*-aminoisocaproic acid). Obtained by hydrolysis of proteins; white opalescent crystals. **Isoleucine**.

(10) **Aspartic acid**. Crystalline.

(11) *o*-**Aminobenzoic acid** (anthranilic acid). Obtained synthetically; used for the manufacture of synthetic indigo. Among its derivatives is methyl anthranilate.

(12) *m*-**Aminobenzoic acid**.

(13) *p*-**Aminobenzoic acid**. Used in the preparation of dyestuffs, artificial perfumes and anaesthetics; also in medicine for its vitamin activity. Its derivatives include ethyl and butyl p-aminobenzoates. **Procaine hydrochloride** (diethylaminoethyl *p*-aminobenzoate hydrochloride), small colourless and odourless crystals, is a local anaesthetic used by oculists and dentists.

(14) **Phenylglycine**.

(15) **Lisadimate**.

(E) AMINO-ALCOHOL-PHENOLS, AMINO-ACID-PHENOLS AND OTHER AMINO-COMPOUNDS WITH OXYGEN FUNCTION

This part includes, *inter alia* :

(1) **Tyrosine** (*p*-hydroxyphenylalanine).

(2) **Serine** (*a*-amino-*b*-hydroxypropionic acid). A cleavage product of silk gum and other proteins.

(3) **Aminosalicylic acids**, including **5-aminosalicylic acid** and **4-aminosalicylic acid**. Crystalline powders. **5-Aminosalicylic acid** is used in inorganic synthesis (e.g., for the manufacture of azo- and sulphur-dyes); the sodium salt of **4-aminosalicylic acid** is used in medicine for treating pulmonary tuberculosis.

(4) **Medifoxamine** (N,N-dimethyl-2,2-diphenoxyethylamine), an amine compound with acetal function.

(5) **Propoxycaine**.

*

* *

Certain substances of this heading, which are regarded as narcotic drugs or as psychotropic substances under international instruments, are indicated in the list appearing at the end of Chapter 29.

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∘ ∘

Subheading Explanatory Note.

Subheadings 2922.11 to 2922.50

For subheading classification purposes, ether or organic or inorganic acid ester functions are regarded either as alcohol, phenol or acid functions, depending on the position of the oxygen function in relation to the amine group. In these cases, only those oxygen functions present in that part of the molecule situated between the amine function and the oxygen atom of either the ether or the ester function should be taken into consideration. A segment containing an amine function is referred to as a “parent” segment. For example, in the compound 3-(2-aminoethoxy)propionic acid, the parent segment is aminoethanol, and the carboxylic acid group is disregarded for classification purposes; as an ether of an amino-alcohol, this compound is classifiable in subheading 2922.19.

If the compound contains two or more ether or ester functions, the molecule is segmented for classification purposes at the oxygen atom of each ether or ester function, and the only oxygen functions considered are those found in the same segment as an amine function.

If the compound has two or more amine functions linked to the same ether or ester function, it is classifiable in the subheading that is last in numerical order; that subheading is determined by considering the ether or ester function as either an alcohol, phenol or acid function, in relation to each amine function.

2922.1

- Amino-alcohols, other than those containing more than one kind of oxygen function, their ethers and esters; salts thereof :

2922.11

-- Monoethanolamine and its salts

2922.12

-- Diethanolamine and its salts

2922.14

-- Dextropropoxyphene (INN) and its salts

2922.15

-- Triethanolamine

2922.16

-- Diethanolammonium perfluorooctane sulphonate

2922.17

-- Methyldiethanolamine and ethyldiethanolamine

2922.18

-- 2-(N,N-Diisopropylamino)ethanol

2922.19

-- Other

CLASSIFICATION OPINIONS

1. Meclofenoxate (INN) (2-dimethylaminoethyl p-chlorophenoxyacetate), being an ester of an amino-alcohol (2-dimethylaminoethanol) which contains only one kind of oxygen function (alcohol-function).
Adoption : 1994 + 1995;

2922.2

- Amino-naphthols and other amino-phenols, other than those containing more than one kind of oxygen function, their ethers and esters; salts thereof :

2922.21

-- Aminohydroxynaphthalenesulphonic acids and their salts

2922.29

-- Other

2922.3

- Amino-aldehydes, amino-ketones and amino-quinones, other than those containing more than one kind of oxygen function; salts thereof :

2922.31

-- Amfepramone (INN), methadone (INN) and normethadone (INN); salts thereof

2922.39

-- Other

2922.4

- Amino-acids, other than those containing more than one kind of oxygen function, and their esters; salts thereof :

2922.41

-- Lysine and its esters; salts thereof

2922.42

-- Glutamic acid and its salts

2922.43

-- Anthranilic acid and its salts

2922.44

-- Tilidine (INN) and its salts

2922.49

-- Other

2922.50

- Amino-alcohol-phenols, amino-acid-phenols and other amino-compounds with oxygen function

Heading 2923

Quaternary ammonium salts and hydroxides; lecithins and other phosphoaminolipids, whether or not chemically defined.

EXPLANATORY NOTES

29.23 - Quaternary ammonium salts and hydroxides; lecithins and other phosphoaminolipids, whether or not chemically defined.

2923.10 - Choline and its salts

2923.20 - Lecithins and other phosphoaminolipids

2923.30 - Tetraethylammonium perfluorooctane sulphonate

2923.40 - Didecyldimethylammonium perfluorooctane sulphonate

2923.90 - Other

Quaternary organic ammonium salts contain one tetravalent nitrogen cation $R^1R^2R^3R^4N^+$ where R^1, R^2, R^3 and R^4 may be the same or different alkyl or aryl radicals (methyl, ethyl, tolyl etc.).

This cation may be associated with the hydroxide ion (OH^-) to give a **quaternary ammonium hydroxide** of general formula $R_4N^+OH^-$ corresponding to its inorganic parent ammonium hydroxide NH_4OH.

The residuary valence may, however, be filled by other anions (chloride, bromide, iodide, etc.) to give **quaternary ammonium salts**.

The most important salts and substitution derivatives of quaternary ammonium bases are :

(1) **Choline**, its salts and derivatives*. A hydroxyethyltrimethylammonium hydroxide found in the bile, in the brain, in egg-yolk, and in all fresh seeds. A compound from which other very important biological substances are derived (e.g., acetylcholine, methylcholine).

(2) **Lecithins and other phosphoaminolipids***. These are esters (phosphatides) resulting from the combination of oleic, palmitic and other fatty acids with glycerophosphoric acid and an organic nitrogen base such as choline. They are usually yellowish-brown, waxy masses, soluble in ethanol. Lecithins are contained in egg-yolk (ovolecithin) and in animal and vegetable tissue.

Commercial lecithin, which is also included in this heading, is predominantly soya-bean lecithin and consists of a mixture of acetone-insoluble phosphatides (generally 60 to 70 % by weight), soya-bean oil, fatty acids and carbohydrates. Commercial soya-bean lecithin comes in brownish to light-coloured, more or less viscous form or, if the soya-bean oil has been extracted with acetone, in yellowish granules.

Ovolecithin is used in medicine. Commercial soya-bean lecithin is used as an emulsifying, dispersing, etc. agent in the food and animal feed industries, in paints, in the petroleum industry, etc.

(3) **Tetraethylammonium perfluorooctane sulphonate and didecyldimethylammonium perfluorooctane sulphonate**. These are quaternary ammonium salts of perfluorooctane sulfonate (PFOS) (see **headings 29.04, 29.22, 29.35, 38.08 and 38.24**).

(4) **Tetramethylammonium iodide** ($(CH_3)_4NI$).

(5) **Tetramethylammonium hydroxide** ($(CH_3)_4NOH$).

(6) **Tetramethylammonium formate** ($HCOON(CH_3)_4$), used in medicine .

(7) **Betaine**, a quaternary intramolecular salt, and **betaine hydrochloride**, used, e.g., in medicine, cosmetics and animal feeding.

2923.10

- Choline and its salts

2923.20

- Lecithins and other phosphoaminolipids

2923.30

- Tetraethylammonium perfluorooctane sulphonate

2923.40

- Didecyldimethylammonium perfluorooctane sulphonate

2923.90

- Other

Heading 2924

Carboxyamide-function compounds; amide-function compounds of carbonic acid.

EXPLANATORY NOTES

29.24 - Carboxyamide-function compounds; amide-function compounds of carbonic acid.

- Acyclic amides (including acyclic carbamates) and their derivatives; salts thereof :

2924.11 - - Meprobamate (INN)

2924.12 - - Fluoroacetamide (ISO), monocrotophos (ISO) and phosphamidon (ISO)

2924.19 - - Other

- Cyclic amides (including cyclic carbamates) and their derivatives; salts thereof :

2924.21 - - Ureines and their derivatives; salts thereof

2924.23 - - 2-Acetamidobenzoic acid (N-acetylanthranilic acid) and its salts

2924.24 - - Ethinamate (INN)

2924.25 - - Alachlor (ISO)

2924.29 - - Other

This heading covers amide derivatives of carboxylic acids and of carbonic acid (but **not** amide derivatives of other inorganic acids - **heading 29.29**).

Amides are compounds which contain the following characteristic groups :

($–CONH_2$)	$((–CO)_2NH)$	$((–CO)_3N)$
Primary amide	Secondary amide	Tertiary amide

The hydrogen of the ($–NH_2$) or (>NH) groups may be substituted by alkyl or aryl radicals, in which case the products are N– substituted amides.

Some amides of this heading also contain a diazotisable amine group. These amides and their salts, diluted to standard strengths for the production of azo dyes, are also included here.

Ureines are derived from urea by replacing one or more hydrogen atoms of the $–NH_2$ groups by alicyclic or aryl radicals.

Ureides are obtained from urea by replacing one or more of the hydrogen atoms of the $–NH_2$ group by acid radicals.

This heading **excludes**, however, urea (H_2NCONH_2), the diamide of carbonic acid, which is principally used as a fertiliser and, even if pure, falls in **heading 31.02** or **31.05**.

(A) ACYCLIC AMIDES

(1) **Acetamide**.

(2) **Asparagine**, the mono-amide of aspartic acid. Extracted from certain vegetables. Crystalline.

(3) **Open chain ureides** (bromodiethylacetylurea, bromoisovalerylurea).

(4) **Ethyl carbamate** (urethan).

(5) **Glutamine**.

This heading **excludes** 1-cyanoguanidine (dicyandiamide) (**heading 29.26**).

(B) CYCLIC AMIDES

(1) **Ureines and ureides**.

The main ureines include :

(i) *p*-**Ethoxyphenylurea** (dulcin).

(ii) **Diethyldiphenylurea** (centralite)*.

(2) **Acetanilide, methyl- and ethylacetanilide, acet-*p*-phenetidide** (phenacetin), ***p*-acetamidophenol and *p*-acetamidosalol**, used in medicine.

(3) **Phenylacetamide**.

(4) ***N*-Acetoacetyl derivatives of cyclic amines**, e.g., acetoacetanilide; **amides of hydroxynaphthoic acid**, e.g., 3-hydroxy-2-naphthanilide; **diatrizoic acid and its salts**, used as opacifiers in radiography. Some of these compounds are known in trade as "**arylides**".

(5) **2-Acetamidobenzoic acid**. Colourless to yellowish crystals in the form of needles, plates or rhomboids. Used as a precursor in the production of methaqualone (INN) (see the list of precursors at the end of Chapter 29).

(6) **Alachlor** (ISO). 2-Chloro-*N*-(2,6-diethylphenyl)-*N*-(methoxymethyl)acetamide. ($C_{14}H_{20}ClNO_2$).

This heading **excludes**, however, heterocyclic ureides, e.g., malonylurea (barbituric acid) and hydantoin (**heading 29.33**).

*

* *

Certain substances of this heading, which are regarded as narcotic drugs or as psychotropic substances under international instruments, are indicated in the List appearing at the end of Chapter 29.

2924.1

- Acyclic amides (including acyclic carbamates) and their derivatives; salts thereof :

2924.11

-- Meprobamate (INN)

2924.12

-- Fluoroacetamide (ISO), monocrotophos (ISO) and phosphamidon (ISO)

2924.19

-- Other

CLASSIFICATION OPINIONS

1. Dimethylol urea in aqueous solution, whether or not containing formaldehyde resulting from dissociation of the product, used as a textile dressing : Without added perfume.
See also Opinion 3809.91/1.
Adoption : 1964

2924.2

- Cyclic amides (including cyclic carbamates) and their derivatives; salts thereof :

2924.21

-- Ureines and their derivatives; salts thereof

2924.23

-- 2-Acetamidobenzoic acid (N-acetylanthranilic acid) and its salts
2924.24

-- Ethinamate (INN)
2924.25

-- Alachlor (ISO)
2924.29

-- Other
CLASSIFICATION OPINIONS

1. Diflubenzuron (N-[[4-chlorophenyl)amino]carbonyl]-2, 6-difluorobenzamide), a cyclic ureide generally used in the manufacture of insecticides. *Adoption : 1995*

Heading 2925

Carboxyimide-function compounds (including saccharin and its salts) and imine-function compounds.

EXPLANATORY NOTES

29.25 - Carboxyimide-function compounds (including saccharin and its salts) and imine-function compounds.

- Imides and their derivatives; salts thereof :

2925.11 - - Saccharin and its salts

2925.12 - - Glutethimide (INN)

2925.19 - - Other

- Imines and their derivatives; salts thereof :

2925.21 - - Chlordimeform (ISO)

2925.29 - - Other

(A) IMIDES

Imideshave the general formula (R=NH), where R is a dibasic acyl radical.

(1) **Saccharin or 1,2-benzisothiazolin-3-one 1,1-dioxide and its salts***. Saccharin is an odourless, white crystalline powder having a very sweet taste; its sodium and ammonium salts have a lower sweetening power but are more soluble. Tablets consisting solely of one of these products remain in this heading.

Preparations, used in human diets, consisting of a mixture of saccharin or its salts and a foodstuff, such as lactose, are however **excluded** from this heading and fall in **heading 21.06** (see Note 1 (b) to Chapter 38). Those preparations consisting of saccharin or its salts and substances, other than a

foodstuff, such as sodium hydrogencarbonate (sodium bicarbonate) and tartaric acid fall in **heading 38.24**.

(2) **Succinimide**, used in chemical synthesis.

(3) **Phthalimide**, used in chemical synthesis.

(4) **Glutethimide**. A psychotropic substance - see the list at the end of Chapter 29.

Organic imide derivatives of inorganic acids are classified in **heading 29.29**.

(B) IMINES

Imines, like imides, are characterised by the group =NH, but it is linked to a non-acidic organic radical : ($R_2C=NH$).

(1) **Guanidines***. The action of cyanamide on ammonia gives an **imino-urea** known as **guanidine**; this can be regarded as derived from urea by replacing the oxygen of the (>C=O) group by an imino group (=NH) :

H_2NCONH_2 ..... $(H_2N)_2C=NH$

urea guanidine

Guanidine is also formed in the oxidation of proteins; it can also be obtained synthetically. It is crystalline, colourless and deliquescent.

Its **derivatives** include :

(a) **Diphenylguanidine***. Rubber accelerator.

(b) **Di-*o*-tolylguanidine**. Rubber accelerator.

(c) *o*-**Tolyldiguanide**. Rubber accelerator.

(2) **Aldimines**. These have the general formula ($RCH=NR^1$) where R and R^1 are alkyl or aryl radicals (methyl, ethyl, phenyl, etc.) or sometimes hydrogen.

They constitute the products known as **Schiff's bases**, the most important of which are :

(a) **Ethylideneaniline**.

(b) **Butylideneaniline**.

(c) **Aldol**-*a*- **and** -*b*-**naphthylamines**.

(d) **Ethylidene**-*p*-**toluidine**.

All these products are used in the rubber industry.

(3) **Imino ethers***.

(4) **Amidines**.

(5) **2,6-Dichlorophenolindophenol**.

This heading **excludes**, however, cyclic polymers of aldimines (**heading 29.33**).

2925.1

- Imides and their derivatives; salts thereof :

2925.11

-- Saccharin and its salts

2925.12

-- Glutethimide (INN)

2925.19

-- Other

2925.2

- Imines and their derivatives; salts thereof :

2925.21

-- Chlordimeform (ISO)

2925.29

-- Other

Heading 2926

Nitrile-function compounds.

EXPLANATORY NOTES

29.26 - Nitrile-function compounds.

2926.10 - Acrylonitrile

2926.20 - 1-Cyanoguanidine (dicyandiamide)

2926.30 - Fenproporex (INN) and its salts; methadone (INN) intermediate (4-cyano-2-dimethylamino-4,4-diphenylbutane)

2926.40 - alpha-Phenylacetoacetonitrile

2926.90 - Other

The general formula of **nitriles** is RCºN in which R is an alkyl or aryl radical or sometimes nitrogen. Mono-, di-, or tri-nitriles contain one, two or three cyanogen radicals (–CN) per molecule, respectively.

The heading includes :

(1) **Acrylonitrile***. Colourless mobile liquid.

Acrylonitrile polymers and co-polymers are **excluded**; they constitute plastics (**Chapter 39**) or synthetic rubber (**Chapter 40**).

(2) **1-Cyanoguanidine** (dicyandiamide)*. Pure white crystals.

(3) **Acetaldehyde cyanohydrin**.

(4) **Acetonitrile**.

(5) **Adiponitrile**.

(6) **Aminophenylacetonitrile**.

(7) **Benzonitrile**.

(8) **Acetone cyanohydrin**.

(9) **Cyanoacetamide**.

(10) **Cyanopinacoline**.

(11) **Hydroxyphenylacetonitrile**.

(12) **Iminodiacetonitrile**.

(13) **Nitrobenzonitrile**.

(14) **Naphthonitrile**.

(15) **Nitrophenylacetonitrile**.

(16) **Phenylcyanamide**.

(17) **Tricyanotrimethylamine**.

(18) **Methadone-intermediate** (INN) - see the list at the end of Chapter 29.

(19) **alpha-Phenylacetoacetonitrile** (APAAN)*. 3-Oxo-2-phenylbutanenitrile. See the list on Page VI-29-List I-14. III. Precursors.

2926.10

- Acrylonitrile

2926.20

- 1-Cyanoguanidine (dicyandiamide)

2926.30

- Fenproporex (INN) and its salts; methadone (INN) intermediate (4-cyano-2-dimethylamino-4,4-diphenylbutane)
2926.40

- alpha-Phenylacetoacetonitrile
2926.90

- Other
Heading 2927

Diazo-, azo- or azoxy-compounds.
EXPLANATORY NOTES

29.27 - Diazo-, azo- or azoxy-compounds.

These compounds, the most important of which belong to the aromatic series, are characterised by two nitrogen atoms linked by a double bond.

(A) DIAZO-COMPOUNDS

This group of products includes :

(1) **Diazonium salts**. These are products of general formula $RN_2^+X^-$ where R is an organic radical and X^- is an anion, for example :

(a) **Benzenediazonium chloride***.

(b) **Benzenediazonium tetrafluoroborate**.

This heading covers diazonium salts, whether or not stabilised.

This heading also covers diazonium salts diluted to standard strengths (e.g., by the addition of a neutral salt such as sodium sulphate) for the production of azo dyes.

(2) Compounds of general formula $RN_2$where R is an organic radical, for example :

(a) **Diazomethane**.

(b) **Ethyl diazoacetate**.

(3) Compounds of general formula $R^1-N=N-N\begin{matrix}R^2\\R^3\end{matrix}$ where R^1 and R^2 are organic radicals and R^3 is either an organic radical or hydrogen, for example :

(a) **Diazoaminobenzene**.
(b) ***N*-Methyldiazoaminobenzene**.
(c) **3,3-Diphenyl-1-*p*-tolyltriazene**.

} (Here $R^1 = R^2$)

(B) AZO-COMPOUNDS*

These are compounds containing the group $R^1 – N = N – R^2$, where R^1 and R^2 are organic radicals with one of their carbon atoms linked directly to one of the nitrogen atoms, for example :

(1) **Azobenzene**.
(2) **Azotoluenes**.
(3) **Azonaphthalenes**.
(4) **2,2'-Dimethyl-2,2'-azodipropionitrile**.
(5) **Aminoazobenzenesulphonic acids**.
(6) *p*-**Aminoazobenzene**.

} (Here $R^1 = R^2$)

The radicals R^1 and R^2 may themselves contain further –N=N– groups (bisazo-, trisazo-, etc., compounds).

(C) AZOXY-COMPOUNDS*

These are compounds of the general formula $R^1–N_2O–R^2$ in which an oxygen atom is linked to one of the two nitrogen atoms and where $R^1$and $R^2$are generally aryl radicals.

Azoxy-compounds are generally pale yellow crystalline substances. They include :

(1) **Azoxybenzene***.

(2) **Azoxytoluene**.

(3) *p*-**Azoxyanisole**.

(4) *p*-**Azoxyphenetole**.

(5) **Azoxybenzoic acid**.

(6) **Azoxycinnamic acid**.

(7) **Azoxytoluidine**.

*

* *

Diazo- and azo-compounds are the starting point in the formation of azo dyes. They give substitution derivatives which are also included here.

Organic colouring matters are **excluded** from this heading and are classified in **Chapter 32**.

2927.00

Diazo-, azo- or azoxy-compounds.

Heading 2928

Organic derivatives of hydrazine or of hydroxylamine.

EXPLANATORY NOTES

29.28 - Organic derivatives of hydrazine or of hydroxylamine.

This heading **does not cover** hydrazine or hydroxylamine themselves or their inorganic salts (**heading 28.25**) but includes their organic derivatives **only**.

Hydrazine (H_2NNH_2) may, by replacement of one or more hydrogen atoms, give derivatives, e.g. ($RHNNH_2$), and ($RHNNHR^1$), in which R and R^1 represent organic radicals.

Hydroxylamine (H_2NOH) can also give numerous derivatives by substitution of one or more hydrogen atoms.

Nitrosophenols, which are tautomeric forms of quinone oximes, and nitrosoamines, which are tautomeric forms of quinoneimine oximes, are **excluded** from this heading (see Explanatory Notes to **headings 29.08** and **29.21**).

Organic derivatives of hydrazine and hydroxylamine include :

(1) **Phenylhydrazine***.

(2) **Tolylhydrazine**.

(3) **Methylphenylhydrazine**.

(4) **Bromophenylhydrazine**.

(5) **Benzylphenylhydrazine**.

(6) **Naphthylhydrazine**.

(7) **Phenylhydroxylamine**.

(8) **Nitrosophenylhydroxylamine**.

(9) **Dimethylglyoxime**.

(10) **Phenylglucosazone**.

(11) **Phenylglyoxime***.

(12) **Acetaldehyde phenylhydrazone**.

(13) **Acetaldoxime**.

(14) **Acetophenoxime**.

(15) **Acetoxime**.

(16) **Benzaldehyde semicarbazone**.

(17) **Benzaldoxime**.

(18) **Benzylideneacetoxime**.

(19) **Hydroxamic acids**.

(20) **Diphenylcarbazide**.

(21) **Semicarbazide** (carbamylhydrazine).

(22) **Phenylsemicarbazide** (1-carbamyl-2-phenylhydrazine).

(23) **Quaternary hydrazinium salts and bases**.

(24) **Hydrazides of carboxylic acids**.

(25) **Hydrazidines**.

2928.00

Organic derivatives of hydrazine or of hydroxylamine.

Heading 2929

Compounds with other nitrogen function.

EXPLANATORY NOTES

29.29 - Compounds with other nitrogen function.

2929.10 - Isocyanates

2929.90 - Other

This heading includes :

(1) **Isocyanates***

This group of chemicals includes mono- and polyfunctional isocyanates. Isocyanates with di- or higher functionality, such as methylene diphenyl isocyanate (MDI), hexamethylene diisocyanate (HDI), toluene diisocyanate (TDI) and toluene diisocyanate dimer, are used extensively in the manufacture of polyurethanes.

This heading **excludes** poly(methylene phenyl isocyanate) (crude MDI or polymeric MDI) (**heading 39.09**).

(2) **Isocyanides** (carbylamines).

(3) **Azides of carboxylic acids**.

(4) **Organic-substituted amide derivatives of inorganic acids** (**other than** carbonic acid) and **organic-substituted imide derivatives of inorganic acids**.

(5) **Calcium cyclamate** (calcium cyclohexylsulphamate).

(6) **Octamethylpyrophosphoramide** (OMPA).

(7) **Dimethylnitrosamine**.

(8) **Methyltrinitrophenylnitramine** (tetryl), etc. Used as an explosive.

(9) **Nitroguanidine**. Explosive.

2929.10

- Isocyanates

2929.90

- Other

Heading 2930

Organo-sulphur compounds.

EXPLANATORY NOTES

Sub-Chapter X

ORGANO-INORGANIC COMPOUNDS, HETEROCYCLIC COMPOUNDS, NUCLEIC ACIDS AND THEIR SALTS, AND SULPHONAMIDES

GENERAL

The organo-inorganic compounds covered by headings 29.30 and 29.31 are organic compounds whose molecules contain, in addition to atoms of hydrogen, oxygen or nitrogen, those of metals or other non-metals (such as sulphur, arsenic, lead, iron, etc.) **directly** linked to carbon.

Heading 29.30 (organo-sulphur compounds) and heading 29.31 (other organo-inorganic compounds) **do not include** sulphonated or halogenated derivatives (including compound derivatives) which, apart from hydrogen, oxygen and nitrogen, only have directly linked to carbon the atoms of sulphur or of halogens which give them their nature of sulphonated or halogenated derivatives (or compound derivatives).

Headings 29.32 to 29.34 cover heterocyclic compounds.

The term "**heterocyclic**" refers to organic compounds composed of one or more rings, and which contain in the ring(s), in addition to the carbon atoms, atoms of other elements such as oxygen, nitrogen or sulphur. In this way, the following heterocyclic groups are derived :

(A) FIVE-MEMBERED RINGS

(1) **Containing one hetero-atom :**

(a) Of oxygen : **Furan** group (heading 29.32)*.

(b) Of sulphur : **Thiophen** group (heading 29.34)*.

(c) Of nitrogen : **Pyrrole** group (heading 29.33)*.

(2) **Containing two hetero-atoms :**

(a) One oxygen, one nitrogen : **Oxazole** and **isoxazole** groups (heading 29.34)*.

(b) One sulphur, one nitrogen : **Thiazole** group (heading 29.34)*.

(c) Two nitrogen : **Imidazole** and **pyrazole** groups (heading 29.33)*.

(3) **Containing three or more hetero-atoms :**

(a) One oxygen, two nitrogen : **Furazan** group (heading 29.34)*.

(b) Three nitrogen : **Triazole** group (heading 29.33)*.

(c) Four nitrogen : **Tetrazole** group (heading 29.33)*.

(B) SIX-MEMBERED RINGS

(1) **Containing one hetero-atom :**

(a) Of oxygen : **Pyran** group (heading 29.32)*.

(b) Of sulphur : **Thiin** (Thiapyran) group (heading 29.34)*.

(c) Of nitrogen : **Pyridine** group (heading 29.33)*.

(2) **Containing two hetero-atoms :**

(a) One oxygen, one nitrogen : **Oxazine** group (heading 29.34)*.

(b) One sulphur, one nitrogen : **Thiazine** group (heading 29.34)*.

(c) Two nitrogen : **Pyridazine**, **pyrimidine**, **pyrazine** and **piperazine** groups (heading 29.33)*.

(C) OTHER MORE COMPLEX HETEROCYCLIC COMPOUNDS

These result from the condensation of five- or six-membered heterocyclic compounds with other carbocyclic rings.

Examples include the following **groups** :

(a) **Coumarone** (heading 29.32)*.

(b) **Benzopyran** (heading 29.32)*.

(c) **Xanthene** (heading 29.32)*.

(d) **Indole** (heading 29.33)*.

(e) **Quinoline** and **isoquinoline** (heading 29.33)*.

(f) **Acridine** (heading 29.33)*.

(g) **Benzothiophene** (Thionaphthene) (heading 29.34)*.

(h) **Indazole** (heading 29.33)*.

(ij) **Benzimidazole** (heading 29.33)*.

(k) **Phenazine** (heading 29.33)*.

(l) **Phenoxazine** (heading 29.34)*.

(m) **Benzoxazole** (heading 29.34)*.

(n) **Carbazole** (heading 29.33)*.

(o) **Quinazoline** (heading 29.33)*.

(p) **Benzothiazole** (heading 29.34)*.

For the purposes of headings 29.32 to 29.34, with respect to compounds containing more than one heterocyclic ring, if only one of the heterocyclic rings is specifically named in a subheading within headings 29.32 to 29.34, the compound should be classified in that subheading. However, if two or more of the heterocyclic rings are specifically named at the subheading level, the compound should be classified in the specific subheading that occurs last in numerical order.

*

* *

29.30 - Organo-sulphur compounds.

2930.10 - 2-(N,N-Dimethylamino) ethanethiol

2930.20 - Thiocarbamates and dithiocarbamates

2930.30 - Thiuram mono-, di- or tetrasulphides

2930.40 - Methionine

2930.60 - 2-(N,N-Diethylamino)ethanethiol

2930.70 - Bis(2-hydroxyethyl)sulfide (thiodiglycol (INN))

2930.80 - Aldicarb (ISO), captafol (ISO) and methamidophos (ISO)

2930.90 - Other

This heading includes organo-sulphur compounds whose molecules have sulphur atom(s) directly linked to carbon atom(s) (see Note 6 to this Chapter). It includes compounds whose molecules contain, in addition to sulphur atom(s), other non-metal or metal atom(s) directly linked to carbon atom(s).

(A) DITHIOCARBONATES (XANTHATES)*

These are diesters or salts of monoesters of dithiocarbonic acid and correspond to the general formula ($ROC(S)SR^1$) in which R is an organic radical and R^1 is a metal (sodium, potassium, etc.) or an organic radical.

(1) **Sodium ethyldithiocarbonate** (ethylxanthate)*. Amorphous; used to prepare synthetic indigo, and in the flotation of ores.

(2) **Potassium ethyldithiocarbonate** (ethylxanthate). Oily, yellowish crystals; used as a flotation agent for lead and zinc ores, and as an antiparasitic and anticryptogamic agent.

(3) **Methyl-, butyl-, pentyl- and benzyldithiocarbonates** (xanthates).

(B) THIOCARBAMATES, DITHIOCARBAMATES AND THIURAM SULPHIDES

(1) **Thiocarbamates** include the salts and esters of thiocarbamic acid (H_2NCOSH or H_2NCSOH) (which does not exist in the free state), whether or not hydrogen atoms of the NH_2 group are substituted with alkyl or aryl groups.

(2) **Dithiocarbamates*** include the salts and esters of dithiocarbamic acid, whether or not hydrogen atoms of the NH_2 group are substituted with alkyl or aryl groups. The metal salts of substituted dithiocarbamic acids (e.g., zinc dibutyldithiocarbamate) are used as vulcanisation accelerators in the rubber industry.

(3) **Thiuram mono-, di- or tetrasulphides**. The alkyl substituted derivatives (e.g., tetraethylthiuram disulphide) are used as vulcanisation accelerators.

(C) SULPHIDES (OR THIOETHERS)*

These may be regarded as ethers in which the oxygen atom is replaced by one of sulphur

(ROR^1) ..... (RSR^1)

ether sulphide

(1) **Methionine***. White platelets or powder. An amino acid. Essential component in human nutrition, not synthesised by the body.

(2) **Dimethyl sulphide, diphenyl sulphide**. Colourless liquids with a very disagreeable odour.

(3) **Bis(2-hydroxyethyl)sulfide** or thiodiglycol (INN); a liquid used as a solvent for dyes in textile printing.

(4) **Thioaniline** or 4,4'-diaminodiphenyl sulphide.

(D) THIOAMIDES*

(1) **Thiourea** (H_2NCSNH_2) is the diamide of thiocarbonic acid and is thus the sulphur analogue of urea. Lustrous, white crystals. Used in photography, as an auxiliary in dyeing, and for preparing intermediate compounds in the dyestuff and pharmaceutical industries.

(2) **Thiocarbanilide** (diphenylthiourea)*. Colourless, crystalline tablets or amorphous white powder. Used for preparing intermediate compounds in the dyestuffs industry (sulphur dyes, indigo) and synthetic pharmaceutical products; also as an accelerator in the vulcanisation of rubber, and for the flotation of ores.

(3) **Di-*o*-tolylthiourea**. White powder, insoluble in water; used as an accelerator in the vulcanisation of rubber.

(E) THIOLS (MERCAPTANS)

These sulphur compounds correspond to alcohols or phenols in which the oxygen atoms have been replaced by sulphur atoms.

(ROH) ..... (RSH)

alcohol or phenol mercaptan

(1) **Thioalcohols**, like alcohols, may be primary, secondary or tertiary, containing the groups ($-CH_2SH$), (>CHSH) or (≥CSH), respectively.

They are generally colourless or yellowish liquids with a disagreeable odour.

(a) **Methanethiol** (methyl mercaptan).

(b) **Ethanethiol** (ethyl mercaptan).

(c) **Butanethiol** (butyl mercaptan).

(d) **Pentanethiol** (pentyl mercaptan).

(2) **Thiophenols**.

(a) **Thiophenol** (C_6H_5SH)

(b) *o*-**Mercaptobenzoic acid**, sometimes described as thiosalicylic acid.

(F) THIOALDEHYDES

General formula (RCSH).

(G) THIOKETONES

General formula ($RCSR^1$).

(H) THIOACIDS

General formula (RCOSH or RCSOH and also RCSSH).

An example is dithiosalicylic acid (HOC_6H_4CSSH), but this name is often applied to the compound di(*o*-carboxyphenyl) disulphide.

(IJ) SULPHINIC ACIDS, SULPHOXIDES AND SULPHONES

These have the general formulae (RSO_2H), ($RSOR^1$) and (RSO_2R^1), respectively.

An example is sulphonal, colourless crystals, used in medicine.

(K) ISOTHIOCYANATES

General formula (RN=CS).

They may be regarded as the “esters” of *iso*thiocyanic acid. They include ethyl *iso*thiocyanate; phenyl *iso*thiocyanate; allyl *iso*thiocyanate (or artificial mustard oil).

2930.10

- 2-(N,N-Dimethylamino) ethanethiol

2930.20

- Thiocarbamates and dithiocarbamates

2930.30

- Thiuram mono-, di- or tetrasulphides

2930.40

- Methionine
2930.60

- 2-(N,N-Diethylamino)ethanethiol
2930.70

- Bis(2-hydroxyethyl)sulfide (thiodiglycol (INN))
2930.80

- Aldicarb (ISO), captafol (ISO) and methamidophos (ISO)
2930.90

- Other
Heading 2931

Other organo-inorganic compounds.
EXPLANATORY NOTES

29.31 - Other organo-inorganic compounds.

2931.10 - Tetramethyl lead and tetraethyl lead

2931.20 - Tributyltin compounds

- Non-halogenated organo-phosphorous derivatives :

2931.41 - - Dimethyl methylphosphonate

2931.42 - - Dimethyl propylphosphonate

2931.43 - - Diethyl ethylphosphonate

2931.44 - - Methylphosphonic acid

2931.45 - - Salt of methylphosphonic acid and (aminoiminomethyl)urea (1 : 1)

2931.46 - - 2,4,6-Tripropyl-1,3,5,2,4,6-trioxatriphosphinane 2,4,6-trioxide

2931.47 - - (5-Ethyl-2-methyl-2-oxido-1,3,2-dioxaphosphinan-5-yl) methyl methyl methylphosphonate

2931.48 - - 3,9-Dimethyl-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5] undecane 3,9-dioxide

2931.49 - - Other

- Halogenated organo-phosphorous derivatives :

2931.51 - - Methylphosphonic dichloride

2931.52 - - Propylphosphonic dichloride

2931.53 - - O-(3-chloropropyl) O-[4-nitro-3-(trifluoromethyl)phenyl] methylphosphonothionate

2931.54 - - Trichlorfon (ISO)

2931.59 - - Other

2931.90 - Other

This heading includes :

(1) **Tetramethyl lead** ($Pb(CH_3)_4$)**and tetraethyl lead** ($Pb(C_2H_5)_4$). Volatile liquids, colourless in the pure state, whereas the technical products are yellow; toxic; very efficient anti-knock agents.

(2) **Tributyltin compounds.**

(3) **Organo-phosphorous compounds.**

These are organic compounds containing at least one phosphorous atom directly linked to a carbon atom.

This group includes :

(I) Non-halogenated organo-phosphorous derivatives such as :

(a) **Dimethyl methylphosphonate*, dimethyl propylphosphonate, diethyl ethylphosphonate and methylphosphonic acid**.

(b) **Salt of methylphosphonic acid and (aminoiminomethyl)urea (1 : 1)**.

(c) **2,4,6-Tripropyl-1,3,5,2,4,6-trioxatriphosphinane 2,4,6-trioxide.**

(d) **(5-Ethyl-2-methyl-2-oxido-1,3,2-dioxaphosphinan-5-yl) methyl methyl methylphosphonate.**

(e) **3,9-Dimethyl-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5] undecane 3,9-dioxide.**

(f) **Sodium 3-(trihydroxysilyl) propyl methylphosphonate**.

(II) Halogenated organo-phosphorous derivatives such as :

(a) **Methylphosphonic dichloride.**

(b) **Propylphosphonic dichloride**.

(c) **O-(3-chloropropyl) O-[4-nitro-3-(trifluoromethyl)phenyl] methylphosphonothionate.**

(d) **Trichlorfon** (ISO)**.**

(e) **O-Isopropyl methylphosphonofluoridate (sarin).**

(f) **O-Pinacolyl methylphosphonofluoridate (soman).**

Trade in chemicals mentioned as examples in (I) and (II) is controlled by the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (Chemical Weapons Convention), except trichlorfon (ISO), which is controlled under the Rotterdam Convention.

(4) **Organo-silicon compounds.** These are separate chemically defined compounds in which the silicon atom is directly linked to at least one carbon atom of an organic radical. These compounds include organic silanes and siloxanes; in some cases these products are polymerized to make silicones. Silanes include chlorosilanes (e.g., dimethyldichlorosilane), alkoxysilanes (e.g., methyltrimethoxysilane), alkyl or aryl silanes (e.g., diphenylsilanediol, tetramethylsilane) and other multifunctional (amino, nitrile, oxiranyl, oximo, acetoxy, etc.) silanes. Siloxanes include hexamethyldisiloxane*, octamethyltrisiloxane, octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane and dodecamethylcyclohexasiloxane. The heading also includes hexamethyldisilazane and organo-disilanes.

This heading **does not include** inorganic silicon compounds, which are generally classifiable in Chapter 28 (e.g., silicon tetrachloride ($SiCl_4$) in **heading 28.12** or trichlorosilane ($SiHCl_3$) in **heading 28.53**). Silicic acid esters and their salts are classified in **heading 29.20**. Deliberate mixtures of separate chemically defined organo-silicon compounds are classified elsewhere in the Nomenclature, generally in **heading 38.24**. This heading further **excludes** non-chemically defined products containing in the molecule more than one silicon-oxygen-silicon linkage, and containing organic groups connected to the silicon atoms by direct silicon-carbon bonds. These are silicones of **heading 39.10**.

(5) **Iron carbonyl, nickel carbonyl, etc**.

(6) **Organo-arsenic compounds**.

(a) **Methylarsonic acid** ($CH_3AsO(OH)_2$) and its salts. Crystallises in flakes, and forms crystalline salts such as sodium methylarsonate (colourless, used in medicine).

(b) **Cacodylic acid** and its salts. These contain the radical ($–As(CH_3)_2$) known as cacodyl. Used in medicine.

Cacodylic acid occurs as odourless, colourless crystals. Its main salt is sodium cacodylate, a crystalline white powder.

(c) *p*-**Aminophenylarsonic acid** ($H_2NC_6H_4AsO(OH)_2$) and its salts. Crystallises in shiny white needles. Its main salt is sodium *p*-aminophenylarsonate, an odourless, white, crystalline powder; used in medicine, particularly against sleeping-sickness.

(d) **Amino-hydroxyphenylarsonic acids, their formyl and acetyl derivatives** and their salts.

(e) **Arsenobenzene** ($C_6H_5As=AsC_6H_5$) and its derivatives, compounds analogous to azo compounds but containing the arseno group (–As=As–) instead of the azo group (–N=N–).

(7) *o*-**Iodosobenzoic acid**.

(8) **Metal alkyls, metal fullerenes and metallocenes**.

This heading **excludes** organo-sulphur compounds whose molecules have sulphur atom(s) directly linked to carbon atom(s) (see Note 6 to this Chapter). It **excludes** compounds whose molecules contain, in addition to sulphur atom(s) directly linked to carbon atom(s), other non-metal or metal atom(s) directly linked to carbon atom(s) (e.g., fonofos (ISO)) (**heading 29.30**).

This heading also **excludes** organo-mercury compounds which may contain one or more mercury atoms, in particular the (–HgX) group in which X is an inorganic or organic acid residue **(heading 28.52)**.

2931.10

- Tetramethyl lead and tetraethyl lead

2931.20

- Tributyltin compounds

2931.4

- Non-halogenated organo-phosphorous derivatives :

2931.41

-- Dimethyl methylphosphonate

2931.42

-- Dimethyl propylphosphonate

2931.43

-- Diethyl ethylphosphonate

2931.44

-- Methylphosphonic acid

2931.45

-- Salt of methylphosphonic acid and (aminoiminomethyl)urea (1 : 1)

2931.46

-- 2,4,6-Tripropyl-1,3,5,2,4,6-trioxatriphosphinane 2,4,6-trioxide

2931.47

-- (5-Ethyl-2-methyl-2-oxido-1,3,2-dioxaphosphinan-5-yl) methyl methylphosphonate

2931.48

-- 3,9-Dimethyl-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5] undecane 3,9-dioxide

2931.49

-- Other

2931.5

- Halogenated organo-phosphorous derivatives :

2931.51

-- Methylphosphonic dichloride

2931.52

-- Propylphosphonic dichloride

2931.53

-- O-(3-chloropropyl) O-[4-nitro-3-(trifluoromethyl)phenyl] methylphosphonothionate
2931.54

-- Trichlorfon (ISO)
2931.59

-- Other
2931.90

- Other

Heading 2932

Heterocyclic compounds with oxygen hetero-atom(s) only.
EXPLANATORY NOTES

29.32 - Heterocyclic compounds with oxygen hetero-atom(s) only (+).

- Compounds containing an unfused furan ring (whether or not hydrogenated) in the structure :

2932.11 - - Tetrahydrofuran

2932.12 - - 2-Furaldehyde (furfuraldehyde)

2932.13 - - Furfuryl alcohol and tetrahydrofurfuryl alcohol

2932.14 - - Sucralose

2932.19 - - Other

2932.20 - Lactones

- Other :

2932.91 - - Isosafrole

2932.92 - - 1-(1,3-Benzodioxol-5-yl)propan-2-one

2932.93 - - Piperonal

2932.94 - - Safrole

2932.95 - - Tetrahydrocannabinols (all isomers)

2932.96 - - Carbofuran (ISO)

2932.99 - - Other

The **heterocyclic compounds** covered by this heading are :

(A) **Compounds containing an unfused furan ring (whether or not hydrogenated) in the structure**.

This part includes, *inter alia* :

(1) **Tetrahydrofuran**. Colourless liquid.

(2) **2-Furaldehyde**(furfural)*. Prepared by distilling cereal bran with sulphuric acid. Colourless liquid with a characteristic aromatic odour; it turns yellow and then brown when exposed to air. Used in the purification of mineral oils, for the preparation of synthetic resins, as a solvent for cellulose nitrate and varnishes, as an insecticide, etc.

(3) **Furfuryl alcohol***. Colourless liquid which darkens when exposed to air. Reacts vigorously with concentrated mineral acids. Used as a solvent for cellulose nitrate, and for the preparation of varnishes and protective waterproof coatings.

(4) **Tetrahydrofurfuryl alcohol**. Colourless liquid.

(5) **Sucralose*** (1,6-Dichloro-1,6-dideoxy-β-D-fructofuranosyl-4-chloro-4-deoxy-α-D-galactopyranoside). Odorless, white to almost white crystalline powder. Artificial sweetener mainly used for medicine and food, especially for the treatment and diet of diabetic patients.

(6) **Furan**.

(B) **Lactones***.

These compounds may be considered as internal esters of carboxylic acids with alcohol or phenol function, formed by elimination of water. The molecules may contain one or more ester functions in a ring. They are known as mono-, di-, trilactones, etc., according to the number of ester functions present. However, cyclic esters of polyhydric alcohols with polybasic acids are **excluded** (see Note 7 to this Chapter).

Lactones are fairly stable compounds, but are characterized by the ease with which the lactone ring can be opened using an alkali.

This part includes, *inter alia* :

(a) **Coumarin (1,2-benzopyrone)***. This is the lactone of orthocoumaric acid. It crystallises in white flakes. It is used in perfumery, in medicine and for flavouring butter, castor oil, medicaments, etc. It also inhibits plant germination.

(b) **Methylcoumarins**. Same appearance as coumarin and also used in perfumery.

(c) **Ethylcoumarins**.

(d) **Dicoumarol** (**dicoumarin**). Crystals. Used in surgery as an anti-coagulant.

(e) **7-Hydroxycoumarin** (**umbelliferone**). White crystals. Absorbs ultra-violet rays, hence its use in suntan lotions and creams.

(f) **Dihydroxycoumarins (aesculetin and daphnetin)**. Crystals soluble in hot water.

Glucosides of dihydroxycoumarins (aesculin and daphnin) fall in **heading 29.38**.

(g) **Nonalactone**. Colourless or yellowish liquid; used in perfumery.

(h) **Undecalactone**. Similar appearance and same uses as nonalactone.

(ij) **Butyrolactone (hydroxybutyric acid lactone)**. Colourless liquid with a pleasant odour; miscible with water. An intermediate product and solvent for synthetic resins. Used in preparations for removing paint stains, and in the petroleum industries.

(k) **Propionolactone**. Liquid, soluble in water. A disinfectant, sterilising agent and germicide.

(l) **Glucuronolactone (glucuronic acid lactone)**. White powder, very soluble in water. Used in medicine and as a growth factor.

(m) **D-Gluconolactone** (**gluconic acid** d-**lactone**). Soluble crystals. Used in foodstuffs as an acidulant.

(n) **Pantolactone**. Soluble crystals. Used to rectify pantothenic acid.

(o) **Santonin**. This is the internal ester of santonic acid extracted from santonica, the dried unexpanded flower heads of *Artemisia cina*. Odourless, colourless crystals; a fairly energetic vermifuge (anthelmintic).

(p) **Phenolphthalein***. Obtained by the condensation of phthalic anhydride with phenol. A white or yellowish-white, odourless crystalline powder, soluble in ethanol. Reacts with alkalis to give a cherry-red colour which disappears when the solution is acidified. Used as a chemical reagent and as a laxative.

This group includes **iodophenolphthalein**, a yellow powder, also used as a laxative.

This heading, however, **excludes** :

(i) Sodium derivatives of phthalein tetrahalides (**heading 29.18**).

(ii) Fluorescein (resorcinol-phthalein) (**heading 32.04**).

(q) **Thymolphthalein**. White crystals, used also as a reagent in analyses and in medicine.

(r) **Isoascorbic acid**. Granular crystals.

It should, however, be noted that this heading **excludes** ascorbic acid (**heading 29.36**).

(s) **Dehydracetic acid**. Colourless crystals, insoluble in water.

(t) **Ambrettolide**. Colourless liquid, musk-scented, used in perfumery.

(u) **Diketene**. Colourless, non-hygroscopic liquid.

(v) **3,6-Dimethyl-1,4-dioxane-2,5-dione**.

(C) **Other heterocyclic compounds with oxygen hetero-atom(s) only.**

This part includes, *inter alia* :

(1) **Benzofuran** (coumarone). Found in light oils of the distillation of coal tar. A colourless liquid, used for the manufacture of artificial plastic materials (coumarone resins), etc.

(2) **1,3-Dioxolan**.

(3) **1,4-Dioxan** (diethylene dioxide), used as a solvent.

(4) **1,3-Dioxan.**

(5) **Safrole***. Obtained from sassafras oil. A colourless liquid which turns yellowish; used in perfumery and as a precursor for methylenedioxyamphetamine and methylenedioxy-methamphetamine (see the list of precursors at the end of Chapter 29).

(6) **Isosafrole**. Obtained from safrole; used in perfumery and as a precursor for methyl-enedioxyamphetamine and methylenedioxymethamphetamine (see the list of precursors at the end of Chapter 29).

(7) **Tetrahydrocannabinols**.

(8) **Piperonal** (piperonylaldehyde or heliotropin) ($CH_2O_2C_6H_3CHO$)*. White crystals or flakes with an odour of heliotrope; used in perfumery and to flavour liqueurs and as a precursor for methylenedioxyamphetamine and methylenedioxymethamphetamine (see the list of precursors at the end of Chapter 29).

(9) **Piperonylic acid**.

(10) **1-(1,3-Benzodioxol-5-yl)propan-2-one** (3,4-methylenedioxyphenylacetone)*. White to yellowish crystals. Used as a precursor in the production of methylenedioxyamphetamine and methylenedioxymethamphetamine (see the list of precursors at the end of Chapter 29).

(11) **Carbofuran** (ISO). It is one of the most toxic carbamate pesticides. Trade is controlled under the Rotterdam Convention.

Hydromercuridibromofluorescein is to be classified in **heading 28.52**.

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* *

Certain substances of this heading, which are regarded as narcotic drugs or as psychotropic substances under international instruments, are indicated in the list appearing at the end of Chapter 29.

This heading **excludes** :

(a) Ketone peroxides (**heading 29.09**)*.

(b) Epoxides with a three-membered ring (**heading 29.10**).

(c) Cyclic polymers of aldehydes (**heading 29.12**) or of thioaldehydes (**heading 29.30**).

(d) Anhydrides of polybasic carboxylic acids and cyclic esters of polyhydric alcohols or phenols with polybasic acids (**heading 29.17**).

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Subheading Explanatory Note.

Subheading 2932.20

Lactones containing an additional hetero-atom, other than the oxygen atom of a lactone group (e.g., dilactone), **in the same ring** should not be classified in the subheadings for lactones. In such cases, the additional hetero-atom should be taken into account in determining the classification. Thus, for example, anhydromethylenecitric acid should be classified in subheading 2932.99 and **not** in subheading 2932.20.

If the ester function forms part of two or more rings and if one of these rings does not contain an additional hetero-atom (other than the oxygen atom of a lactone group), then the molecule should be considered as a lactone.

To be classified in subheading 2932.20, lactones must have the different lactone groups separated by at least one carbon atom at each end. However, this subheading **does not include** those products in which the carbon atoms separating and adjacent to the lactone groups form an oxo group (>C=O), an imino group (>C=NH) or a thioxo group (>C=S)*.

2932.1

- Compounds containing an unfused furan ring (whether or not hydrogenated) in the structure :

2932.11

-- Tetrahydrofuran

2932.12

-- 2-Furaldehyde (furfuraldehyde)

2932.13

-- Furfuryl alcohol and tetrahydrofurfuryl alcohol

2932.14

-- Sucralose

2932.19

-- Other

2932.20

- Lactones

2932.9

- Other :

2932.91

-- Isosafrole

2932.92

-- 1-(1,3-Benzodioxol-5-yl)propan-2-one

2932.93

-- Piperonal

2932.94

-- Safrole

2932.95

-- Tetrahydrocannabinols (all isomers)

2932.96

-- Carbofuran (ISO)

2932.99

-- Other

Heading 2933

Heterocyclic compounds with nitrogen hetero-atom(s) only.

EXPLANATORY NOTES

29.33 - Heterocyclic compounds with nitrogen hetero-atom(s) only (+).

- Compounds containing an unfused pyrazole ring (whether or not hydrogenated) in the structure :

2933.11 - - Phenazone (antipyrin) and its derivatives

2933.19 - - Other

- Compounds containing an unfused imidazole ring (whether or not hydrogenated) in the structure :

2933.21 - - Hydantoin and its derivatives

2933.29 - - Other

- Compounds containing an unfused pyridine ring (whether or not hydrogenated) in the structure :

2933.31 - - Pyridine and its salts

2933.32 - - Piperidine and its salts

2933.33 - - Alfentanil (INN), anileridine (INN), bezitramide (INN), bromazepam (INN), carfentanil (INN), difenoxin (INN), diphenoxylate (INN), dipipanone (INN), fentanyl (INN), ketobemidone (INN), methylphenidate (INN), pentazocine (INN), pethidine (INN), pethidine (INN) intermediate A, phencyclidine (INN) (PCP), phenoperidine (INN), pipradrol (INN), piritramide (INN), propiram (INN), remifentanil (INN) and trimeperidine (INN); salts thereof

2933.34 - - Other fentanyls and their derivatives

2933.35 - - 3-Quinuclidinol

2933.36 - - 4-Anilino-N-phenethylpiperidine (ANPP)

2933.37 - - N-Phenethyl-4-piperidone (NPP)

2933.39 - - Other

- Compounds containing in the structure a quinoline or isoquinoline ring-system (whether or not hydrogenated), not further fused :

2933.41 - - Levorphanol (INN) and its salts

2933.49 - - Other

- Compounds containing a pyrimidine ring (whether or not hydrogenated) or piperazine ring in the structure :

2933.52 - - Malonylurea (barbituric acid) and its salts

2933.53 - - Allobarbital (INN), amobarbital (INN), barbital (INN), butalbital (INN), butobarbital, cyclobarbital (INN), methylphenobarbital (INN), pentobarbital (INN), phenobarbital (INN), secbutabarbital (INN), secobarbital (INN) and vinylbital (INN); salts thereof

2933.54 - - Other derivatives of malonylurea (barbituric acid); salts thereof

2933.55 - - Loprazolam (INN), mecloqualone (INN), methaqualone (INN) and zipeprol (INN); salts thereof

2933.59 - - Other

- Compounds containing an unfused triazine ring (whether or not hydrogenated) in the structure :

2933.61 - - Melamine

2933.69 - - Other

- Lactams :

2933.71 - - 6-Hexanelactam (epsilon-caprolactam)

2933.72 - - Clobazam (INN) and methyprylon (INN)

2933.79 - - Other lactams

- Other :

2933.91 - - Alprazolam (INN), camazepam (INN), chlordiazepoxide (INN), clonazepam (INN), clorazepate, delorazepam (INN), diazepam (INN), estazolam (INN), ethyl loflazepate (INN), fludiazepam (INN), flunitrazepam (INN), flurazepam (INN), halazepam (INN), lorazepam (INN), lormetazepam (INN), mazindol (INN), medazepam (INN), midazolam (INN), nimetazepam (INN), nitrazepam (INN), nordazepam (INN), oxazepam (INN), pinazepam (INN), prazepam (INN), pyrovalerone (INN), temazepam (INN), tetrazepam (INN) and triazolam (INN); salts thereof

2933.92 - - Azinphos-methyl (ISO)

2933.99 - - Other

The **heterocyclic compounds** covered by this heading are :

(A) **Compounds containing an unfused pyrazole ring (whether or not hydrogenated) in the structure.**

This part includes, *inter alia* :

(1) **Phenazone (antipyrin, dimethylphenylpyrazolone)***. Crystalline powder or flakes, colourless, odourless. Used in medicine as an anti-pyretic and anti-neuralgic agent.

(2) **Aminophenazone (4-dimethylamino-2,3-dimethyl-1-phenyl-5-pyrazolone) (amidopyrin, dimethylaminoanalgesine)** and its salts. Colourless, leaf-shaped crystals. It has stronger anti-pyretic and anti-neuralgic properties than analgesine.

(3) **1-Phenyl-3-pyrazolidone**.

(B) **Compounds containing an unfused imidazole ring (whether or not hydrogenated) in the structure*.**

This part includes, *inter alia* :

(1) **Hydantoin, and its substitution derivatives*** (e.g., nitrohydantoin, methylhydantoin and phenylhydantoin). Obtained by the condensation of glycollic acid with urea.

(2) **Lysidine**. Hygroscopic white crystals; used in medicine as a solvent for uric acid.

(C) **Compounds containing an unfused pyridine ring (whether or not hydrogenated) in the structure***.

This part includes, *inter alia* :

(1) **Pyridine**. Contained in coal tar, in bone oil, etc. Colourless or faintly yellow liquid with a strong, disagreeable odour. Used in organic synthesis, in the rubber industry, in dyeing and printing textile fabrics, as a denaturant for alcohol, in medicine, etc.

To fall in this heading, pyridine must have a purity of 95 % or more by weight. Pyridine of lower purity is **excluded** (**heading 27.07**).

(2) **Pyridine derivatives** include, *inter alia* :

(a) **Methylpyridine (picoline), 5-ethyl-2-methylpyridine (5-ethyl-2-picoline)** and**2-vinylpyridine.**

To fall in this heading, these derivatives must have a purity of 90 % or more by weight (in the case of methylpyridine, all the methylpyridine isomers must be taken together). The derivatives of lower purity are **excluded** (**heading 27.07**).

(b) **Pyridine-carboxylic acids**.

These include **pyridine**-g-**carboxylic acid** (**isonicotinic acid**). Colourless crystals, formed by oxidation of g-picoline, or by synthesis. Its hydrazide is used in the treatment of tuberculosis.

Pyridine-*b*-carboxylic acid, known as nicotinic acid is, however, **excluded (heading 29.36)**.

(c) **Diethylamide of pyridine**-*b*-**carboxylic acid**. Oily liquid, almost colourless; used in medicine for stimulating the circulation and respiration.

(d) *meso***Inositol hexanicotinate**.

(3) **Piperidine derivatives** include :

(a) **1-Methyl-4-phenylpiperidine carboxylic acid**.

(b) **1-Methyl-3-phenylpiperidine-3-carboxylic acid ethyl ester**.

(c) **1-Methyl-4-phenylpiperidine-4-carboxylic acid ethyl ester (pethidine)**.

(d) **Ketobemidone** (INN)**(1-[4-(*m*-hydroxyphenyl)-1-methyl-4-piperidyl]propan-1-one).**

(4) **Fentanyl** (INN)*. It is a phenylpiperidine synthetic opioid with analgesic and anesthetic properties. It is also diverted as a narcotic drug.

(5) **Fentanyl derivatives** include, inter alia, **alfentanil** (INN), **carfentanil** (INN)and **remifentanil** (INN).

Fentanyl derivatives containing in their structure, in addition to the unfused piperidine ring, other heterocyclic compounds with oxygen or sulfur atoms, such as furan or thiophene rings, are **excluded** (**heading 29.34**).

(D) **Compounds containing a quinoline or isoquinoline ring-system (whether or not hydrogenated), not further fused.**

Quinoline, isoquinoline and their derivatives, 2-ring systems comprising a benzene ring fused to a pyridine ring. Quinoline and isoquinoline are found in coal tar, but may also be prepared synthetically. Colourless liquids, highly refractive, with a characteristic disagreeable and penetrating odour. Used in organic synthesis (e.g., dyes, medicaments).

These derivatives include, *inter alia* :

(1) **Methylquinoline**.

(2) **Isobutylquinoline**.

(3) **Isopropylquinoline**.

(4) **Tetrahydromethylquinoline***.

(5) **3-, 4-, 5-, 6-, 7- and 8-Hydroxyquinolines and their salts**. Derived by introducing a hydroxyl group into either ring of the quinoline molecule.

This group includes **metal complex compounds of 8-hydroxyquinoline**.

(6) **Phenylquinolinecarboxylic acid** (phenylcinchoninic acid). Colourless needles or yellowish-white powder. An anti-gout and anti-rheumatism remedy.

(7) **Octaverine** (INN) (6,7-dimethoxy-1-(3,4,5-triethoxyphenyl)isoquinoline).

(8) **N-Methylmorphinan**.

(9) **3-Hydroxy-N-methylmorphinan**.

(E) **Compounds containing a pyrimidine ring (whether or not hydrogenated) or piperazine ring in the structure.**

This part includes, *inter alia* :

(1) **Malonylurea** (barbituric acid) **and its derivatives***. Barbituric derivatives. This is an important group of pyrimidine compounds. They form water-soluble sodium salts. Both the alkyl-substituted barbituric derivatives and their salts are used medicinally as hypnotics and sedatives. Compounds representative of this group include barbital (INN) (diethylmalonylurea), phenobarbital (INN) (ethylphenylmalonylurea), amobarbital (INN) (ethylisoamylmalonylurea), secobarbital (INN) (allyl-1-methylbutylmalonylurea) and cyclobarbital (INN) (5-cyclohex-1-enyl-5-ethylbarbituric acid).

(2) **Thiopentone sodium** (penthiobarbital sodium), a cyclic thioureide. A yellowish-white water-soluble hygroscopic powder with an unpleasant odour. Used in medicine as an anaesthetic.

(3) **Piperazine** (diethylenediamine). Crystalline white mass, hygroscopic, with an individual odour. Used in medicine as an anti-gout remedy.

(4) **2,5-Dimethylpiperazine**. Colourless oily liquid or paste, used as a solvent for uric acid.

(F) **Compounds containing an unfused triazine ring (whether or not hydrogenated) in the structure*.**

This part includes, *inter alia* :

(1) **Melamine** (triaminotriazine)*. Sparkling white crystals used in the manufacture of plastics.

(2) **Trimethylenetrinitramine** (hexogen). An explosive, crystalline white powder, sensitive to shock.

(3) **Cyanuric acid** (enol and keto forms).

(4) **Methenamine** (INN) (hexamethylenetetramine), its salts and derivatives. Regular shaped white crystals, very soluble in water. Used in medicine as a solvent for uric acid (urinary antiseptic), for the manufacture of synthetic resins, as an accelerator in the vulcanisation of rubber, as an anti-fermentation agent, etc.

This heading **excludes** pastilles and tablets of methenamine (INN) for medical uses (**heading 30.04**) and methenamine put up in forms (for example, tablets, sticks or similar forms) for use as fuels (**heading 36.06**).

(G) **Lactams***.

These compounds may be regarded as internal amides analogous to lactones; obtained from amino-acids by elimination of water. The molecules may contain one or more amide functions in a ring. They are known as mono-, di-, trilactams, etc., according to the number of amide functions present.

This heading also includes lactims, which are the enolic tautomers of lactams (these being the ketonic isomers).

This part includes, *inter alia* :

(1) **6-Hexanelactam (*e*-caprolactam)**. White crystals; soluble in water; gives off pungent fumes. Used in the manufacture of plastics and man-made fibres.

(2) **Isatin (lactam of isatic acid)**. Brilliant yellowish-brown crystals. Used for the preparation of dyestuffs and in medicine.

(3) **2-Hydroxyquinoline (carbostyrile)**, a lactam of *o*-aminocinnamic acid.

(4) **3,3-Di(*p*-acetoxyphenyl)oxindole** (diacetyldihydroxydiphenylisatin). White crystalline powder, insoluble in water. Used as a laxative.

(5) **1-Vinyl-2-pyrrolidone**. Yellowish crystalline powder with a pleasant odour. Used for the preparation of poly(vinyl pyrrolidone) (classified in **Chapter 39**), and in medicine.

(6) **Primidone** (INN) (5-ethyl-5-phenylperhydropyrimidine-4,6-dione). White crystals; soluble in water.

(7) **1,5,9-Triazacyclododecane-2,6,10-trione**.

The heading **does not include** betaine (trimethylglycine, trimethylglycocoll), an intramolecular quaternary ammonium salt (**heading 29.23**).

(H) **Other heterocyclic compounds with nitrogen hetero-atom(s) only.**

This part includes, *inter alia* :

(1) **Carbazole and its derivatives***. Derived from the fusion of two benzene rings with a pyrrole nucleus. Found in heavy fractions of coal tar oil, and also obtained synthetically. Sparkling crystalline flakes used in the manufacture of dyes and of plastics.

(2) **Acridine and its derivatives***. Acridine results from the condensation of two benzene rings with a pyridine ring. Small quantities are found in coal tar, but it may also be prepared by synthesis. Used for the preparation of dyestuffs and certain medicaments.

The heading covers the following **acridine derivatives** (**other than** those constituting dyestuffs) :

(a) **Proflavine** (3,6-diaminoacridinium hydrogen sulphate), reddish-brown crystalline powder.

(b) **Lactate of 2,5-diamino-7-ethoxyacridine**, yellow powder.

Both of these derivatives have antiseptic and germicidal properties.

(3) **Indole**. Found in coal tar, but usually obtained by synthesis. Small crystalline leaves; colourless or very faintly yellow, turning red on exposure to air or light. A pronounced faecal odour when impure, but smells strongly of flowers when purified. Used for the preparation of synthetic perfumes and in medicine.

(4) *b*-**Methylindole (skatole)**. Crystallises in colourless flakes; a faecal odour when impure.

(5) **Mercaptobenziminazole**.

(6) **Phthalhydrazide** (hydrazide of phthalic acid).

(7) **Ethyleneimine** (aziridine) and its *N*-substituted derivatives.

(8) **Porphyrins** (derivatives of porphine).

(9) **Azinphos-methyl** (ISO) (O,O-Dimethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl] dithiophosphate) ($C_{10}H_{12}N_3O_3PS_2$).

However, porphyrine (an alkaloid) is to be classified in **heading 29.39**.

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Certain substances of this heading, which are regarded as narcotic drugs or as psychotropic substances under international instruments, are indicated in the list appearing at the end of Chapter 29.

This heading **excludes** imides of polybasic acids.

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Subheading Explanatory Notes.

Subheadings 2933.11, 2933.21 and 2933.54

Phenazone (subheading 2933.11), hydantoin (subheading 2933.21) and barbituric acid (subheading 2933.52) are products characterized by their heterocyclic structure. Derivatives of these products classified in their respective subheadings should also retain the basic structure of the parent compound. Thus, when compared to the parent compound, these derivatives generally :

(a) have the functional groups (e.g., oxo-group) unmodified;

(b) retain the number and position of double bonds;

(c) retain the substituents (e.g., phenyl group and the two methyl groups of phenazone); and

(d) have further substitutions of hydrogen atoms only (e.g., a hydrogen atom in the pyrimidine ring of barbituric acid substituted by an alkyl group).

However, salts obtained from the enol form of a parent compound are to be regarded as derivatives of the keto form.

Subheading 2933.79

Lactams containing an additional hetero-atom, other than the nitrogen atom of a lactam group (e.g., dilactams), **in the same ring** should not be classified in the subheading for lactams. In such cases, the additional hetero-atom should be taken into account in determining the classification. Thus, for example, oxazepam (INN) should be classified in subheading 2933.91 and **not** in subheading 2933.79.

If the amide function forms part of two or more rings and if one of these rings does not contain an additional hetero-atom (other than the nitrogen of a lactam group), then the molecule should be considered as a lactam.

To be classified in subheading 2933.79, lactams must have the different lactam groups separated by at least one carbon atom at each end. However, this subheading **does not include** those products in which the carbon atoms separating and adjacent to the lactam groups form an oxo group (>C=O), an imino group (>C=NH) or a thioxo group (>C=S). Thus, for example, barbituric acid is **excluded** from subheading 2933.79 (**subheading 2933.52**)*.

2933.1

- Compounds containing an unfused pyrazole ring (whether or not hydrogenated) in the structure :

2933.11

-- Phenazone (antipyrin) and its derivatives

2933.19

-- Other

2933.3

- Compounds containing an unfused pyridine ring (whether or not hydrogenated) in the structure :

2933.31

-- Pyridine and its salts

2933.32

-- Piperidine and its salts

2933.33

-- Alfentanil (INN), anileridine (INN), bezitramide (INN), bromazepam (INN), carfentanil (INN), difenoxin (INN), diphenoxylate (INN), dipipanone (INN), fentanyl (INN), ketobemidone (INN), methylphenidate (INN), pentazocine (INN), pethidine (INN), pethidine (INN) intermediate A, phencyclidine (INN) (PCP), phenoperidine (INN), pipradrol (INN), piritramide (INN), propiram (INN), remifentanil (INN) and trimeperidine (INN); salts thereof

2933.34

-- Other fentanyls and their derivatives

2933.35

-- 3-Quinuclidinol

2933.36

-- 4-Anilino-N-phenethylpiperidine (ANPP)

2933.37

-- N-Phenethyl-4-piperidone (NPP)

2933.39

-- Other

2933.4

- Compounds containing in the structure a quinoline or isoquinoline ring-system (whether or not hydrogenated), not further fused :

2933.41

-- Levorphanol (INN) and its salts

2933.49

-- Other

2933.5

- Compounds containing a pyrimidine ring (whether or not hydrogenated) or piperazine ring in the structure :

2933.52

-- Malonylurea (barbituric acid) and its salts

2933.53

-- Allobarbital (INN), amobarbital (INN), barbital (INN), butalbital (INN), butobarbital, cyclobarbital (INN), methylphenobarbital (INN), pentobarbital (INN), phenobarbital (INN), secbutabarbital (INN), secobarbital (INN) and vinylbital (INN); salts thereof

2933.54

-- Other derivatives of malonylurea (barbituric acid); salts thereof

2933.55

-- Loprazolam (INN), mecloqualone (INN), methaqualone (INN) and zipeprol (INN); salts thereof

2933.59

-- Other

2933.6

- Compounds containing an unfused triazine ring (whether or not hydrogenated) in the structure :

2933.61

-- Melamine

2933.69

-- Other

CLASSIFICATION OPINIONS

1. Trimethylol melamine in aqueous solution, whether or not containing formaldehyde resulting from dissociation of the product, used as a textile dressing : Without added perfume.
See also Opinion 3809.91/2.
Adoption : 1964

2933.7

- Lactams :

2933.71

-- 6-Hexanelactam (epsilon-caprolactam)

2933.72

-- Clobazam (INN) and methyprylon (INN)

2933.79

-- Other lactams

2933.9

- Other :

2933.91

-- Alprazolam (INN), camazepam (INN), chlordiazepoxide (INN), clonazepam (INN), clorazepate, delorazepam (INN), diazepam (INN), estazolam (INN), ethyl loflazepate (INN), fludiazepam (INN), flunitrazepam (INN), flurazepam (INN), halazepam (INN), lorazepam (INN), lormetazepam (INN), mazindol (INN), medazepam (INN), midazolam (INN), nimetazepam (INN), nitrazepam (INN), nordazepam (INN), oxazepam (INN), pinazepam (INN), prazepam (INN), pyrovalerone (INN), temazepam (INN), tetrazepam (INN) and triazolam (INN); salts thereof

2933.92

-- Azinphos-methyl (ISO)

2933.99

-- Other

Heading 2934

Nucleic acids and their salts, whether or not chemically defined; other heterocyclic compounds.

EXPLANATORY NOTES

29.34 - Nucleic acids and their salts, whether or not chemically defined; other heterocyclic compounds.

2934.10 - Compounds containing an unfused thiazole ring (whether or not hydrogenated) in the structure

2934.20 - Compounds containing in the structure a benzothiazole ring-system (whether or not hydrogenated), not further fused

2934.30 - Compounds containing in the structure a phenothiazine ring-system (whether or not hydrogenated), not further fused

- Other :

2934.91 - - Aminorex (INN), brotizolam (INN), clotiazepam (INN), cloxazolam (INN), dextromoramide (INN), haloxazolam (INN), ketazolam (INN), mesocarb (INN), oxazolam (INN), pemoline (INN), phendimetrazine (INN), phenmetrazine (INN) and sufentanil (INN); salts thereof

2934.92 - - Other fentanyls and their derivatives

2934.99 - - Other

This heading includes **nucleic acids and their salts**. These are complex compounds which, when combined with proteins, form the nucleo-proteins found in the nucleii of animal and vegetable cells. They are combinations of phosphoric acids with sugar and pyrimidine or purine compounds. Generally in the form of white powders, soluble in water.

The acids, or more often their salts (e.g., sodium and copper nucleates), are used as tonics and stimulants for the nervous system and solvents for uric acid.

The **heterocyclic compounds** covered by this heading are :

(A) **Compounds containing an unfused thiazole ring (whether or not hydrogenated) in the structure*.**

The term “thiazole” includes both 1,3-thiazole and 1,2-thiazole (isothiazole).

(B) **Compounds containing a benzothiazole ring-system (whether or not hydrogenated), not further fused*.**

The term “benzothiazole” includes both 1,3-benzothiazole and 1,2-benzothiazole (benzisothiazole).

This part includes, *inter alia* :

(1) **Mercaptobenzothiazole**. White-yellowish fine powder. Used as an accelerator in the rubber industry.

(2) **Dibenzothiazolyl disulphide**. Used as an accelerator in the rubber industry.

(3) **Ipsapirone** (INN) (2-[4-(4-pyrimidin-2-ylpiperazin-1- yl)butyl]-1,2-benzothiazol-3(2*H*)-one 1,1-dioxide). Used as an anxiolytic.

(4) **Dehydrothio**-*p*-**toluidine** (4-(6-methyl-1,3-benzothiazol-2-yl)aniline).

(C) **Compounds containing a phenothiazine ring-system (whether or not hydrogenated), not further fused*.**

This part includes, *inter alia* :

Phenothiazine (thiodiphenylamine). Sparkling yellowish flakes or grey-green powder; used for the preparation of dyes, etc.

(D) **Other heterocyclic compounds.**

This part includes, *inter alia* :

(1) **Sultones***. These may be considered as internal esters of hydroxysulphonic acids. They include the sulphonephthaleins, for example :

(a) **Phenol red (phenolsulphonephthalein)***. Used in medicine and as an indicator in analysis.

(b) **Thymol blue (thymolsulphonephthalein)**. Used as a reagent.

(c) **1,3-Propanesultone**.

(2) **Sultams***. These may be considered as internal amides of aminosulphonic acids. They include **naphthosultam-2,4-disulphonic acid**, obtained from periacid, and which is used for the manufacture of SS acid (8-amino-1-naphthol-5,7-disulphonic acid or 1-amino-8-naphthol-2,4-disulphonic acid).

(3) **Thiophen**. Found in coal and lignite tars. Also obtained synthetically. A mobile, colourless liquid with a benzene-like odour.

(4) **Furazolidone** (INN) (3-(5-nitrofurfurylideneamino) oxazolidin-2-one)*.

(5) **Adenosine tri- or pyrophosphoric acid**.

(6) **3-Methyl-6,7-methylenedioxy-1-(3,4-methylenedioxybenzyl)isoquinoline hydrochloride**.

(7) **3-Methyl-6,7-methylenedioxy-1-(3,4-methylenedioxyphenyl)isoquinoline.**

(8) **Fentanyl derivatives** include: **sufentanil** (INN)**,** white powder practically insoluble in water. It is a synthetic opioid analgesic drug.

To fall in this heading, these derivatives must contain in their structure, in addition to the unfused piperidine ring, other heterocyclic compounds with oxygen or sulfur atoms, such as furan or thiophene rings.

Fentanyl derivatives containing in their structure heterocyclic compounds with nitrogen-atoms only, are **excluded** (**heading 29.33**).

This heading **excludes** mercury nucleates answering to a description in **heading 28.52**, and cyclic polymers of thioaldehydes (**heading 29.30**).

*

* *

Certain substances of this heading, which are regarded as narcotic drugs or as psychotropic substances under international instruments, are indicated in the list appearing at the end of Chapter 29.

2934.10

- Compounds containing an unfused thiazole ring (whether or not hydrogenated) in the structure

2934.20

- Compounds containing in the structure a benzothiazole ring-system (whether or not hydrogenated), not further fused

2934.30

- Compounds containing in the structure a phenothiazine ring-system (whether or not hydrogenated), not further fused

2934.9

- Other :

2934.91

-- Aminorex (INN), brotizolam (INN), clotiazepam (INN), cloxazolam (INN), dextromoramide (INN), haloxazolam (INN), ketazolam (INN), mesocarb (INN), oxazolam (INN), pemoline (INN), phendimetrazine (INN), phenmetrazine (INN) and sufentanil (INN); salts thereof

2934.92

-- Other fentanyls and their derivatives

2934.99

-- Other

Heading 2935

Sulphonamides.

EXPLANATORY NOTES

29.35 - Sulphonamides*.

2935.10 - N-Methylperfluorooctane sulphonamide

2935.20 - N-Ethylperfluorooctane sulphonamide

2935.30 - N-Ethyl-N-(2-hydroxyethyl) perfluorooctane sulphonamide

2935.40 - N-(2-Hydroxyethyl)-N-methylperfluorooctane sulphonamide

2935.50 - Other perfluorooctane sulphonamides

2935.90 - Other

Sulphonamides have the general formula ($R^1SO_2NR^2R^3$) where R^1 is an organic radical of varying complexity having a carbon atom directly attached to the SO_2 group and R^2 and R^3 are either : hydrogen, another atom or an inorganic or organic radical of varying complexity (including double bonds or rings). Many are used in medicine as powerful bactericides. They include, *inter alia* :

(1) **N-Alkylperfluorooctane sulphonamides***. Examples are N-methylperfluorooctane sulphonamide or N-ethyl-N-(2-hydroxyethyl) perfluorooctane sulphonamide. These chemicals break down to form perfluorooctane sulfonate (PFOS) (see also **headings 29.04, 29.22, 29.23, 38.08 and 38.24**).

(2) *o*-**Toluenesulphonamide**.

(3) *o*-**Sulphamoylbenzoic acid**.

(4) *p*-**Sulphamoylbenzylamine**.

(5) *p*-**Aminobenzenesulphonamide** ($H_2NC_6H_4SO_2NH_2$) (sulphanilamide)*.

(6) *p*-**Aminobenzenesulphonacetamide**.

(7) **Sildenafil citrate**.

(8) **Sulphapyridine** (INN) or *p*-aminobenzenesulphonamidopyridine.

(9) **Sulphadiazine** (INN) or *p*-aminobenzenesulphonamidopyrimidine.

(10) **Sulphamerazine** (INN) or *p*-aminobenzenesulphonamidomethylpyrimidine.

(11) **Sulphathiourea** (INN) or *p*-aminobenzenesulphonamidothiourea.

(12) **Sulphathiazole** (INN) or *p*-aminobenzenesulphonamidothiazole.

(13) **Chlorinated sulphonamides** whether or not the chlorine atom is directly linked to nitrogen (e.g., sulphonchloramides or N-chlorosulphonamides, known as “chloramines”; “chlorothiazide” or 6-chloro-7-sulphamoylbenzo-1,2,4-thiadiazine 1,1-dioxide; 6-chloro-3,4-dihydro-7-sulphamoylbenzo-1,2,4-thiadiazine 1,1-dioxide).

This heading **excludes** compounds in which all of the S-N bonds of the sulphonamide group(s) are part of a ring. They are other heterocyclic compounds (sultams) of **heading 29.34**.

2935.10

- N-Methylperfluorooctane sulphonamide

2935.20

- N-Ethylperfluorooctane sulphonamide

2935.30

- N-Ethyl-N-(2-hydroxyethyl) perfluorooctane sulphonamide

2935.40

- N-(2-Hydroxyethyl)-N-methylperfluorooctane sulphonamide

2935.50

- Other perfluorooctane sulphonamides

2935.90

- Other

Heading 2936

Provitamins and vitamins, natural or reproduced by synthesis (including natural concentrates), derivatives thereof used primarily as vitamins, and intermixtures of the foregoing, whether or not in any solvent.

EXPLANATORY NOTES

Sub-Chapter XI

PROVITAMINS, VITAMINS AND HORMONES

GENERAL

This sub-Chapter covers active substances which constitute a group of compounds of fairly complex chemical composition, essential for the proper functioning and harmonious development of the animal and vegetable organism.

They have mainly a physiological action and are used in medicine or industry because of their individual characteristics.

In this Sub-Chapter, the term “derivatives” refers to chemical compounds which could be obtained from a starting compound of the heading concerned and which retain the essential characteristics of the parent compound, including its basic chemical structure.

29.36 - Provitamins and vitamins, natural or reproduced by synthesis (including natural concentrates), derivatives thereof used primarily as vitamins, and intermixtures of the foregoing, whether or not in any solvent (+).

- Vitamins and their derivatives, unmixed :

2936.21 - - Vitamins A and their derivatives

2936.22 - - Vitamin B_1 and its derivatives

2936.23 - - Vitamin B_2 and its derivatives

2936.24 - - D- or DL-Pantothenic acid (Vitamin B_5) and its derivatives

2936.25 - - Vitamin B6 and its derivatives

2936.26 - - Vitamin B12 and its derivatives

2936.27 - - Vitamin C and its derivatives

2936.28 - - Vitamin E and its derivatives

2936.29 - - Other vitamins and their derivatives

2936.90 - Other, including natural concentrates

Vitamins are active agents, usually of complex chemical composition, which are obtained from outside sources and are essential for the proper functioning of human or other animal organisms. They cannot be synthesised by the human body and must therefore be obtained in final or nearly final form (provitamins) from outside sources. They are effective in relatively minute amounts and may be regarded as exogenous biocatalysts, their absence or deficiency giving rise to metabolic disturbances or “deficiency diseases”.

This heading includes :

(a) **Provitamins and vitamins, whether natural or reproduced by synthesis, and derivatives thereof used primarily as vitamins**.

(b) **Concentrates of natural vitamins** (e.g., of vitamin A or of vitamin D); these are enriched forms of these vitamins. These concentrates may be used as such (e.g., for adding to animal feeding stuffs), or they may be worked up for the isolation of the vitamin.

(c) **Intermixtures of vitamins, of provitamins or of concentrates**, such as, for instance, natural concentrates of vitamins A and D in various proportions, to which an additional quantity of vitamin A or D has been added subsequently.

(d) **The above products diluted in any solvent** (e.g., ethyl oleate, propane-1,2-diol, ethanediol, vegetable oils).

The products of this heading may be stabilised for the purposes of preservation or transport :

- by adding anti-oxidants,

- by adding anti-caking agents(e.g., carbohydrates),

- by coating with appropriate substance (e.g., gelatin, waxes or fats), whether or not plasticised, or

- by adsorbing on appropriate substances (e.g., silicic acid),

provided that the quantity added or the processing in no case exceeds that necessary for their preservation or transport and that the addition or processing does not alter the character of the basic product and render it particulary suitable for specific use rather than for general use.

List of products which are to be classified as provitamins or vitamins within the meaning of heading 29.36.

The list of products in each of the following groups is not exhaustive. The products listed are examples only.

(A) PROVITAMINS

Provitamins D.

(1) **Non-irradiated ergosterol or provitamin D_2**. Ergosterol is found in the ergot of rye, in brewer's yeast, in mushrooms and in other fungi. It has no vitamin activity. White flakes which become yellow on exposure to air; insoluble in water but soluble in alcohol and benzene.

(2) **Non-irradiated 7-dehydrocholesterol or provitamin D_3**. Found in the skin of animals. It is extracted from wool grease or from by-products of the manufacture of lecithin. Platelets insoluble in water but soluble in organic solvents.

(3) **Non-irradiated 22,23-dihydroergosterol or provitamin D_4**.

(4) **Non-irradiated 7-dehydro-ß-sitosterol or provitamin D_5**.

(5) **Non-irradiated ergosteryl acetate**.

(6) **Non-irradiated 7-dehydrocholesteryl acetate**.

(7) **Non-irradiated 22,23-dihydroergosteryl acetate**.

(B) VITAMINS A AND DERIVATIVES THEREOF USED PRIMARILY AS VITAMINS

Vitamins A (growth or anti-xerophthalmic vitamins) are essential for the normal development of the body, particularly of the skin, the bones and the retina. They help to maintain normal infection-resistant epithelial tissue and are required for normal reproduction and lactation. They are liposoluble and, as a rule, insoluble in water.

(1) **Vitamin A_1alcohol** (axerophthol, retinol (INN)).

Vitamin A_1aldehyde (retinene-1, retinal).

Vitamin A_1acid (tretinoin (INN), retinoic acid).

Vitamin A_1 is found, as the alcohol or in the form of fatty acid esters, in animal products (salt water fish, dairy products, eggs). It is mainly extracted from fresh fish liver oil, but may also be obtained by synthesis. It is a yellow solid which may remain oily at room temperature but, when cooled, it forms yellow crystals. Since it is unstable in air, it is often stabilised by the addition of anti-oxidants.

(2) **Vitamin A_2alcohol** (3-dehydroaxerophthol, 3-dehydroretinol).

Vitamin A_2aldehyde (retinene-2,3-dehydroretinal).

Vitamin A_2 is not found as widely in nature as vitamin A_1. It is extracted from fresh water fish. The alcohol does not crystallise; the aldehyde, however, occurs as orange crystals.

(3) **Vitamin A acetate, palmitate and other fatty acid esters**. These products are obtained from synthetic vitamin A; they are all sensitive to oxidation. The acetate is a yellow powder and the palmitate is a yellow liquid, which may crystallise in its pure state.

(C) VITAMIN B_1AND DERIVATIVES THEREOF USED PRIMARILY AS VITAMINS

Vitamin B_1 is the anti-neuritic vitamin, essential for the prevention of beri-beri. It is important in carbohydrate metabolism. It is used in the treatment of polyneuritis, gastric disturbances and for the maintenance of good appetite. This vitamin is soluble in water and is not very stable to heat.

(1) **Vitamin B_1**(thiamine (INN), aneurine). Thiamine is found in most animal and vegetable tissues (e.g., in cereal grain husks, brewers' yeast, pork, liver, dairy products, eggs, etc.); it is usually obtained synthetically. It is a white crystalline powder, stable to air.

(2) **Thiamine hydrochloride**. A white crystalline powder. Hygroscopic, not very stable.

(3) **Thiamine mononitrate**. White crystalline powder, fairly stable.

(4) **Thiamine-1,5-salt** (aneurine-1,5-salt, aneurine naphthalene-1,5-disulphonate).

(5) **Thiamine salicylate hydrochloride** (aneurine salicylate hydrochloride).

(6) **Thiamine salicylate hydrobromide** (aneurine salicylate hydrobromide).

(7) **Iodothiamine**.

(8) **Iodothiamine hydrochloride**.

(9) **Iodothiamine hydriodide**.

(10) **Orthophosphoric ester of vitamin B_1or thiamine orthophosphate and the mono- and dihydrochloride and the monophosphate of this ester**.

(11) **Nicotinic ester of vitamin B_1**.

(D) VITAMIN B_2AND DERIVATIVES THEREOF USED PRIMARILY AS VITAMINS

Vitamin B_2 is a nutrition and growth-promoting vitamin; it is biologically important as a utilisation factor for carbohydrates. It is soluble in water and stable to heat.

(1) **Vitamin B_2** (riboflavine (INN), lactoflavine). Riboflavine is found in association with vitamin B_1 in many products and foodstuffs. It may be extracted from distiller's and fermentation residues and from beef liver, but generally it is obtained by synthesis. Orange yellow crystals, fairly sensitive to light.

(2) **5'-orthophosphoric ester of riboflavine or riboflavine 5'-orthophosphate and its sodium or diethanolamine salt**. These products are more soluble in water than is riboflavine.

(3) **(Hydroxymethyl)riboflavine or methylolriboflavine**.

(E) D- OR DL-PANTOTHENIC ACID (ALSO KNOWN AS VITAMIN B_5) AND DERIVATIVES THEREOF USED PRIMARILY AS VITAMINS

These compounds play a part in preventing grey hair, in the development of skin, and in fat and carbohydrate metabolism. They are essential for the activity of the glands and liver, and of the gastro-intestinal and respiratory tracts. They are soluble in water.

(1) **D- or DL- Pantothenic acid** (*N*-(α,γ-dihydroxy-*β*,*β*-dimethylbutyryl)-*β*-alanine). This vitamin, also known as vitamin B_5, is found in all living cells and tissues (e.g., in the liver and kidneys of mammals, in the pericarp of rice, in brewers' yeast, milk, crude molasses, etc.). It is generally obtained by synthesis. Yellow viscous oil; slowly soluble in water and most organic solvents.

(2) **Sodium D- and DL-pantothenate**.

(3) **Calcium D- and DL-pantothenate**. This white powder, soluble in water, is the most common form of vitamin B_5.

(4) **Pantothenyl alcohol or pantothenol (D- and DL-)** (α,γ-dihydroxy-*N*-3-hydroxypropyl-*β*,*β*-dimethylbutyramide). Viscous liquid, soluble in water.

(5) **D-pantothenol ethyl ether**(D-α,γ-dihydroxy-*N*-3-ethoxypropyl-*β*,*β*-dimethylbutyramide). Viscous liquid, water-miscible and readily soluble in organic solvents.

(F) VITAMIN B_6AND DERIVATIVES THEREOF USED PRIMARILY AS VITAMINS

Vitamin B_6 is the anti-dermatitic vitamin (skin protection). It plays a part in the nervous system, nutrition and in amino-acid, protein and fat metabolism. It is used to alleviate sickness due to pregnancy or post-operative conditions. It is soluble in water and fairly sensitive to light.

(1) **Pyridoxine** (INN) or**adermin** (pyridoxol) (3-hydroxy-4,5-bis(hydroxymethyl)-2-methyl-pyridine).

Pyridoxal (4-formyl-3-hydroxy-5-hydroxymethyl-2-methylpyridine).

Pyridoxamine (4-aminomethyl-3-hydroxy-5-hydroxymethyl-2-methylpyridine).

These three forms of vitamin B_6 are found in brewers' yeast, sugar cane, the outer part of cereal grains, rice bran, wheat germ oil, linseed oil, and in the liver, meat and fat of mammals and fish. This vitamin is nearly always made synthetically.

(2) **Pyridoxine hydrochloride**.

Pyridoxine orthophosphate.

Pyridoxine tripalmitate (tripalmitate ester of pyridoxine).

Pyridoxal hydrochloride.

Pyridoxamine dihydrochloride.

Pyridoxamine phosphate.

These are the normal forms of vitamin B_6. Colourless crystals or flakes.

(3) **Pyridoxine orthophosphoric ester and its sodium salt**.

Pyridoxal orthophosphoric ester and its sodium salt.

Pyridoxamine orthophosphoric ester and its sodium salt.

(G) VITAMIN B_9AND DERIVATIVES THEREOF USED PRIMARILY AS VITAMINS

Vitamin B_9 is essential for the development of blood cells and is effective in treating pernicious anaemia. It is found in spinach and green plants, in brewers' yeast and in the liver of animals, but is usually obtained by synthesis.

(1) **Vitamin B_9** (folic acid (INN) or pteroylglutamic acid) and the **sodium salt** and the **calcium salt** of this vitamin.

(2) **Folinic acid** (INNM) (5-formyl-5,6,7,8,-tetrahydropteroylglutamic acid).

(H) VITAMIN B_{12}(CYANOCOBALAMIN (INN)) AND OTHER COBALAMINS (HYDROXOCOBALAMIN (INN), METHYLCOBALAMIN, NITRITOCOBALAMIN, SULPHITOCOBALAMIN, ETC.) AND THEIR DERIVATIVES

Vitamin B_{12} is even more effective than vitamin B_9 in treating pernicious anaemia. It has a high molecular weight and contains cobalt. It is found in various forms in the liver and flesh of mammals and of fish, in eggs and in milk. It is obtained from spent antibiotic liquors, sugar beet molasses, whey, etc. Dark red crystals, soluble in water.

(IJ) VITAMIN C AND DERIVATIVES THEREOF USED PRIMARILY AS VITAMINS

Vitamin C is the anti-scorbutic vitamin, and increases resistance to infections. It is soluble in water.

(1) **Vitamin C** (L- or DL-ascorbic acid (INN)). Ascorbic acid is contained in many foodstuffs of vegetable (fruit and green vegetables, potatoes, etc.) or animal (liver, spleen, adrenal glands, brains, milk, etc.) origin; it can be extracted from lemon juice, green and red peppers, green aniseed leaves, and from residual liquors from the treatment of agave fibres. Nowadays, it is obtained almost exclusively by synthesis. It is a white crystalline powder, fairly stable in dry air, and acts as a strong reducing agent.

(2) **Sodium ascorbate**.

(3) **Calcium ascorbate and magnesium ascorbate**.

(4) **Strontium (L) ascorbocinchoninate** (strontium (L) ascorbo-2-phenylquinoline-4-carboxylate).

(5) **Sarcosine ascorbate**.

(6) **L-Arginine ascorbate**.

(7) **Ascorbyl palmitate**. This liposoluble form of vitamin C is also used as an emulsifier and anti-oxidant for fats and oils.

(8) **Calcium hypophosphitoascorbate**.

(9) **Sodium ascorboglutamate**.

(10) **Calcium ascorboglutamate**.

(K) VITAMINS D AND DERIVATIVES THEREOF USED PRIMARILY AS VITAMINS

Vitamins D are the anti-rachitic vitamins. They regulate the utilisation of phosphorus and of calcium in the organism and assist in the development of teeth and bones; they are liposoluble. They are obtained by activation or irradiation of various provitamins D, which are sterols or sterol derivatives normally produced and transformed by the organism.

(1) **Vitamin $D_2$and derivatives thereof with similar activity**.

(a) **Vitamin D_2or activated or irradiated ergosterol** (calciferol, ergocalciferol). A white crystalline powder, becoming yellow when exposed to air, light or heat; insoluble in water, soluble in fats. It is found in cocoa beans and in fish liver; generally obtained by activation or irradiation of provitamin D_2.

(b) **Acetate and other fatty acid esters of vitamin D_2**.

(2) **Vitamin $D_3$and derivatives thereof with similar activity**.

(a) **Vitamin D_3or activated or irradiated 7-dehydrocholesterol** (cholecalciferol). White crystalline powder. It deteriorates slowly when exposed to air; insoluble in water, soluble in fats. It can be extracted from fish oil and from fish liver oil, but is generally obtained by activating or irradiating provitamin D_3. It has a stronger activity than vitamin D_2.

(b) **Activated or irradiated 7-dehydrocholesteryl acetate and other fatty acid esters of vitamin D_3**.

(c) **Vitamin D_3-cholesterol molecular compound**.

(3) **Vitamin D_4or activated or irradiated 22,23-dihydroergosterol**. White flakes; lower biological activity than vitamin D_2.

(4) **Vitamin D_5or activated or irradiated 7-dehydro-*β*-sitosterol**.

(L) VITAMIN E AND DERIVATIVES THEREOF USED PRIMARILY AS VITAMINS

Vitamin E is the anti-sterility vitamin, and is important in the nervous and muscular systems. It is liposoluble.

(1) **Vitamin E or (D- and DL-) α-tocopherol; *β*- and γ-tocopherol**. Tocopherol is found in various vegetable and animal products (e.g., cocoa and cotton seeds, vegetable oils, leguminous plant leaves, salad leaves, lucerne, dairy products). It is extracted mainly from wheat germ oil. The racemic isomers are obtained by synthesis. Colourless oil, insoluble in water, soluble in alcohol, benzene and fats; it is stable to heat in the absence of oxygen and light. Its anti-oxidising properties also make it suitable for use as an inhibiting agent for fats and foodstuffs.

(2) **α-Tocopheryl acetate and α-tocopheryl hydrogen succinate; α-tocopheryl poly(oxyethylene) succinate (also known as α-tocopheryl polyethylene glycol succinate)**.

(3) **Disodium α-tocopheryl phosphate**.

(4) **Tocopheryl diaminoacetate**.

(M) VITAMIN H AND DERIVATIVES THEREOF USED PRIMARILY AS VITAMINS

Vitamin H is necessary for the growth of certain micro-organisms; it is essential for the health of the skin, muscles and nervous system. It is soluble in water and stable to heat.

(1) **Vitamin H** or **biotin**. Biotin is found in egg-yolk, in kidneys and liver, milk, brewers' yeast, molasses, etc. It is prepared by synthesis.

(2) **Biotin methyl ester**.

(N) VITAMINS K AND DERIVATIVES THEREOF USED PRIMARILY AS VITAMINS

Vitamins K are anti-haemorrhage factors; they accelerate blood coagulation by maintaining the prothrombin content and increasing capillary resistance.

(1) **Vitamin K_1**.

(a) **Phytomenadione** (INN)**, phylloquinone, phytonadione or 3-phytylmenadione** (2-methyl-3-phytyl-1,4-naphthoquinone). Extracted from dry lucerne; also found in hazel and chestnut leaves, barley and oat shoots, cabbage, cauliflower, spinach, tomatoes, vegetable oil, etc. Also obtained by synthesis. Light yellow oil, soluble in fats; stable to heat but unstable to sunlight.

(b) **Vitamin K_1oxide (epoxide)** (2-methyl-3-phytyl-1,4-naphthoquinone-2,3-oxide or 2-methyl-3-phytyl-2,3-epoxy-2,3-dihydro-1,4-naphthoquinone).

(c) **Dihydrophylloquinone** (3-dihydrophytyl-2-methyl-1,4-naphthoquinone).

(2) **Vitamin K_2or farnoquinone** (3-difarnesyl-2-methyl-1,4-naphthoquinone). Extracted from the meal of putrefied sardines. Weaker activity than vitamin K_1. Yellow crystals very unstable to light.

(O) VITAMIN PP (ALSO KNOWN AS NICOTINIC ACID AND NICOTINAMIDE, OR VITAMIN B_3) AND DERIVATIVES THEREOF USED PRIMARILY AS VITAMINS

Vitamin PP is the anti-pellagra vitamin essential for growth, oxidations, cellular respiration, protein and carboxyhydrate metabolism.

(1) **Nicotinic acid** (INN) (pyridine-*β*-carboxylic acid, niacin). Animal sources (e.g., liver, kidney, fresh meat of mammals and certain kinds of fish) and vegetable sources (brewers' yeast, cereal germs and pericarp, etc.). Obtained synthetically. Colourless crystals, soluble in alcohol, liposoluble; relatively stable to heat and oxidation.

(2) **Sodium nicotinate**.

(3) **Calcium nicotinate**.

(4) **Nicotinamide** (INN) (nicotinic acid amide, niacinamide). Sources, properties and uses as the nicotinic acid. Obtained synthetically. Soluble in water and stable to heat.

(5) **Nicotinamide hydrochloride**.

(6) **Nicotinomorpholide**.

EXCLUSIONS

The heading **excludes** :

(1) The products listed below which, though sometimes called vitamins, have no vitamin activity or have a vitamin activity which is of secondary importance in relation to their other uses :

(a) *meso*Inositol, *myo*inositol, *i*-inositol or *meso*inosite (**heading 29.06**), used for gastro-intestinal and hepatic disturbances (especially as calcium or magnesium hexaphosphates).

(b) Vitamin H_1 : *p*-aminobenzoic acid (**heading 29.22**), which is growth inducing and neutralises the antibacteriostatic effects of some sulphonamides.

(c) Choline or bilineurine (**heading 29.23**), which stabilises fat metabolism.

(d) Vitamin B_4 : adenine or 6-aminopurine (**heading 29.33**), used in post-medicinal haematological accidents and in tumor therapeutics.

(e) Vitamin C_2 or P : citrin, hesperidin, rutoside (rutin), aesculin (**heading 29.38**), used as anti-haemorrhage factors and to develop capillary resistance.

(f) Vitamin F : linoleic or linolic acid (α- and *β*-), linolenic acid, arachidonic acid (**heading 38.23**), used to treat dermatitis and liver disturbances.

(2) Synthetic substitutes for vitamins :

(a) Vitamin K_3 : menadione, menaphthone, methylnaphthone or 2-methyl-1,4-naphthoquinone; sodium salt of 2-methyl-1,4-naphthoquinone bisulphite derivative (**heading 29.14**); Menadiol or 1,4-dihydroxy-2-methyl- naphthalene (**heading 29.07**).

(b) Vitamin K_6 : 1,4-diamino-2-methylnaphthalene (**heading 29.21**).

(c) Vitamin K_5 : 4-amino-2-methyl-1-naphthol hydrochloride (**heading 29.22**).

(d) Cysteine, a vitamin B substitute (**heading 29.30**).

(e) Phthiocol : 2-hydroxy-3-methyl-1,4-naphthoquinone, a vitamin K substitute (**heading 29.41**).

(3) Sterols, other than ergosterol : cholesterol, sitosterol, stigmasterol and the sterols obtained during preparation of vitamin D_2 (tachysterol, lumisterol, toxisterol, suprasterol) (**heading 29.06**).

(4) Medicaments of heading **30.03** or **30.04**.

(5) Xanthophyll, carotenoid of natural origin (**heading 32.03**).

(6) Provitamins A (α-, *β*- and γ-carotenes and cryptoxanthin) because of their use as colouring substances (**heading 32.03** or **32.04**).

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Subheading Explanatory Note.

Subheading 2936.90

This subheading includes, *inter alia*, intermixtures of two or more vitamin derivatives. Thus, for example, a mixture of D-pantothenol ethyl ether and dexpanthenol, obtained by chemical synthesis, i.e., by a reaction of D-pantolactone, amino-3-propanol-1 and 3-ethoxypropylamine in a predetermined ratio, should be classified in subheading 2936.90 as "Other" and **not** as unmixed derivatives of D- or DL-pantothenic acid (subheading 2936.24).

2936.2

- Vitamins and their derivatives, unmixed :

2936.21

-- Vitamins A and their derivatives

CLASSIFICATION OPINIONS

1. Preparations consisting of vitamin A (approximately 15 % to 17 % by weight) stabilised in a matrix with antioxidants or other additives for preservation or transport.

See also Opinions 2309.90/6, 2936.28/1 and 2936.90/1.

Adoption : 1997

2936.22

-- Vitamin B1 and its derivatives

2936.23

-- Vitamin B2 and its derivatives

CLASSIFICATION OPINIONS

1. Preparation in powder form which contains 80 % of riboflavin (vitamin B2) finely dispersed in a matrix of dextrin. The product is used for animal nutrition in premixes and compound feeds.

Application of GIRs 1 (Note 1 (f) to Chapter 29) and 6.

Adoption : 2019

2936.24

-- D- or DL-Pantothenic acid (Vitamin B5) and its derivatives

2936.25

-- Vitamin B6 and its derivatives

2936.26

-- Vitamin B12 and its derivatives

2936.27

-- Vitamin C and its derivatives

2936.28

-- Vitamin E and its derivatives

CLASSIFICATION OPINIONS

1. Preparations consisting of vitamin E (approximately 50 % by weight) stabilised in a matrix and other additives or adsorbed on amorphous silica for preservation or transport. *See also Opinions 2309.90/6, 2936.21/1 and 2936.90/1. Adoption : 1997*

2. **Preparation in powder form** which contains 50 % of DL-alpha-tocopheryl acetate adsorbed on silicon dioxide. The product is used for animal nutrition in premixes and compound feeds. **Application of GIRs 1 (Note 1 (f) to Chapter 29) and 6.** *Adoption : 2019*

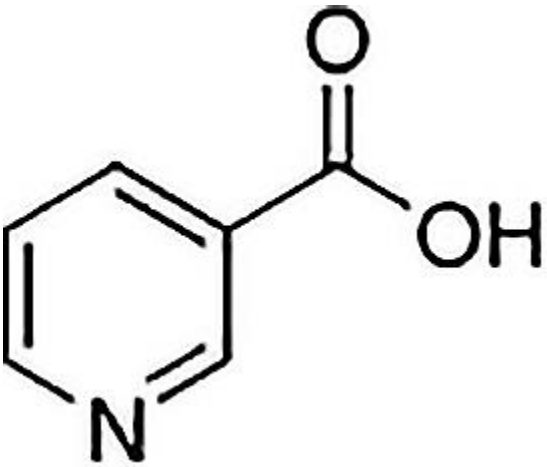
3. **Preparation in powder form** which contains 50 % of DL-alpha-tocopheryl acetate finely dispersed in a matrix of modified food starch and maltodextrin. Silicon dioxide is added as a flow agent in a proportion of 1 %. The product is used for animal nutrition in milk replacers and liquid diets, and where stability may be critical, e.g., aggressive premixes (pH > 10) and canned pet food. **Application of GIRs 1 (Note 1 (f) to Chapter 29) and 6.** *Adoption : 2019*

2936.29

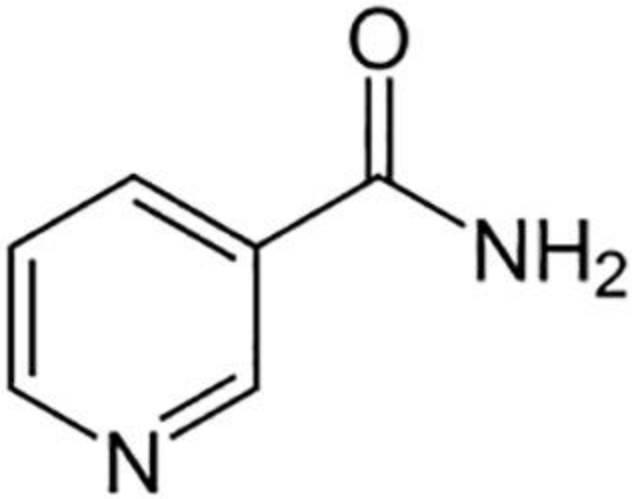
-- Other vitamins and their derivatives

CLASSIFICATION OPINIONS

1. **Nicotinic acid ("niacin")**, also known as vitamin B3, is an organic compound with the formula C6H5NO2 and, depending on the definition used, one of the 20 to 80 essential human nutrients. This colourless, water-soluble solid is a derivative of pyridine, with a carboxyl group (COOH) at the 3-position (see chemical structure below). **Application of GIRs 1 and 6.** *See also Opinion 2936.29/2. Adoption : 2018*



2. **Nicotinamide ("niacinamide")**, also known as vitamin B3, is an organic compound with the formula C6H6N2O and, depending on the definition used, one of the 20 to 80 essential human nutrients. This colourless, water-soluble solid is a derivative of pyridine, with a carboxamide group (CONH2). Nicotinic acid and nicotinamide are convertible to each other (see chemical structure below). **Application of GIRs 1 and 6.** *See also Opinion 2936.29/1. Adoption : 2018*



3. Preparation in powder form which contains 80 % of folic acid finely dispersed in a matrix of dextrin. The product is used for animal nutrition in premixes and compound feeds. **Application of GIRs 1 (Note 1 (f) to Chapter 29) and 6.** *Adoption : 2019*

2936.90

- Other, including natural concentrates

CLASSIFICATION OPINIONS

1. Preparations consisting of a mixture of vitamins A and D3 (approximately 15 to 17 % by weight) stabilised in a matrix with antioxidants for preservation or transport.

See also Opinions 2309.90/6, 2936.21/1 and 2936.28/1.

Adoption : 1997

Heading 2937

Hormones, prostaglandins, thromboxanes and leukotrienes, natural or reproduced by synthesis; derivatives and structural analogues thereof, including chain modified polypeptides, used primarily as hormones.

EXPLANATORY NOTES

29.37 - Hormones, prostaglandins, thromboxanes and leukotrienes, natural or reproduced by synthesis; derivatives and structural analogues thereof, including chain modified polypeptides, used primarily as hormones (+).

- Polypeptide hormones, protein hormones and glycoprotein hormones, their derivatives and structural analogues :

2937.11 - - Somatotropin, its derivatives and structural analogues

2937.12 - - Insulin and its salts

2937.19 - - Other

- Steroidal hormones, their derivatives and structural analogues :

2937.21 - - Cortisone, hydrocortisone, prednisone (dehydrocortisone) and prednisolone (dehydrohydrocortisone)

2937.22 - - Halogenated derivatives of corticosteroidal hormones

2937.23 - - Oestrogens and progestogens

2937.29 - - Other

2937.50 - Prostaglandins, thromboxanes and leukotrienes, their derivatives and structural analogues

2937.90 - Other

This heading includes :

(I) **Natural hormones,** which are active substances produced in the living tissues of man or animals, extremely small amounts of which are capable of inhibiting or stimulating the functioning of particular organs by acting directly on them or controlling the synthesis or secretion of secondary or tertiary hormone systems. A fundamental defining characteristic of a hormone is that it binds to a stereospecific molecular receptor to activate a response**.** The secretion of these substances, usually by the endocrine glands, is governed by the sympathetic and para-sympathetic systems. Hormones are carried by the blood, lymph or other fluids of the body. They may also originate in glands which are both endo- and exocrinal or in various cellular tissues. Transport in the blood is not a requisite for a hormonal response. Responses can occur after release of hormones into the interstitial fluid with binding to receptors in nearby cells (paracrine control) or to receptors on the cell that released the hormone (autocrine control).

(II) **Natural prostaglandins, thromboxanes and leukotrienes**, compounds which are secreted by the body and behave like locally-acting hormones. Prostaglandins are a class of hormones or hormone-like substances which are synthesised by the tissue in which they act (or act in the local cellular environment) by binding to specific cellular receptors and act as important modulators of cell activity in many tissues. These three related chemical families (arachidonic acid derivatives) are said to have “hormone-like action”.

(III) **Natural hormones, prostaglandins, thromboxanes and leukotrienes reproduced by synthesis (including biotechnological processes)**, that is, having the same chemical structure as the natural substance.

(IV) **Derivatives of natural or synthetically reproduced hormones, prostaglandins, thromboxanes and leukotrienes**, such as salts, halogenated derivatives, cyclic acetals, esters, etc., including mixed **derivatives** (e.g., esters of halogenated derivatives), **provided that** they are used primarily as hormones.

(V) **Analogues of hormones, prostaglandins, thromboxanes and leukotrienes**. The term “analogue” refers to chemicals having a close structural relationship to the parent compound, but which are not considered to be derivatives. It includes compounds which have a structural resemblance to the natural compounds, but have had one or more atoms in the structure replaced by others.

(a) Analogues of polypeptide hormones are formed by adding, separating, replacing or altering certain amino acids in the natural polypeptide chain. **Somatrem** (INN**),** an analogue of the growth hormone somatotropin, is the result of adding a terminal amino acid to the natural somatotropin molecule. **Ornipressin** (INN), an analogue of natural argipressin (INN) and lypressin (INN), is the result of replacing an internal amino acid in the argipressin or lypressin molecule. The synthetic gonadoliberins, **buserelin** (INN), **nafarelin** (INN), **fertirelin** (INN), **leuprorelin** (INN) and **lutrelin** (INN), analogues of **gonadorelin** (INN) are the result of altering and replacing certain amino acids in the polypeptide chain of natural gonadorelin**. Giractide** (INN), an analogue of **corticotropin** (INN) has the same structure as the first 18 amino acids of natural corticotropin, with the first amino acid replaced. **Metreleptin** (INN), an analogue of leptin, is the recombinant methionyl derivative of human leptin. **Saralasin** (INN), which contains three different amino acids in comparison to the molecule of angiotensin II, should be considered as a structural analogue of angiotensin II, although with antagonist effects (the former is a hypotensor and the latter an hypertensor).

(b) Analogues of steroid hormones must have the gonane structure*, which can be altered by ring contraction or extension or by replacing some atoms in the ring by others (hetero-atoms). **Domoprednate** (INN) and **oxandrolone** (INN)represent two examples of this kind of analogues. The family of analogues and derivatives, which retain the fundamental structure of the gonane described, contains a large number of substances used as hormone inhibitors and antagonists (antihormones). Examples are **cyproterone** (INN), an antiandrogen, **danazol** (INN), an antigonadotropin, **epostane** (INN), which inhibits progesterone production.

(c) Analogues of prostaglandins, thromboxanes and leukotrienes may be formed by substitution of atoms in a chain, or formation or elimination of rings. In **tilsuprost** (INN), a prostaglandin analogue, oxygen and carbon atoms are replaced by nitrogen and sulphur atoms and one ring is closed.

(VI) **Natural mixtures of hormones** or their derivatives or of steroids recognised as having a hormonal effect (e.g., a natural mixture of corticosteroid hormones or of conjugated oestrogens). Deliberate mixtures or preparations are excluded (generally **heading 30.03** or **30.04**).

Hormone-releasing factors (hormone-stimulating factors), hormone inhibitors and hormone antagonists (antihormones) are also included in this heading (see Note 8 to this Chapter). The heading also includes derivatives and structural analogues of hormones, provided that they are based on natural hormones, or on those reproduced by synthesis, and that they act using mechanisms similar to those of hormones.

A list of the products of this heading, arranged according to chemical structure, is given below. This list is not exhaustive.

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List of products which are to be classified as products of heading 29.37 (*)

(A) POLYPEPTIDE HORMONES, PROTEIN HORMONES AND GLYCOPROTEIN HORMONES, THEIR DERIVATIVES AND

STRUCTURAL ANALOGUES

This part includes, *inter alia :*

(1) **Somatotropin, its derivatives and structural analogues**. **Somatotropin** (growth hormone, GH, STH (somatotropic hormone)). Water soluble protein which promotes growth of tissues and is involved in the regulation of other phases of protein metabolism. It is secreted by the somatotropic cells of the anterior pituitary gland. Secretion is regulated by a releasing factor (growth hormone-releasing hormone) and by an inhibitory factor, somatostatin. Human growth hormone (hGH) is a single polypeptide chain of 191 amino acids manufactured almost exclusively by recombinant DNA technology. This part also includes derivatives and analogues such as **somatrem** (INN) (methionyl hGH), **acetylated hGH**, **desamido hGH** and **somenopor** (INN) and antagonists such as **pegvisomant** (INN).

(2) **Insulin and its salts.** Insulin is a polypeptide containing 51 amino-acid groups and is produced in the islets of Langerhans of the pancreas of numerous animals. Human insulin can be obtained by extraction from the pancreas, by modification of bovine or porcine insulin or by biotechnological processes involving bacteria or yeasts to produce recombinant human insulin. Insulin is a factor in the cellular uptake of circulating glucose and other nutrients, as well as their storage as glycogen and fat. Pure insulin is a white, non-hygroscopic amorphous powder or shiny crystals, soluble in water. Its clinical use is in the treatment of diabetes. Insulin salts include insulin hydrochloride.

(3) **Corticotropin** (INN) (ACTH (adrenocorticotropic hormone), adrenocorticotropin). A polypeptide, soluble in water. It stimulates increased production of adrenocortical steroids. **Giractide** (INN) is an analogue of corticotropin.

(4) **Lactogenic hormone** (LTH, galactin, galactogene hormone, luteotrophin, mammotrophin, prolactin). A polypeptide which can be crystallised. Activates milk secretion and influences the activity of the *corpus luteum*.

(5) **Thyrotrophin** (INN) (thyrotrophic hormone, TSH (thyroid-stimulating hormone)). A glycoprotein which intervenes in the action of the thyroid gland on the blood and in the removal of iodine. It affects growth and secretion.

(6) **Follicle-stimulating hormone** (FSH). A glycoprotein, soluble in water. It activates sexual functions.

(7) **Luteinising hormone** (LH, ICSH (interstitial-cell-stimulating hormone), luteinostimulin). A glycoprotein, soluble in water. It stimulates sexual functions by stimulating steroid secretion, ovulation and interstitial cell development.

(8) **Chorionic gonadotrophin** (INN) (hCG (human chorionic gonadotrophin)). Formed in the placenta; it is a glycoprotein extracted from the urine of pregnant women. White crystals, relatively unstable in aqueous solution. Stimulates follicle maturity.

(9) **Serum gonadotrophin** (INN) (equine chorionic gonadotropin (eCG)). It is a gonad-stimulating glycoprotein produced in the placenta and endometrium of pregnant mares. Originally called pregnant mare serum gonadotropin.

(10) **Oxytocin** (INN) (a-hypophamin). A polypeptide, soluble in water. Its chief action is on the contraction of the uterus and on milk ejection from the mammary gland. Also included are the analogues **carbetocin** (INN), **demoxytocin** (INN), etc.

(11) **Vasopressins** : **argipressin** (INN) and **lypressin** (INN), their derivatives and structural analogues. Vasopressins are polypeptides which raise blood pressure and cause an increase in water retention by the kidney. Also included here are polypeptide analogues such as **terlipressin** (INN), **desmopressin** (INN), etc.

(12) **Calcitonin** (INN). (TCA (thyrocalcitonin)). A hypocalcaemic and hypophosphatemic polypeptide.

(13) **Glucagon** (INN) (HGF (hyperglycaemic-glycogenolytic factor)). A polypeptide which has the property of increasing the blood-glucose concentration.

(14) **Thyroliberin** (TRF, TRH). This polypeptide stimulates the secretion of thyrotropin.

(15) **Gonadorelin** (INN) (gonadoliberin, gonadotrophin releasing hormone, LRF, GnRH). This polypeptide promotes the secretion of follicle-stimulating and lutein-stimulating hormones in the pituitary gland. Also included are the polypeptide analogues **buserilin** (INN), **goserilin** (INN), **fertirelin** (INN), **sermorelin** (INN), etc.

(16) **Somatostatin** (INN) (SS, SRIH, SRIF). This polypeptide inhibits the release of growth hormone and TSH from the pituitary gland and has a neurotropic action.

(17) **Atrial natriuretic hormone** (ANH, ANF), a polypeptide hormone secreted from the atria of the heart. When the cardiac atrium is stretched by increased blood volume, secretion of ANH is stimulated. ANH in turn increases salt and water excretion and reduces blood pressure.

(18) **Endothelin**, a polypeptide hormone secreted by endothelial cells throughout the vasculature. Although endothelin is released into the blood circulation, it acts locally in a paracrine fashion to constrict adjacent vascular smooth muscle and to increase blood pressure.

(19) **Inhibin** and **activin,** hormones found in gonadal tissue.

(20) **Leptin**, a polypeptide hormone produced by adipose tissue that is thought to act on receptors in the brain to regulate body weight and fat deposition. Also included here is **metreleptin** (INN), the recombinant methionyl derivative of leptin, which has a similar activity and which is considered to be an analogue of leptin.

(B) STEROIDAL HORMONES, THEIR DERIVATIVES AND STRUCTURAL ANALOGUES

(1) **Corticosteroid hormones**, secreted in the cortical zone of the adrenal glands, play an important role in the functioning of the body's metabolism. They are also known as adrenal cortical hormones or corticoids, and are generally divided into two groups, depending upon their

physiological action : (i) glucocorticoids, which regulate protein and carbohydrate metabolism and (ii) mineralocorticoids, which cause the retention of sodium and water by the body and hasten the excretion of potassium. The properties of mineralocorticoids are utilised in the treatment of kidney deficiencies and of Addison's disease. These include the following corticosteroid hormones, derivatives and analogues :

(a) **Cortisone** (INN)*. A glucocorticoid which regulates protein and carbohydrate metabolism and also has a local anti-inflammatory effect.

(b) **Hydrocortisone** (INN) (cortisol)*. A glucocorticoid with effects similar to those of cortisone.

(c) **Prednisone** (INN) (dehydrocortisone). Glucocorticoid. A derivative of cortisone.

(d) **Prednisolone** (INN) (dehydrohydrocortisone). Glucocorticoid. A derivative of hydrocortisone.

(e) **Aldosterone** (INN). A mineralocorticoid.

(f) **Cortodoxone** (INN).

Some derivatives are modified so as to suppress their cortical hormone effect in favour of their anti-inflammatory effect, which is regarded as being a hormonal effect. These are principally derivatives of cortisone (INN), hydrocortisone (INN), prednisone (INN) and prednisolone (INN), which are used as anti-inflammatory and antirheumatism agents.

(2) **Halogenated derivatives of corticosteroid hormones** are steroids in which the hydrogen atom generally at the 6- or 9-position on the gonane ring is substituted by a chlorine or fluorine atom (e.g., **dexamethasone** (INN)) and which greatly enhance the glucocorticoid and anti-inflammatory effect of the corticoids from which they are derived. These derivatives are often further modified and marketed in the form of esters, acetonides (e.g., **fluocinolone acetonide** (INN)), etc.

(3) **Oestrogens and progestogens**. These are two major groups of sex hormones secreted by the male and female genital organs. They may also be obtained by synthesis. These hormones are also called progestins and gestagens.

Oestrogens are female sex hormones produced by the ovaries, testes, adrenal glands, placenta and other steroid-producing tissues. They are characterised by their ability to produce oestrus in the female mammal. Oestrogens are responsible for the development of female sex characteristics and are used in the treatment of menopause or in the preparation of contraceptive drugs. They include the following oestrogens, derivatives and analogues :

(a) **Estrone** (INN). A principal oestrogen in humans.

(b) **Estradiol** (INN). An important natural oestrogen.

(c) **Estriol** (INN). A natural oestrogen.

(d) **Ethinyl estradiol** (INN). An important synthetic oestrogen which is orally active and used as a main oestrogenic component in combination oral contraceptives.

(e) **Mestranol** (INN). Ether derivative of ethinyl estradiol. Used as an oral contraceptive.

Progestogens are a class of steroids named for their progestational effects, which are essential for the initiation and continuation of pregnancy. These female sex hormones prepare the uterus for pregnancy and for the maintenance of pregnancy. Because they suppress ovulation, many progestins are used as components of contraceptive drugs. They include :

(a) **Progesterone** (INN)*. The primary progestin in humans and an intermediate in the biosynthetic pathways of oestrogens, androgens and corticosteroids. It is produced by the *corpus luteum* after release of the ovum and in the adrenal gland, the placenta and the testes.

(b) **Pregnandiol**. Naturally occurring progestin with a much weaker biological activity than that of progesterone.

(4) **Other steroidal hormones**.

Androgens are a major group of sex hormones not included above, which are produced mainly by the testes and, to a lesser extent, by the ovaries, adrenal glands and placenta. Androgens are responsible for the development of male sex characteristics. Androgens influence metabolism, i.e., have an anabolic effect. **Testosterone** (INN) is one of the most important androgens.

This part also includes synthetic steroids used to inhibit or counteract the effects of hormones, such as anti-oestrogens, anti-androgens, and anti-progestogens (antiprogestins, antiestagens). Steroidal antiprogestins are progestin antagonists which have found many uses in the treatment of some diseases. Examples of this group include **onapristone** (INN) and **aglepristone** (INN).

The most important of these steroids in international trade are listed below. The products are cited in alphabetical order, according to their short names, followed by an indication of their main hormonal function. If several names exist, the name used is that of the International Nonproprietary Names for pharmaceutical preparations (INN) published by the World Health Organization or that of the International Nonproprietary Names Modified (INNM). The **chemical names** given are in accordance with the IUPAC 1957 Rules for Nomenclature of Steroids.

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List of steroids used primarily

for their hormone function*

Short name Chemical name	Main hormonal function
Adrenosterone androst-4-ene-3,11,17-trione	Androgen
Aldosterone (INN) 11b,21-dihydroxy-3,20-dioxopregn-4-en-18-al	Corticosteroid
Allylestrenol (INN) 17a-allyloestr-4-en-17b-ol	Progestogen
(No short name) 5a-androstane-3,17-dione	Androgen intermediate
Androstanolone (INN) 17b-hydroxy-5a-androstan-3-one	Androgen
Androstenediols androst-5-ene-3b,17b-diol androst-5-ene-3b,17a-diol	Anabolic intermediate
(No short name) androst-4-ene-3,17-dione	Androgen intermediate
Androsterone	Androgen

Short name Chemical name _____	Main hormonal function _____
3a-hydroxy-5a-androstan-17-one	
Betamethasone (INN) 9a-fluoro-11b,17a,21-trihydroxy-16b-methylpregna-1,4-diene-3,20-dione	Corticosteroid
Bolasterone (INN) 17b-hydroxy-7a,17a-dimethylandrost-4-en-3-one	Anabolic
Chlormadinone (INN) 6-chloro-17a-hydroxypregna-4,6-diene-3,20-dione	Progestogen
Short name Chemical name _____	Main hormonal function _____
Chloroprednisone (INN) 6a-chloro-17a,21-dihydroxypregna-1,4-diene-3,11,20-trione	Corticosteroid
Clocortolone (INN) 9a-chloro-6a-fluoro-11b,21-dihydroxy-16a-methylpregna-1,4-diene-3,20-dione	Corticosteroid
Clostebol (INN)	Anabolic

Short name Chemical name	Main hormonal function
4-chloro-17b-hydroxyandrost-4-en-3-one	
Corticosterone 11b,21-dihydroxypregn-4-ene-3,20-dione	Corticosteroid
Cortisol - see **Hydrocortisone**	
Cortisone (INN) 17a,21-dihydroxypregn-4-ene-3,11,20-trione	Corticosteroid
11-Dehydrocorticosterone 21-hydroxypregn-4-ene-3,11,20-trione	Corticosteroid
Deoxycorticosterone - see **Desoxycortone**	
Desoxycortone (INN) 21-hydroxypregn-4-ene-3,20-dione	Corticosteroid
Dexamethasone (INN) 9a-fluoro-11b,17a,21-trihydroxy-16a-methylpregna-1,4-diene-3,20-dione	Corticosteroid
Dihydroandrosterone 5a-androstane-3a,17b-diol	Androgen intermediate

Short name Chemical name	Main hormonal function
Dydrogesterone (INN) 9b,10a-pregna-4,6-diene-3,20-dione	Progestogen
Equilenin 3-hydroxyoestra-1,3,5(10),6,8-pentaen-17-one	Oestrogen
Equilin 3-hydroxyoestra-1,3,5(10),7-tetraen-17-one	Oestrogen
Short name Chemical name	Main hormonal function
Estradiol (INN) oestra-1,3,5(10)-triene-3,17b-diol	Oestrogen
Estriol (INNM) oestra-1,3,5(10)-triene-3,16a,17b-triol	Oestrogen
Estrone (INN) 3-hydroxyoestra-1,3,5(10)-trien-17-one	Oestrogen
Ethinylestradiol (INN)	Oestrogen

17a-ethynyloestra-1,3,5(10)-triene-3,17b-diol	
Ethisterone (INN) 17a-ethynyl-17b-hydroxyandrost-4-en-3-one	Progestogen
Ethylestrenol (INN) 17a-ethyloestr-4-en-17b-ol	Anabolic
Etynodiol (INN) 17a-ethynyloestr-4-ene-3b,17b-diol	Progestogen
Fludrocortisone (INN) 9a-fluoro-11b,17a,21-trihydroxypregn-4-ene-3,20-dione	Corticosteroid
Flumetasone (INN) 6a,9a-difluoro-11b,17a,21-trihydroxy-16a-methylpregna-1,4-diene- 3,20-dione	Corticosteroid
Fluocinolone (INNM) 6a,9a-difluoro-11b,16a,17a,21-tetrahydroxy-pregna-1,4-diene-3,20-dione	Corticosteroid
Fluocortolone (INN) 6a-fluoro-11b,21-dihydroxy-16a-methylpregna-1,4-diene-3,20-dione	Corticosteroid
Fluorometholone (INN) 9a-fluoro-11b,17a-dihydroxy-6a-methylpregna-1,4-diene-3,20-dione	Corticosteroid

9a-**Fluoroprednisolone** 9a-fluoro-11b,17a,21-trihydroxypregna-1,4-diene-3,20-dione	Corticosteroid
Short name Chemical name _____	Main hormonal function _____
Fluoxymesterone (INN) 9a-fluoro-11b,17b-dihydroxy-17a-methylandrost-4-en-3-one	Androgen
Fluprednidene (INN) 9a-fluoro-11b,17a,21-trihydroxy-16-methylenepregna-1,4-diene-3,20-dione	Corticosteroid
Fluprednisolone (INN) 6a-fluoro-11b,17a,21-trihydroxypregna-1,4-diene-3,20-dione	Corticosteroid
Flurandrenolone 6a-fluoro-11b,16a,17a,21-tetrahydroxypregn-4-ene-3,20-dione	Corticosteroid
Formocortal (INN) 3-(2-chloroethoxy)-9a-fluoro-6-formyl-11b,21-dihydroxy-16a,17-isopropylidenedioxypregna-3,5-dien-20 one 21-acetate	Corticosteroid
Gestonorone (INNM) 17b-ethyl-17a-hydroxyoestr-4-ene-3,20-dione	Progestogen
Hydrocortisone (INN)	Corticosteroid

11b,17a,21-trihydroxypregn-4-ene-3,20-dione	
Hydroxyprogesterone (INN) 17a-hydroxypregn-4-ene-3,20-dione	Progestogen
Lynestrenol (INN) 17a-ethynyloestr-4-en-17b-ol	Progestogen
Medroxyprogesterone (INN) 17a-hydroxy-6a-methylpregn-4-ene-3,20-dione	Progestogen
Megestrol (INN) 17a-hydroxy-6-methylpregna-4,6-diene-3,20-dione	Progestogen
Mestanolone (INN) 17b-hydroxy-17a-methyl-5a-androstan-3-one	Anabolic
Mesterolone (INN) 17b-hydroxy-1a-methyl-5a-androstan-3-one	Androgen
Short name Chemical name _____	Main hormonal function _____
Mestranol (INN) 17a-ethynyl-3-methoxyoestra-1,3,5(10)-trien-17b-ol	Oestrogen
Metandienone (INN)	Anabolic

17b-hydroxy-17a-methylandrosta-1,4-dien-3-one	
Metenolone (INN) 17b-hydroxy-1-methyl-5a-androst-1-en-3-one	Anabolic
Methandriol (INN) 17a-methylandrost-5-ene-3b,17b-diol	Anabolic
2-**Methylhydrocortisone** 11b,17a,21-trihydroxy-2b-methylpregn-4-ene-3,20-dione	Corticosteroid
6a-**Methylhydrocortisone** 11b,17a,21-trihydroxy-6a-methylpregn-4-ene-3,20-dione	Corticosteroid
Methylnortestosterone 17b-hydroxy-17a-methyloestr-4-en-3-one	Progestogen
17a-Methyloestradiol 17a-methyloestra-1,3,5(10)-triene-3,17b-diol	Oestrogen
Methylprednisolone (INN) 11b,17a,21-trihydroxy-6a-methylpregna-1,4-diene-3,20-dione	Corticosteroid
Methyltestosterone (INN) 17b-hydroxy-17a-methylandrost-4-en-3-one	Androgen
Nandrolone (INN) 17b-hydroxyoestr-4-en-3-one	Anabolic

Norethandrolone (INN) 17a-ethyl-17b-hydroxyoestr-4-en-3-one	Anabolic
Norethisterone (INN) 17a-ethynyl-17b-hydroxyoestr-4-en-3-one	Progestogen
Noretynodrel (INN) 17a-ethynyl-17b-hydroxyoestr-5(10)-en-3-one	Progestogen
Short name Chemical name _____	Main hormonal function _____
Norgestrel (INN) 13b-ethyl-17a-ethynyl-17b-hydroxygon-4-en-3-one	Progestogen
Normethandrone - see **Methylnortestosterone**	
Nortestosterone - see **Nandrolone**	
Oxabolone (INNM) 4,17b-dihydroxyoestr-4-en-3-one	Anabolic
Oxymesterone (INN) 4,17b-dihydroxy-17a-methylandrost-4-en-3-one	Anabolic
Oxymetholone (INN)	Anabolic

17b-hydroxy-2-hydroxymethylene-17a-methyl-5a-androstan-3-one	
Paramethasone (INN) 6a-fluoro-11b,17a,21-trihydroxy-16a-methylpregna-1,4-diene-3,20-dione	Corticosteroid
Prasterone (INN) 3b-hydroxyandrost-5-en-17-one	Androgen
Prednisolone (INN) 11b,17a,21-trihydroxypregna-1,4-diene-3,20-dione	Corticosteroid
Prednisone (INN) 17a,21-dihydroxypregna-1,4-diene-3,11,20-trione	Corticosteroid
Prednylidene (INN) 11b,17a,21-trihydroxy-16-methylenepregna-1,4-diene-3,20-dione	Corticosteroid
Pregnenolone (INN) 3b-hydroxypregn-5-en-20-one	Corticosteroid
Progesterone (INN) pregn-4-ene-3,20-dione	Progestogen
Stanolone - see **Androstanolone**	
Short name Chemical name	Main hormonal function

Testosterone (INN) 17b-hydroxyandrost-4-en-3-one	Androgen
Tiomesterone (INN) 1a,7a-di(acetylthio)-17b-hydroxy-17a-methylandrost-4-en-3-one	Anabolic
Triamcinolone (INN) 9a-fluoro-11b,16a,17a,21-tetrahydroxypregna-1,4-diene-3,20-dione	Corticosteroid

(C) PROSTAGLANDINS, THROMBOXANES AND LEUKOTRIENES, THEIR DERIVATIVES AND STRUCTURAL ANALOGUES

These products are derivatives of arachidonic acid.

(1) **Prostaglandins**.

The most important arachidonic acid derivatives are prostaglandins, endogenous substances operating in minute doses as hormones and containing the fundamental structure of prostanoic acid. Prostaglandins influence the regulation of blood circulation, kidney function and the endrocrine system (e.g., by reducing the production of progesterone by the *corpus luteum*); they also stimulate the contraction of smooth muscles or dilation of blood vessels, prevent platelet aggregation and regulate gastric secretions. These include the following prostaglandins, derivatives and analogues :

(a) **Alprostadil** (INN) (prostaglandin E_1). A primary prostaglandin crystallised from biological extracts. It is used as a vasodilator. It also functions to stimulate the release of erythropoietin from the renal cortex and inhibits blood platelet aggregation.

(b) **Alfaprostol** (INN). A synthetic prostaglandin analogue used in the treatment of infertility in mares.

(c) **Tilsuprost** (INN). A prostaglandin analogue which has had an oxygen and a carbon atom replaced by a nitrogen and a sulphur atom with ring closure. A synthetic prostaglandin and prostaglandin receptor agonist.

This group also includes other synthetic products such as **prostalene** (INN), **dinoprost** (INN), etc., which retain the basic structure of natural products and have similar physiological activity.

(2) **Thromboxanes and leukotrienes**.

Thromboxanes and leukotrienes, like prostaglandins, are synthesised in cells from arachidonic acid; although their function is comparable to that of prostaglandins and their structure is very similar, they do not contain the fundamental structure of prostanoic acid. Thromboxanes are biosynthetically derived from prostaglandins. They cause platelet aggregation and contraction of arteries, and are important regulators of the actions of polyunsaturated fatty acids. Leukotrienes received their name because of their origin in leukocytes and their conjugated triene structure. They are potent bronchoconstrictors and play an important role in hypersensitivity reactions.

(a) **Thromboxane B_2**. A vasoconstrictor, a bronchoconstrictor and an inducer of blood platelet aggregation.

(b) **Leukotriene C_4**. Found to be 100 to 1,000 times more potent than histamine or prostaglandins in their effects on pulmonary air passages.

(D) OTHER HORMONES

Classified here are other hormones whose structure differs from that of the hormones referred to above. An example is **melatonin**, which is found in the pineal gland and can be considered to be a derivative of indol. Other hormones classified here are the following :

(1) Catecholamine hormones, their derivatives and structural analogues.

This group of hormones includes those found in the medullar zone of the adrenal glands.

(a) **Epinephrine** (INN) (adrenaline or (-)-3,4-dihydroxy-a-[(methylamino)methyl]benzyl alcohol) and **racepinephrine** (INN) ((±)-3,4-dihydroxy-a-[(methylamino)methyl]benzyl alcohol). The structure of both of these hormones corresponds to the chemical name 1-(3,4-dihydroxyphenyl)-2-methylaminoethanol. Epinephrine is a light brown or nearly white crystalline powder, affected by light; it is slightly soluble in water and organic solvents. It may be derived from the adrenal glands of horses, but is obtained mostly by synthesis. A hypertension hormone, it stimulates the sympathetic nervous system, increases the number of corpuscles and the sugar content in blood; it also has a strong vasoconstrictive action.

(b) **Norepinephrine** (INN) (levarterenol, noradrenaline or (-)-2-amino-1-(3,4-dihydroxyphenyl)ethanol). Norepinephrine occurs as white crystals, soluble in water. Its physiological activity is intermediate between that of adrenaline and of ephedrine.

(2) Amino-Acid Derivatives.

(a) **Levothyroxine** (INNM) and **DL-thyroxine** (3-[4-(4-hydroxy-3,5-diiodophenoxy)-3,5-diiodophenyl]alanine or 3,5,3',5'-tetraiodothyronine). Thyroxine is extracted from the thyroid gland or obtained by synthesis. It is an aromatic amino acid; it occurs as white or yellowish crystals, insoluble in water or in any of the common solvents. It increases the basic metabolic rate and oxygen consumption, acts on the sympathetic system, controls the action of proteins and fats and makes up any iodine deficiency in the organism; used to treat goitre and cretinism. The L-isomer is the active form. The sodium salt is a white powder, slightly soluble in water, with similar activity.

(b) **Liothyronine** (INN) and **rathyronine** (INN) (DL-3,5,3'-triiodothyronine) (3-[4-(4-hydroxy-3-iodophenoxy)-3,5-diiodophenyl]alanine). Triiodothyronine is also extracted from the thyroid gland; its physiological activity is greater than that of thyroxine.

EXCLUSIONS

The heading **excludes** :

(1) Products not having a hormonal effect, but having a hormone-like structure :

(a) Androst-5-ene-3a,17a-diol, androst-5-ene-3a,17b-diol (**heading 29.06**) and their diacetates (**heading 29.15**).

(b) Adrenalone (INN) (3',4'-dihydroxy-2-methylaminoacetophenone) (**heading 29.22**).

(c) The following products which are classified in **heading 29.22** :

(i) 2-Amino-1-(3,4-dihydroxyphenyl)butan-1-ol.

(ii) Corbadrine (INN) (2-amino-1-(3,4-dihydroxyphenyl)propan-1-ol, 3,4-dihydroxynorephedrine, homoarterenol).

(iii) Deoxyepinephrine (deoxyadrenaline,1-(3,4-dihydroxyphenyl)-2-methylaminoethane, epinin).

(iv) 3',4'-Dihydroxy-2-ethylaminoacetophenone (4-ethylaminoacetylcatechol).

(v) 1-(3,4-Dihydroxyphenyl)-2-methylaminopropan-1-ol (3,4-dihydroxyephedrine).

(vi) (±)-N-Methylepinephrine ((±)-1-(3,4-dihydroxyphenyl)-2-dimethylaminoethanol, methadrene, (±)-N-methyladrenaline).

(2) Products having a hormonal effect, but not having a hormone-like structure :

(a) Dienestrol (INN) (3,4-bis(*p*-hydroxyphenyl)hexa-2,4-diene) (**heading 29.07**).

(b) Hexestrol (INN) (3,4-bis(*p*-hydroxyphenyl)hexane) (**heading 29.07**).

(c) Diethylstilbestrol (INN) (*trans*-3,4-bis(*p*-hydroxyphenyl)hex-3-ene) (**heading 29.07**), its dimethyl ether (**heading 29.09**), its dipropionate (**heading 29.15**) and its furoate (**heading 29.32**).

(d) Clomifene (INN) (anti-oestrogen) (**heading 29.22**).

(e) Tamoxifen (INN) (anti-oestrogen) (**heading 29.22**).

(f) Flutamide (INN) (anti-androgen) (**heading 29.24**).

(g) Endothelin antagonists, such as darusentan (INN) (**heading 29.33**), atrasentan (INN) (**heading 29.34**) and sitaxentan (INN) (**heading 29.35**).

(3) Natural substances with hormonal effects, but which are not secreted in the bodies of humans or animals :

(a) Zearalenone, an anabolic agent (**heading 29.32**).

(b) Asperlicin, a cholecistoquinine antagonist (**heading 29.33**).

(4) The following products sometimes considered to be hormones but which have no real hormone activity :

(a) Cystine, cysteine (INN) and their hydrochlorides (**heading 29.30**).

(b) Methionine and its calcium salts (**heading 29.30**).

(c) Neurotransmitters and neuromodulators, such as sepranolone (INN) (**heading 29.14**), dopamine (**heading 29.22**), acetylcholine (**heading 29.23**), serotonin (5-hydroxytryptamine or 5-hydroxy-3-(ß-aminoethyl)indole) (**heading 29.33**), histamine (**heading 29.33**) and related products, such as their receptor agonists and antagonists.

(d) Leukemia-inhibiting factor (human) growth factor emfilermin (INN) (**heading 29.33**) and fibroblast growth factor repifermin (INN) (**heading 29.33**).

(e) NMDA (N-methyl-D-aspartic acid) receptor antagonists, such as lanicemine (INN) (heading 29.33) and nebostinel (INN) (**heading 29.24**).

(f) Heparin (**heading 30.01**).

(g) Modified immunological products (**heading 30.02**).

(5) Plant-growth regulators (e.g., phytohormones), natural or synthetic, which are classified :

(A) When unmixed and not put up for retail sale, according to their chemical composition, for instance :

(a) a-Naphthylacetic acid and its sodium salt (**heading 29.16**).

(b) 2,4-Dichlorophenoxyacetic acid (2,4-D), 2,4,5-T (ISO) (2,4,5-trichlorophenoxyacetic acid) and 4-chloro-2-methyl-phenoxyacetic acid (MCPA) (**heading 29.18**).

(c) b-Indolylacetic acid and its sodium salt (**heading 29.33**).

(B) When put up in forms or packings for retail sale or as preparations or articles, in **heading 38.08**.

(6) Antagonists of thromboxanes and leukotrienes, which are classified according to their structure (e.g., seratrodast (INN) (**heading 29.18**) and montelukast (INN) (**heading 29.33**)).

(7) Antagonists of tumor necrosis factor, such as ataquimast (INN) (**heading 29.33**).

(8) Immunological products of **heading 30.02**.

(9) Medicaments of **heading 30.03** or **30.04**, in particular, “Retard Insulin” (zinc-insulin, protamin-zinc insulin, globin-insulin, zinc-globin insulin, histone-insulin).

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Subheading Explanatory Note.

Subheadings 2937.11 to 2937.19

These subheadings include peptide hormones containing two or more amino acids.

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(*) If a name is used in the International Nonproprietary Names or the International Nonproprietary Names (Modified) for pharmaceutical substances published by the World Health Organization, this name is mentioned first and marked (INN) or (INNM), respectively.

2937.1

- Polypeptide hormones, protein hormones and glycoprotein hormones, their derivatives and structural analogues :

2937.11

-- Somatotropin, its derivatives and structural analogues

2937.12

-- Insulin and its salts

2937.19

-- Other

2937.2

- Steroidal hormones, their derivatives and structural analogues :

2937.21

-- Cortisone, hydrocortisone, prednisone (dehydrocortisone) and prednisolone (dehydrohydrocortisone)

2937.22

-- Halogenated derivatives of corticosteroidal hormones

2937.23

-- Oestrogens and progestogens

2937.29

-- Other

2937.50

- Prostaglandins, thromboxanes and leukotrienes, their derivatives and structural analogues

2937.90

- Other

Heading 2938

Glycosides, natural or reproduced by synthesis, and their salts, ethers, esters and other derivatives.

EXPLANATORY NOTES

GLYCOSIDES AND ALKALOIDS,

NATURAL OR REPRODUCED BY SYNTHESIS,

AND THEIR SALTS, ETHERS, ESTERS

AND OTHER DERIVATIVES

GENERAL

In this Sub-Chapter, the term “derivatives” refers to chemical compounds which could be obtained from a starting compound of the heading concerned and which retain the essential characteristics of the parent compound, including its basic structure.

29.38 - Glycosides, natural or reproduced by synthesis, and their salts, ethers, esters and other derivatives.

2938.10 - Rutoside (rutin) and its derivatives

2938.90 - Other

Glycosides occur mainly in the vegetable kingdom. Usually, under the action of acids, bases or enzymes, they are split into a sugar part and a non-sugar part (aglycone). These parts are bonded to each other via the anomeric carbon atom of the sugar. Thus, products such as vacciniin and hamamelitannin of heading 29.40 are not considered to be glycosides.

The most common naturally-occurring glycosides are the O-glycosides, in which the sugar moiety and aglycone normally are linked by an acetal function. However, there are also naturally-occurring N-glycosides, S-glycosides and C-glycosides, in which the sugar’s anomeric carbon is linked to the aglycone via a nitrogen atom, a sulphur atom or a carbon atom, respectively (e.g., casimiroedine (an N-glycoside) sinigrin (an S-glycoside) and aloin (a C-glycoside)). The aglycone is sometimes linked to the sugar by an ester group.

Glycosides are generally solid, colourless compounds; they form the reserve substances in vegetable organisms, or act as stimulants. Many are used for therapeutic purposes.

(1) **Rutoside** (rutin)*, found in many plants, especially the buckwheat plant (*Fagopyrum esculentum Moench.*, *Polygonaceae*) which contains about 3 % (dry basis).

(2) **Digitalis glycosides**, present in plants of the *Digitalis* genus (e.g., *D*. *lanata*, *D*. *purpurea*). Certain are important in medicine as heart stimulants. The group includes **digitoxin**, white crystalline powder, odourless, very toxic; **digoxin**; and **digitonin**, a saponin of digitalis, used as a chemical reagent.

(3) **Glycyrrhizin and glycyrrhizates**, present in liquorice root; colourless crystals. Ammonium glycyrrhizate is a reddish-brown mass used in the preparation of drinks. Glycyrrhizates are also used in medicine.

(4) **Strophanthin**, glycosides found in many species of the *Strophanthus* genus; very efficacious heart stimulants. Several are known, including **ouabain** or **Strophanthin-G**, in colourless crystals; very toxic.

(5) **Saponins**, amorphous glycosides fairly abundant in the vegetable kingdom; sternutatory properties. Their aqueous solutions froth when shaken. Used in medicine, in the manufacture of detergents and in foam fire extinguishers.

(6) **Aloin**, present in the leaves of various species of aloe.

(7) **Amygdalin**, contained in bitter almonds and various fruit stones. Used as expectorant.

(8) **Arbutin**, contained in leaves of arbutus; used as a diuretic.

(9) **Sinigrin**, present in black mustard seeds and horse radish root. Used in medicine.

This heading also includes certain tannin derivatives of natural or synthetically-reproduced glycosides.

This heading also covers **natural mixtures** of glycosides and of their derivatives (e.g., a natural mixture of digitalis glycosides containing purpurea glycosides A and B, digitoxin, gitoxin, gitaloxin, etc.); but deliberate intermixtures or preparations are **excluded**.

This heading also **excludes** :

(1) Nucleosides and nucleotides (**heading 29.34**).

(2) Alkaloids (e.g., tomatine) (**heading 29.39**).

(3) Non-natural glycosides (other than products of heading 29.37 or 29.39) in which the glycosidic linkage is an acetal function formed by etherification at the anomeric carbon (tribenoside (INN)) (**heading 29.40**).

(4) Antibiotics (e.g., toyocamycin) (**heading 29.41**).

2938.10

- Rutoside (rutin) and its derivatives

2938.90

- Other

Heading 2939

Alkaloids, natural or reproduced by synthesis, and their salts, ethers, esters and other derivatives.

EXPLANATORY NOTES

29.39 - Alkaloids, natural or reproduced by synthesis, and their salts, ethers, esters and other derivatives.

- Alkaloids of opium and their derivatives; salts thereof :

2939.11 - - Concentrates of poppy straw; buprenorphine (INN), codeine, dihydrocodeine (INN), ethylmorphine, etorphine (INN), heroin, hydrocodone (INN), hydromorphone

(INN), morphine, nicomorphine (INN), oxycodone (INN), oxymorphone (INN), pholcodine (INN), thebacon (INN) and thebaine; salts thereof

2939.19 - - Other

2939.20 - Alkaloids of cinchona and their derivatives; salts thereof

2939.30 - Caffeine and its salts

- Alkaloids of ephedra and their derivatives; salts thereof :

2939.41 - - Ephedrine and its salts

2939.42 - - Pseudoephedrine (INN) and its salts

2939.43 - - Cathine (INN) and its salts

2939.44 - - Norephedrine and its salts

2939.45 - - Levometamfetamine, metamfetamine (INN), metamfetamine racemate and their salts

2939.49 - - Other

- Theophylline and aminophylline (theophylline-ethylenediamine) and their derivatives; salts thereof :

2939.51 - - Fenetylline (INN) and its salts

2939.59 - - Other

- Alkaloids of rye ergot and their derivatives; salts thereof :

2939.61 - - Ergometrine (INN) and its salts

2939.62 - - Ergotamine (INN) and its salts

2939.63 - - Lysergic acid and its salts

2939.69 - - Other

- Other, of vegetal origin :

2939.72 - - Cocaine, ecgonine; salts, esters and other derivatives thereof

2939.79 - - Other

2939.80 - Other

These alkaloids are complex organic bases; they have a strong physiological action. Some are obtained by synthesis. They are all more or less poisonous.

This heading covers **unmixed** alkaloids and **natural mixtures** of alkaloids (e.g., **veratrine** or the total alkaloids of opium); but deliberate intermixtures or preparations are **excluded**. The heading also **excludes** saps and vegetable extracts, such as dried saps of opium (**heading 13.02**).

This heading includes hydrogenated, dehydrogenated, oxygenated and deoxygenated alkaloid derivatives and, in general, any alkaloid derivative the structure of which is to a large extent the same as that of the natural alkaloid from which it is obtained.

(A) ALKALOIDS OF OPIUM AND THEIR DERIVATIVES; SALTS THEREOF

(1) **Morphine***, present in opium; colourless crystals; a powerful narcotic; very poisonous.

(2) **Dihydromorphine, desomorphine** (INN) (dihydrodeoxymorphine), **hydromorphone** (INN) (dihydromorphinone) and **metopon** (INN) (5-methyldihydromorphinone).

(3) **Diacetylmorphine** (heroin), crystalline white powder; used as a sedative in place of codeine and morphine.

(4) **Ethylmorphine**, crystalline white powder, odourless; used internally as a hypnotic and analgesic, externally as a local anaesthetic.

(5) **Codeine** (methylmorphine, monomethyl ether of morphine). Present in opium together with morphine. Crystals; used as a sedative in replacement of morphine.

(6) **Dihydrocodeine** (INN), **hydrocodone** (INN) (dihydrocodeinone), **oxycodone** (INN) (dihydrohydroxycodeinone).

(7) **Narceine**, secondary alkaloid in opium; crystals; a hypnotic and an analgesic.

(8) **Noscapine** (INN) (narcotine), secondary alkaloid in opium; crystals; less potent than morphine and only slightly toxic.

(9) **Cotarnine and hydrocotarnine**, derived from narcotine.

(10) **Papaverine**, secondary alkaloid in opium; crystals; narcotic and sedative action, but less intense than that of morphine.

(11) **Ethaverine hydrochloride** (INNM)(1-(3,4-diethoxybenzyl)-6,7-diethoxyisoquinoline hydrochloride).

(12) **Thebaine**, secondary alkaloid in opium; crystals; odourless; toxic.

(13) **Concentrates of poppy straw**. A natural mixture of alkaloids obtained from parts of the poppy plant (*Papaver somniferum*) by extraction, followed by purification, and containing not less than 50 % by weight of alkaloids.

Derivatives of the alkaloids of opium are classified in this heading provided they retain the epoxy-bridged morphine structure, whether or not hydrogenated.

(B) ALKALOIDS OF CINCHONA AND THEIR DERIVATIVES; SALTS THEREOF

(1) **Quinine***, present in the bark of various plants of the *Cinchona* genus, particularly *Cinchona officinalis*, *Cinchona calisaya* and *Cinchona succirubra*. Crystalline white powder. Quinine and its salts have a paralysing effect on the protoplasm of protozoa present in the blood, so they are used as febrifuges (antipyretics) and antimalarials.

(2) **Quinidine**. Contained in the bark of plants of the *Cinchona* genus. Crystals; may be extracted from the mother-liquors of quinine sulphate.

(3) **Cinchonine**, ranks second in importance to quinine among the alkaloids contained in *Cinchona* bark; crystals.

(4) **Cinchonidine**, found in *Cinchona* bark; crystals.

(5) **Quinine tannate**.

(C) CAFFEINE AND ITS SALTS*

Caffeine, extracted from coffee beans, tea and cola nuts; or obtained by synthesis. Silky crystals; used in medicine.

(D) ALKALOIDS OF EPHEDRA AND THEIR DERIVATIVES; SALTS THEREOF

Alkaloids of ephedra cover alkaloids contained in ephedra species and also obtained synthetically.

(1) **Ephedrine***, contained in *Ephedra vulgaris* and also obtained synthetically; colourless crystals; used in medicine.

(2) **Pseudoephedrine** (INN).

(3) **Cathine** (INN) (**Norpseudoephedrine**).

(4) **Norephedrine**.

(5) **Methylephedrine**.

(6) **Methylpseudoephedrine.**

(7) Derivatives of alkaloids of ephedra, e.g. : **levometamfetamine**, **metamfetamine** (INN), **metamfetamine racemate**, **etafedrine** (INN).

(E) THEOPHYLLINE AND AMINOPHYLLINE (THEOPHYLLINE-ETHYLENEDIAMINE) AND THEIR DERIVATIVES; SALTS THEREOF

Theophylline*, present in tea, but is also obtained synthetically. Crystals, often used as a diuretic, as is also aminophylline (theophylline-ethylenediamine).

(F) ALKALOIDS OF RYE ERGOT AND THEIR DERIVATIVES; SALTS THEREOF

(1) **Ergometrine** (INN) (9,10-didehydro-N-[(S)-2-hydroxy-1-methylethyl]-6-methylergoline-8*β*-carboxamide) (ergonovine). Tetrahedral or fine needle crystals. Used as an oxytocic and as a precursor in the production of lysergide (INN) (see the list of precursors at the end of Chapter 29). An important derivative is ergometrine maleate; this is also known as ergonovine maleate.

(2) **Ergotamine** (INN) (12'-hydroxy-2'-methyl-5'α-(phenylmethyl) ergotaman-3',6',18-trione). Used as a vasoconstrictor and as a precursor in the production of lysergide (INN) (see the list of precursors at the end of Chapter 29). Its principal derivatives include ergotamine succinate and ergotamine tartrate.

(3) **Lysergic acid** (9,10-didehydro-6-methylergoline-8-carboxylic acid). Prepared from the alkaline hydrolysis of ergot alkaloids. Also produced from *Claviceps paspali*. Crystals are in the form of hexagonal plates or scales. Used as a psychomimetic and as a precursor in the production of lysergide (INN) (see list of precursors at the end of Chapter 29).

(4) Other **ergot alkaloids**, e.g., ergosine, ergocristine, ergocryptine, ergocornine and methylergometrine.

(G) NICOTINE AND ITS SALTS

Nicotine*, alkaloid present in tobacco leaves; can also be obtained by synthesis. Colourless liquid which turns brown when exposed to air; has a characteristic, penetrating odour. A strong base, toxic, forms crystalline salts; used as a fungicide and insecticide for plants.

(H) OTHER ALKALOIDS OF VEGETAL ORIGIN AND THEIR DERIVATIVES AND SALTS

(1) **Arecoline**, alkaloid present in betel-nut (areca-nut).

(2) **Aconitine**, one of the most violent poisons known; extracted from the dried roots of *Aconitus napellus*. Used in medicine as a powerful sedative.

(3) **Physostigmine** (eserine). Occurs in Calabar-beans; colourless crystals which turn reddish-yellow when exposed to air; used in medicine.

(4) **Pilocarpine**, principal alkaloid in *Pilocarpus jaborandi*; colourless mass which turns brown when exposed to air. Pilocarpine and its salts are used in medicine (to provoke perspiration) and by oculists; also used in the preparation of hair-growing lotions.

(5) **Sparteine**, alkaloid present in broom; colourless liquid. Sparteine sulphate is used as a heart stimulant.

(6) **Atropine**, obtained chiefly from *Datura stramonium*; also obtained synthetically; crystals; a violent poison which dilates the pupil of the eye.

(7) **Homatropine**, colourless crystals; it has the same chemical and physiological action as atropine.

(8) **Hyoscyamine**, the principal alkaloid present in *Atropa belladonna* and in numerous plants of the *Hyoscyamus* genus. Colourless crystals; highly toxic. Its salts (e.g., the sulphate and hydrobromide) are used in medicine.

(9) **Scopolamine** (hyoscine), present in many plants of the *Datura* genus; colourless syrupy liquid or colourless crystals. Its salts (e.g., the hydrobromide and the sulphate) are crystalline; used in medicine.

(10) **Colchicine**, found in the plant *Colchicum autumnale*. Gummy mass, yellow powder, crystals or flakes; used in medicine; very toxic.

(11) **Veratrine**, a natural mixture of alkaloids extracted from sabadilla seeds; amorphous white powder; hygroscopic, irritant and highly sternutatory; toxic; used in medicine.

(12) **Cevadine**, corresponds to crystallised veratrine.

(13) **Cocaine**, crystals; extracted from the leaves of several varieties of coca, especially *Erythroxylum coca*; also obtained synthetically. The crude cocaine on the market is never pure, but contains from 80 % to 94 % of cocaine; in that form, it remains classified here. The aqueous solution of cocaine gives an alkaline reaction; it forms numerous salts; a powerful anaesthetic.

(14) **Emetine**, present in the roots of *Uragoga ipecacuanha*. Amorphous white powder which turns yellow when exposed to light; used as an expectorant and as an emetic; its salts are used against amoebean dysentery.

(15) **Strychnine**, extracted from various plants of the *Strychnos* genus (nux vomica, St. Ignatius' beans). Silky crystals; a violent poison. Forms crystalline salts, used in medicine.

(16) **Theobromine**, extracted from cocoa and also obtained synthetically. Crystalline white powder, used in medicine as a diuretic and heart stimulant.

(17) **Piperine**, extracted from the *Piper nigrum*; crystals.

(18) **Coniine**, present in the conium (hemlock), and also obtained synthetically. Colourless oily liquid with a penetrating odour; violent poison; used in medicine.

(19) **Curarine**, extracted from curare; used in medicine.

(20) **Porphyrine** (alkaloid).

(21) **Tomatine**.

(22) **Alkaloid tannates** (chelidonine tannate, colchicine tannate, pelletierine tannate, etc.).

(23) **Hydrastine**.

(24) **Hydrastinine**.

(25) **Hydrohydrastinine**.

(26) **Oxohydrastinine**.

(27) **Tropine** (tropan-3-ol).

(28) **Tropinone**.

(29) **Cephaeline**.

(IJ) OTHER ALKALOIDS OF NON VEGETAL ORIGIN

Non vegetal alkaloids are found in certain types of fungi, such as psilocybin in the fungus of the genus Psilocybe, and in animals, such as bufotenin in the skin of some toads. Many marine organisms also contain alkaloids.

(1) **Fungal Alkaloids** : Viridicatin* (*Penicillium viridicatum*); Rugulovasine A (*penicillium alkaloid*), sporidesmin A (a toxin which causes pithomycotoxicosis in animals); cytochalasin b; teleocidin B4 (indole alkaloid tumor promotor); penitrem D (tremorgenic mycotoxin); roquefortine (blue cheese).

(2) **Animal Alkaloids** : Histrionicotoxin* (South American poison dart frog spiro piperidine); samandarine; epibatidine; Castoramine and muscopyridine (isolated from the musk deer and the Canadian beaver).

(3) **Insect Alkaloids** : Coccinelline* Subcoccinella 7-punctata (7-spotted ladybird); 2-isopropyl-3-methoxypyrazine (*Harmonia axyridis* (multicolored Asian Lady Beetle)); danaidone (African Monarch butterfly pheromone); glomerine (European millipede); epilachnene (Mexican bean beetle); polyazamacrolide Subcoccinella 24-punctata (24-spotted ladybird).

(4) **Marine Alkaloids** : Varacin* (sea squirt); manzamine (Okinawan sponge); convolutamine D (moss animal); tetrodotoxin (Japanese puffer fish); Eudistomin (isolated mainly from marine tunicates of the genus *Eudistoma).*

(5) **Bacterial Alkaloids :** Very rare in nature. Procyanine*.

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* *

Certain substances of this heading, which are regarded as narcotic drugs or as psychotropic substances under international instruments, are indicated in the list appearing at the end of Chapter 29.

2939.1

- Alkaloids of opium and their derivatives; salts thereof :
2939.11

-- Concentrates of poppy straw; buprenorphine (INN), codeine, dihydrocodeine (INN), ethylmorphine, etorphine (INN), heroin, hydrocodone (INN), hydromorphone (INN), morphine, nicomorphine (INN), oxycodone (INN), oxymorphone (INN), pholcodine (INN), thebacon (INN) and thebaine; salts thereof
2939.19

-- Other
2939.20

- Alkaloids of cinchona and their derivatives; salts thereof
2939.30

- Caffeine and its salts
2939.4

- Alkaloids of ephedra and their derivatives; salts thereof :
2939.41

-- Ephedrine and its salts
2939.42

-- Pseudoephedrine (INN) and its salts
2939.43

-- Cathine (INN) and its salts
2939.44

-- Norephedrine and its salts
2939.45

-- Levometamfetamine, metamfetamine (INN), metamfetamine racemate and their salts
2939.49

-- Other
2939.5

- Theophylline and aminophylline (theophylline-ethylenediamine) and their derivatives; salts thereof :
2939.51

-- Fenetylline (INN) and its salts
2939.59

-- Other
2939.6

- Alkaloids of rye ergot and their derivatives; salts thereof :
2939.61

-- Ergometrine (INN) and its salts
2939.62

-- Ergotamine (INN) and its salts
2939.63

-- Lysergic acid and its salts
2939.69

-- Other
2939.7

- Other, of vegetal origin :

2939.72

-- Cocaine, ecgonine; salts, esters and other derivatives thereof

2939.79

-- Other

2939.80

- Other

Heading 2940

Sugars, chemically pure, other than sucrose, lactose, maltose, glucose and fructose; sugar ethers, sugar acetals and sugar esters, and their salts, other than products of heading 29.37, 29.38 or 29.39.

EXPLANATORY NOTES

2940.00

Sugars, chemically pure, other than sucrose, lactose, maltose, glucose and fructose; sugar ethers, sugar acetals and sugar esters, and their salts, other than products of heading 29.37, 29.38 or 29.39.

Sub-Chapter XIII

OTHER ORGANIC COMPOUNDS

29.40 - Sugars, chemically pure, other than sucrose, lactose, maltose, glucose and fructose; sugar ethers, sugar acetals and sugar esters, and their salts, other than products of heading 29.37, 29.38 or 29.39.

(A) SUGARS, CHEMICALLY PURE

This heading covers **only chemically pure** sugars. The term "sugars" covers monosaccharides, disaccharides and oligosaccharides. Each saccharide unit must consist of at least four, but not more than eight, carbon atoms and, as a minimum, must contain a potential reducing carbonyl group (aldehydic or ketonic) **and** at least one asymmetric carbon atom bearing a hydroxyl group and a hydrogen atom. The heading **excludes** :

a) Sucrose, this, **even when chemically pure**, falls in **heading 17.01**.

b) Glucose and lactose; these, **even when chemically pure**, fall in **heading 17.02**.

c) Maltose which, **even when chemically pure**, falls in **heading 17.02**. Isomeric with sucrose. Crystalline mass. Used in medicine.

d) Fructose (laevulose) which, **even when chemically pure**, falls in **heading 17.02**. Isomeric with glucose. Yellowish crystals in the pure state. Used in medicine (for diabetic diets).

e) Aldol (**heading 29.12**) and acetoin (3-hydroxy-2-butanone) (**heading 29.14**), which, though they meet the criteria for being saccharide units, are not sugars.

The following are included among the chemically pure sugars falling under this heading :

(1) **Galactose***. Isomeric with glucose. Obtained by hydrolysing lactose. Found in pectin substances and mucilages. Crystalline when pure.

(2) **Sorbose** (sorbenose). Isomeric with glucose. White crystalline powder, very soluble in water. Used in the synthesis of ascorbic acid (vitamin C), and in the preparation of culture media.

(3) **Xylose** (wood sugar) ($C_5H_{10}O_5$). White crystals. Used in pharmacy.

(4) **Trehalose**, isomeric with sucrose. **Ribose** and **arabinose**, isomeric with xylose. **Raffinose** ($C_{18}H_{32}O_{16}$). **Fucose**, **rhamnose** ($C_6H_{12}O_5$), **digitoxose** ($C_6H_{12}O_4$) and other deoxy sugars. These sugars are all essentially laboratory products.

The sugars of this heading may be in the form of aqueous solutions.

(B) SUGAR ETHERS, SUGAR ACETALS AND SUGAR ESTERS, AND THEIR SALTS

Heading 29.40 also covers sugar ethers, sugar acetals and sugar esters, as well as their salts. Sugar acetals may be formed between any two hydroxy groups of the sugar, or at the anomeric carbon to give a glycoside. However, natural glycosides **are excluded (heading 29.38)**. Sugar ethers, acetals and esters which are constituent parts of products of headings 29.37, 29.38, 29.39 or any heading later than heading 29.40 are also **excluded** (see General Explanatory Note to this Chapter, Part (E)).

These products, which fall in the heading **whether or not they are chemically defined**, include :

(1) **Hydroxypropyl sucrose***. A sugar ether.

(2) **Phosphoric esters of sugars** (e.g., glucose and fructose phosphates) **and their salts** (e.g., their barium, potassium, etc. salts). They are crystalline or amorphous powders, and are used in organic synthesis.

(3) **Sucrose octa-acetate**. White hygroscopic powder. Used as an alcohol denaturant, in preparing adhesives, plasticisers and insecticides, in the paper industry and as a textile stiffener.

(4) **Sucrose mono-acetate**. Has surface-active properties.

(5) **Sucrose acetate isobutyrate**. Used as a modifying agent in varnishes.

(6) **Lactitol** (INN) (4-O-ß-D-galactopyranosyl-D-glucitol). Used as a sweetening agent.

(7) **Non-natural glycosides** (**other than** products of **heading 29.37, 29.38** or **29.39**) in which the glycosidic linkage is an acetal function formed by etherification at the anomeric carbon atom (e.g., tribenoside (INN)).

This heading, however, **does not cover** deliberate intermixtures of sugar ethers, sugar acetals, sugar esters or their salts, **nor does it cover** products which have been deliberately prepared or manufactured from starting materials in which the non-sugar components are mixtures, e.g., sugar esters made from fatty acids of heading 38.23. In addition, the heading **excludes** sugar anhydrides, thio sugars, amino sugars, uronic acids and other sugar derivatives, which generally are classifiable elsewhere in Chapter 29, according to their chemical structure.

Heading 2941

Antibiotics.

EXPLANATORY NOTES

29.41 - Antibiotics(+).

2941.10 - Penicillins and their derivatives with a penicillanic acid structure; salts thereof

2941.20 - Streptomycins and their derivatives; salts thereof

2941.30 - Tetracyclines and their derivatives; salts thereof

2941.40 - Chloramphenicol and its derivatives; salts thereof

2941.50 - Erythromycin and its derivatives; salts thereof

2941.90 - Other

Antibiotics are substances secreted by living micro-organisms which have the effect of killing other micro-organisms or inhibiting their growth. They are used principally for their powerful inhibitory effect on pathogenic micro-organisms, particularly bacteria or fungi, or in some cases on neoplasms. They can be effective at a concentration of a few micrograms per ml in the blood.

Antibiotics may consist of a single substance or a group of related substances, their chemical structure may or may not be known or be chemically defined. They are chemically diverse and include the following :

(1) **Heterocyclic**, e.g., novobiocin, cephalosporins, streptothricin, faropenem (INN), doripenem (INN), monobactams (e.g., aztreonam (INN)). The most important of this class are the **penicillins*** which are secreted by several species of the fungus *Penicillium*. This class also includes procaine penicillin.

(2) **Sugar-related**, e.g., streptomycins*.

(3) **Tetracyclines** and their derivatives, e.g., chlortetracycline (INN), oxytetracycline (INN)*.

(4) **Chloramphenicol** and its derivatives, e.g., thiamphenicol and florfenicol.

(5) **Macrolides**, e.g., erythromycin*, amphotericin B, tylosin.

(6) **Polypeptides**, e.g., actinomycins, bacitracin, gramicidins, tyrocidin.

(7) **Other antibiotics**, e.g., sarkomycin, vancomycin.

This heading also includes chemically modified antibiotics used as such. These may be prepared by isolating ingredients produced by natural growth of the micro-organism and then modifying the structure by chemical reaction or by adding sidechain precursors to the growth-medium so that desired groups are incorporated into the molecule by the cell-processes (semi-synthetic penicillins); or by bio-synthesis (e.g., penicillins from selected amino-acids).

Natural antibiotics reproduced by synthesis (e.g., chloramphenicol) are classified in this heading, as are certain synthetic products closely related to natural antibiotics and used as such (e.g., thiamphenicol).

In this heading, the term “derivatives” refers to active antibiotic compounds which could be obtained from a compound of this heading and which retain the essential characteristics of the parent compound, including its basic chemical structure.

This heading **does not cover** :

(a) Antibiotic preparations of a kind used in animal feeding (e.g. dried and standardised complete mycelium) (**heading 23.09**).

(b) Chemically defined organic compounds with a very low antibiotic activity, used as intermediates in the manufacture of antibiotics (**earlier headings of this Chapter according to structure**).

(c) Quinolinecarboxylic acid derivatives, nitrofurans, sulphonamides and other chemically defined organic compounds of **earlier headings of this Chapter** having antibacterial action.

(d) Deliberate intermixtures of antibiotics (e.g., a mixture of penicillin and streptomycin) for therapeutic or prophylactic uses (**heading 30.03** or**30.04**).

(e) Intermediate products obtained during the manufacture of antibiotics by filtering and first-stage extraction, with an antibiotic content generally not exceeding 70 % (**heading 38.24**).

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° °

Subheading Explanatory Notes.

Subheading 2941.10

This subheading includes all penicillins, that is, all active antibiotic compounds whose molecules contain the penin or 6-aminopenicillanic acid skeleton of a ß-lactam of amino-(4-carboxy-5,5-dimethylthiazolidin-2-yl)acetic acid, in which the amine group of the lactam ring is attached to organic acids by an amide bond. Neither the structure of these organic acids, nor the salt formation or other substitutions on the carboxyl group of the thiazolidine ring, affect the classification. However, the basic structure of penin (skeleton) should remain unmodified.

This subheading includes, *inter alia*, ampicillin (INN), amoxicillin (INN) and talampicillin (INN).

However, this subheading **excludes** other antibiotics containing a beta-lactam ring such as cephalosporins (e.g., cefazolin (INN), cefaclor (INN)), cephamycins (e.g., cefoxitin (INN)), oxacephems, penems, carbapenems, etc.

Subheading 2941.20

Streptomycin derivatives are active antibiotics whose molecules contain in their structure all the three following constituents of the streptomycin skeleton : streptidine and methylglucosamine linked to 5-deoxylyxose. Esters in any position and glycosides are also considered as derivatives*.

This subheading includes, *inter alia*, dihydrostreptomycin (INN) and streptoniazid (INN). However, neitherbluensomycin (INN) which does not retain the two amidino groups of streptidine, nor other aminoglycosides containing derivatives of streptamine, such as neomycin (INN), are regarded as streptomycin derivatives.

Subheading 2941.30

Tetracycline derivatives are active antibiotics whose molecules contain partially hydrogenated 4-dimethylamino-naphthacene-2-carboxamide of the tetracycline skeleton. Esters are also considered as derivatives*.

This subheading includes, *inter alia*, chlortetracycline (INN), eravacycline (INN) and rolitetracycline (INN). However, anthracyclines of the “rubicin” type, such as aclarubicin (INN) and doxorubicin (INN), are not regarded as tetracycline derivatives.

Subheading 2941.40

Chloramphenicolderivatives are active antibiotics whose molecules contain N-(2-hydroxy-1-methyl-2-phenethyl)acetamide of the chloramphenicol skeleton*.

This subheading includes, *inter alia*, thiamphenicol (INN) and florfenicol (INN). However, cetofenicol (INN) does not belong to this group because it is not antibiotically active.

Subheading 2941.50

Erythromycin derivatives are active antibiotics whose molecules contain the following constituents of the erythromycin skeleton : 13-ethyl-13-tridecanolide with linked desosamine and mycarose (or cladinose). Esters are also considered as derivatives*.

This subheading includes, *inter alia*, clarithromycin (INN) and dirithromycin (INN). However, azithromycin (INN) which contains a 15-atom central ring and picromycin which contains no cladinose or mycarose, are not regarded as erythromycin derivatives.

2941.10

- Penicillins and their derivatives with a penicillanic acid structure; salts thereof

2941.20

- Streptomycins and their derivatives; salts thereof

2941.30

- Tetracyclines and their derivatives; salts thereof

2941.40

- Chloramphenicol and its derivatives; salts thereof

2941.50

- Erythromycin and its derivatives; salts thereof

2941.90

- Other

Heading 2942

Other organic compounds.

EXPLANATORY NOTES

29.42 - Other organic compounds.

This heading covers separate chemically defined organic compounds **not classified elsewhere**.

(1) **Ketenes***. Like ketones, these are characterised by a carbonyl group (>C=O) but it is linked to the neighbouring carbon atom by a double bond (e.g., ketene, diphenylketene).

This heading however **excludes** diketene which is a lactone of **heading 29.32**.

(2) **Boron trifluoride complexes with acetic acid, diethyl ether or phenol***.

(3) **Dithymol di-iodide**.

LIST

OF NARCOTIC DRUGS AND PSYCHOTROPIC SUBSTANCES ARRANGED IN ALPHABETICAL ORDER BY TYPE OF DRUG

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol**

Name	HS subheading	CAS No.	Convention Schedule No
Acetorphine (INN)	2939.19	25333-77-1	4
Acetorphine hydrochloride	2939.19	25333-78-2	4
Acetyldihydrocodeine	2939.19	3861-72-1	2

Acetyldihydrocodeine hydrochloride	2939.19		2
Acetylfentanyl	2933.34	3258-84-2	1
Acetylmethadol (INN)	2922.19	509-74-0	1
Acetyl-a-methylfentanyl	2933.34	101860-00-8	1
Acetylmorphine	2939.19		1
3-Acetylmorphine	2939.19		1
6-Acetylmorphine	2939.19	2784-73-8	1
Acryloylfentanyl	2933.34	82003-75-6	1
AH-7921	2924.29		1
Alfentanil (INN)	2933.33	71195-58-9	1
Alfentanil hydrochloride	2933.33	69049-06-5	1
Allylprodine (INN)	2933.39	25384-17-2	1
Allylprodine hydrochloride	2933.39		1
Alphacetylmethadol (INN)	2922.19	17199-58-5	1

L-Alphacetylmethadol	2922.19		
Alphacetylmethadol hydrochloride	2922.19		1
Alphameprodine (INN)	2933.39	468-51-9	1
Alphamethadol (INN)	2922.19	17199-54-1	1
Alphaprodine (INN)	2933.39	77-20-3	1
Alphaprodine hydrochloride	2933.39	561-78-4	1
Anileridine (INN)	2933.33	144-14-9	1
Anileridine dihydrochloride	2933.33	126-12-5	1
Anileridine phosphate	2933.39	4268-37-5	1
Benzethidine (INN)	2933.39	3691-78-9	1
Benzethidine hydrobromide	2933.39		1
Benzethidine hydrochloride	2933.39		1
Benzoylmorphine	2939.19		1
Benzylmorphine	2939.19	14297-87-1	1
Benzylmorphine hydrochloride	2939.19	630-86-4	1
Benzylmorphine mesilate	2939.19		1

Betacetylmethadol (INN)	2922.19	17199-59-6	1
Betameprodine (INN)	2933.39	468-50-8	1
Betamethadol (INN)	2922.19	17199-55-2	1
Betaprodine (INN)	2933.39	468-59-7	1
Betaprodine hydrochloride	2933.39		1
Bezitramide (INN)	2933.33	15301-48-1	1
Bezitramide hydrochloride	2933.33		1
Butyrfentanyl	2933.34	1169-70-6	1
Cannabis	1211.90		4
Cannabis extracts and tinctures	1302.19		
Cannabis oil	1302.19		
Cannabis resin	1301.90		
Carfentanil (INN)	2933.33	59708-52-0	1
Clonitazene (INN)	2933.99	3861-76-5	1
Clonitazene hydrochloride	2933.99		1

Clonitazene mesilate	2933.99		1
Coca leaf	1211.30		
Cocaine	2939.72	50-36-2	1
d-Cocaine	2939.72	478-73-9	1
Cocaine benzoate	2939.72		1
Cocaine borate	2939.72		1
Cocaine citrate	2939.72		1
Cocaine formate	2939.72		1
Cocaine hydriodide	2939.72		1
Cocaine hydrobromide	2939.72		1

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Cocaine hydrochloride	2939.72	53-21-4	1
Cocaine lactate	2939.72		1
Cocaine nitrate	2939.72	5913-62-2	1
Cocaine salicylate	2939.72	5913-64-4	1

Cocaine sulfate	2939.72		1
Cocaine tartrate	2939.72		1
Codeine	2939.11	76-57-3	2
Codeine acetate	2939.11		2
Codeine allobarbiturate	2939.11		2
Codeine barbiturate	2939.11		2
Codeine camphosulfonate	2939.11		2
Codeine citrate	2939.11	5913-73-5	2
Codeine cyclobarbiturate	2939.11		2
Codeine cyclopentobarbiturate	2939.11		2
Codeine 6-glucuronide	2939.19		2
Codeine hydrobromide	2939.11	125-25-7	2
Codeine hydrochloride	2939.11	1422-07-7	2
Codeine hydroiodide	2939.11	125-26-8	2
Codeine methylbromide	2939.19	125-27-9	2
Codeine phenobarbiturate	2939.11		2

Codeine phosphate	2939.11	52-28-8	2
Codeine resinate	3003.49		2
Codeine salicylate	2939.11		2
Codeine sulfate	2939.11	1420-53-7	2
Codeine-N-oxide	2939.19	3688-65-1	
Codeine-N-oxide hydrochloride	2939.19		
Codoxime (INN)	2939.19	7125-76-0	1
Concentrate of poppy straw	1302.11		1
	2939.11		
Cyclopropylfentanyl	2933.34	1169-68-2	1
Desomorphine (INN)	2939.19	427-00-9	4
Desomorphine hydrobromide	2939.19		4
Desomorphine hydrochloride	2939.19		4
Desomorphine sulfate	2939.19		4
Dextromoramide (INN)	2934.91	357-56-2	1
Dextromoramide dihydrochloride	2934.91		1

Dextromoramide hydrochloride	2934.91		1
Dextromoramide hydrogen tartrate (bitartrate)	2934.99	2922-44-3	1
Dextropropoxyphene (INN)	2922.14	469-62-5	2
Dextropropoxyphene hydrochloride	2922.14	1639-60-7	2
Napsilate	2922.19	17140-78-2	2
Dextropropoxyphene resinate	3003.90		2
Diampromide (INN)	2924.29	552-25-0	1
Diampromide sulfate	2924.29		1
Diethylthiambutene (INN)	2934.99	86-14-6	1

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Diethylthiambutene hydrochloride	2934.99	132-19-4	1
Difenoxin (INN)	2933.33	28782-42-5	1
Difenoxin hydrochloride	2933.33	35607-36-4	1
Dihydrocodeine (INN)	2939.11	125-28-0	2

Dihydrocodeine hydrochloride	2939.11		2
Dihydrocodeine hydrogen tartrate (bitartrate)	2939.11	5965-13-9	2
Dihydrocodeine phosphate	2939.11	24204-13-5	2
Dihydrocodeine resinate	3003.49		2
Dihydrocodeine thiocyanate	2939.11		2
Dihydroisomorphin	2939.19		
Dihydroisomorphin 6-glucuronide	2939.19		
Dihydromorphine	2939.19	509-60-4	2
Dihydromorphine hydriodide	2939.19		2
Dihydromorphine hydrochloride	2939.19	1421-28-9	2
Dihydromorphine picrate	2939.19		2
Dimenoxadol (INN)	2922.19	509-78-4	1
Dimenoxadol hydrochloride	2922.19	242-75-1	1
Dimepheptanol (INN)	2922.19	545-90-4	1
Dimepheptanol hydrochloride	2922.19		1
Dimethylthiambutene (INN)	2934.99	524-84-5	1

Dimethylthiambutene hydrochloride	2934.99		1
Dioxaphetyl butyrate (INN)	2934.99	467-86-7	1
Dioxaphetyl butyrate hydrochloride	2934.99		1
Diphenoxylate (INN)	2933.33	915-30-0	1
Diphenoxylate hydrochloride	2933.33	3810-80-8	1
Dipipanone (INN)	2933.33	467-83-4	1
Dipipanone hydrobromide	2933.33		1
Dipipanone hydrochloride	2933.33	75783-06-1	1
Drotebanol (INN)	2933.49	3176-03-2	1
Ecgonine, its esters and derivatives which are convertible to ecgonine and cocaine	2939.72	481-37-8	1
Ecgonine benzoylethyl ester	2939.72		1
Ecgonine benzoylpropyl ester	2939.72		1
Ecgonine cinnamoylmethyl ester	2939.72		1
Ecgonine 2,6-dimethyl-benzoylmethyl ester	2939.72		1
Ecgonine hydrochloride	2939.72		1
Ecgonine *m*-hydroxybenzoylester	2939.72		1

Ecgonine methyl ester	2939.72		1
Ecgonine methyl ester hydrochloride	2939.72		1
Ecgonine phenylacetyl-methyl ester	2939.72		1
Ethylmethylthiambutene (INN)	2934.99	441-61-2	1
Ethylmethylthiambutene hydrochloride	2934.99		1
Ethylmorphine	2939.11	76-58-4	2
Ethylmorphine camphosulfonate	2939.11		2
Ethylmorphine hydrobromide	2939.11		2
Ethylmorphine hydrochloride	2939.11	125-30-4	2
Ethylmorphine methyliodide	2939.19		2
Ethylmorphine phenobarbiturate	2939.11		2
Etonitazene (INN)	2933.99	911-65-9	1
Etonitazene hydrochloride	2933.99		1
Etorphine (INN)	2939.11	14521-96-1	4

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention

			Schedule No.
Etorphine hydrochloride	2939.11	13764-49-3	4
Etorphine 3-methyl ether	2939.19		4
Etoxeridine (INN)	2933.39	469-82-9	1
Etoxeridine hydrochloride	2933.39		1
Fentanyl (INN)	2933.33	437-38-7	1
Fentanyl citrate	2933.33	990-73-8	1
p-Fluorobutyrylfentanyl	2933.34	244195-31-1	1
o-Fluorofentanyl	2933.34	910616-29-4	1
p-Fluorofentanyl	2933.34		4
p-Fluorofentanyl hydrochloride	2933.34		4
4-Fluoroisobutyrfentanyl	2933.34	244195-32-2	1
Furanylfentanyl	2934.92	101345-66-8	1
Furethidine (INN)	2934.99	2385-81-1	1

Furethidine hydrobromide	2934.99		1
Furethidine methyliodide	2934.99		1
Furethidine picrate	2934.99		1
Heroin	2939.11	561-27-3	4
Heroin hydrochloride	2939.11	1502-95-0	4
Heroin methyliodide	2939.19		4
Hydrocodone (INN)	2939.11	125-29-1	1
Hydrocodone citrate	2939.11		1
Hydrocodone hydriodide	2939.11		1
Hydrocodone hydrochloride	2939.11	25968-91-6	1
Hydrocodone hydrogen tartrate (bitartrate)	2939.11	143-71-5	1
Hydrocodone methyliodide	2939.19		1
Hydrocodone phosphate	2939.11	34366-67-1	1
Hydrocodone resinate	3003.49		1
Hydrocodone terephthalate	2939.11		1
Hydromorphinol (INN)	2939.19	2183-56-4	1

Hydromorphinol hydrochloride	2939.19		1
Hydromorphinol hydrogen tartrate (bitartrate)	2939.19		1
Hydromorphone (INN)	2939.11	466-99-9	1
Hydromorphone hydrochloride	2939.11	71-68-1	1
Hydromorphone sulfate	2939.11		1
Hydromorphone terephthalate	2939.11		1
ß-Hydroxyfentanyl	2933.34		4
ß-Hydroxyfentanyl hydrochloride	2933.34		4
(+)-cis-ß-Hydroxy-3-m-methylfentanyl	2933.34		
ß-Hydroxy-3-methylfentanyl	2933.34		4
ß-Hydroxy-3-methylfentanyl hydrochloride	2933.34		4
Hydroxypethidine (INN)	2933.39	468-56-4	1
Hydroxypethidine hydrochloride	2933.39		1
Isomethadone (INN)	2922.39	466-40-0	1
d-Isomethadone	2922.39		
l-Isomethadone	2922.39		

Isomethadone hydrobromide	2922.39		1
Isomethadone hydrochloride	2922.39		1
Ketobemidone (INN)	2933.33	469-79-4	4
Ketobemidone hydrochloride	2933.33	5965-49-1	4
Levacetylmethadol (INN)	2922.19	34433-66-4	1
Levomethorphan (INN)(*)	2933.49	125-70-2	1
Levomethorphan hydrobromide	2933.49		1
Levomethorphan hydrogen tartrate (bitartrate)	2933.49		1
Levomoramide (INN)	2934.99	5666-11-5	1
Levomoramide dihydrochloride	2934.99		1
Levophenacylmorphan (INN)	2933.49	10061-32-2	1
Levophenacylmorphan hydrochloride	2933.49		1
Levophenacylmorphan methylsulfonate	2933.49		1
Levopropoxyphene (INN)	2922.19	2338-37-6	
Levorphanol (INN)(**)	2933.41	77-07-6	1

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Levorphanol hydrogen tartrate (bitartrate)	2933.41	125-72-4	1
Levorphanol hydrochloride	2933.41		1
Metazocine (INN)	2933.39	3734-52-9	1
Metazocine hydrobromide	2933.39		1
Metazocine hydrochloride	2933.39		1
l-Methadol	2922.19		
Methadone (INN)	2922.31	76-99-3	1
d-Methadone	2922.31		
l-Methadone	2922.31		1
Methadone hydrobromide	2922.31		1
Methadone hydrochloride	2922.31	1095-90-5	1
Methadone hydrogen tartrate (bitartrate)	2922.31		1
d-Methadone hydrochloride	2922.31		
l-Methadone hydrochloride	2922.31		

l-Methadone hydrogen tartrate (bitartrate)	2922.31		1
Methadone (INN) intermediate4-cyano-2-dimethylamino-4,4-diphenylbutane or 2-dimethylamino-4,4-diphenyl-4-cyanobutane	2926.30		1
Methoxyacetylfentanyl	2933.34	101345-67-9	1
Methyldesorphine (INN)	2939.19	16008-36-9	1
Methyldesorphine hydrochloride	2939.19		1
Methyldihydromorphine (INN)	2939.19	509-56-8	1
3-Methylfentanyl	2933.34		4
3-Methylfentanyl hydrochloride	2933.34		4
α-Methylfentanyl	2933.34		4
α-Methylfentanyl hydrochloride	2933.34		4
α-Methylthiofentanyl	2934.92		1
α-Methylthiofentanyl hydrochloride	2934.92		1
3-Methylthiofentanyl	2934.92		4
3-Methylthiofentanyl hydrochloride	2934.92		4
(+)-*cis*-3-Methylthiofentanyl	2934.92		4

(+)-*cis*-3-Methylthioentanyl-hydrochloride	2934.92		
Metopon (INN)	2939.19	143-52-2	1
Metopon hydrochloride	2939.19		1
Moramide intermediate	2934.99		1
Morpheridine (INN)	2934.99	469-81-8	1
Morpheridine dihydrochloride	2934.99		1
Morpheridine picrate	2934.99		1
Morphine	2939.11	57-27-2	1
Morphine acetate	2939.11	596-15-6	1
Morphine citrate	2939.11		1
Morphine 3,6-diglucuronide	2939.19		1
Morphine dimethyl ether	2939.19		
Morphine gluconate	2939.19		1
Morphine 3-glucuronide	2939.19		1
Morphine 3-glucuronide	2939.19		1
Morphine 6-glucuronide	2939.19		1

Morphine 3-β-D-glucuronide	2939.19		1
Morphine 6-β-D-glucuronide	2939.19		1
Morphine hydriodide	2939.11		1
Morphine hydrobromide	2939.11	630-81-9	1
Morphine hydrochloride	2939.11	52-26-6	1
Morphine hypophosphite	2939.11		1
Morphine isobutyrate	2939.11		1
Morphine lactate	2939.11		1
Morphine meconate	2939.11		1
Morphine methobromide	2939.19		1
Morphine methylbromide	2939.19		1
Morphine methylchoride	2939.19		1
Morphine methyliodide	2939.19		1
Morphine methylsulfonate	2939.11		1

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention

			Schedule No.
Morphine mucate	2939.11		1
Morphine nitrate	2939.11	596-16-7	1
Morphine phenylpropionate	2939.11		1
Morphine phosphate	2939.11		1
Morphine phthalate	2939.11		1
Morphine stearate	2939.11		1
Morphine sulfate	2939.11	64-31-3	1
Morphine tartrate	2939.11	302-31-8	1
Morphine valerate	2939.11		1
Morphine-N-oxide	2939.19	639-46-3	1
Morphine-N-oxide quinate	2939.19		1
MPPP	2933.39		4
MPPP hydrochloride	2933.39		4
MT-45	2933.59		1
Myrophine (INN)	2939.19	467-18-5	1

Myrophine hydrochloride	2939.19		1
Nicocodine (INN)	2939.19	3688-66-2	2
Nicocodine hydrochloride	2939.19		2
Nicodicodine (INN)	2939.19	808-24-2	2
Nicomorphine (INN)	2939.11	639-48-5	1
Nicomorphine hydrochloride	2939.11		1
Noracymethadol (INN)	2922.19	1477-39-0	1
Noracymethadol gluconate	2922.19		1
Noracymethadol hydrochloride	2922.19		1
Norcodeine (INN)	2939.19	467-15-2	2
Norcodeine acetate	2939.19		2
Norcodeine hydriodide	2939.19		2
Norcodeine hydrochloride	2939.19	14648-14-7	2
Norcodeine nitrate	2939.19		2
Norcodeine platinichloride	2843.90		2
Norcodeine sulfate	2939.19		2

Norlevorphanol (INN)	2933.49	1531-12-0	1
Norlevorphanol hydrobromide	2933.49		1
Norlevorphanol hydrochloride	2933.49		1
Normethadone (INN)	2922.31	467-85-6	1
Normethadone 2,6-di-tert-butylnaphthalenedisulfonate	2922.31		1
Normethadone hydrobromide	2922.31		1
Normethadone hydrochloride	2922.31	847-84-7	1
Normethadone methyliodide	2922.39		1
Normethadone oxalate	2922.31		1
Normethadone picrate	2922.31		1
Normethadone (INN) intermediate	2926.90		
Normorphine (INN)	2939.19	466-97-7	1
Normorphine hydrochloride	2939.19		1
Norpipanone (INN)	2933.39	561-48-8	1
Norpipanone hydrobromide	2933.39		1
Norpipanone hydrochloride	2933.39		1

Ocfentanil (INN)	2933.34	101343-69-5	1
Opium	1302.11		1

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Opium, mixed alkaloids of	1302.11(*)		
	2939.11(**)		
Opium, prepared	1302.19		
	2939.11		
Oripavine	2939.19		1
Oripavine hydrochloride	2939.19		1
Oxycodone (INN)	2939.11	76-42-6	1
Oxycodone camphosulfonate	2939.11		1
Oxycodone hydrochloride	2939.11	124-90-3	1
Oxycodone hydrogen tartrate (bitartrate)	2939.11		1
Oxycodone pectinate	2939.11		1

Oxycodone phenylpropionate	2939.11		1
Oxycodone phosphate	2939.11		1
Oxycodone terephthalate	2939.11		1
Oxymorphone (INN)	2939.11	76-41-5	1
Oxymorphone hydrochloride	2939.11	357-07-3	1
Papaver bracteatum	1211.90		
PEPAP	2933.39		4
PEPAP hydrochloride	2933.39		4
Pethidine (INN)	2933.33	57-42-1	1
Pethidine hydrochloride	2933.33	50-13-5	1
Pethidine (INN) intermediate A	2933.33		1
Pethidine (INN) intermediate B	2933.39		1
Pethidine intermediate B hydrobromide	2933.39		1
Pethidine intermediate B hydrochloride	2933.39		1
Pethidine (INN) intermediate C	2933.39		1
Phenadoxone (INN)	2934.99	467-84-5	1

Phenadoxone hydrochloride	2934.99	545-91-5	1
Phenampromide (INN)	2933.39	129-83-9	1
Phenampromide hydrochloride	2933.39		1
Phenazocine (INN)	2933.39	127-35-5	1
Phenazocine hydrobromide	2933.39		1
Phenazocine hydrochloride	2933.39	7303-75-5	1
Phenazocine mesilate	2933.39		1
Phenomorphan (INN)	2933.49	468-07-5	1
Phenomorphan hydrobromide	2933.49		1
Phenomorphan hydrogen tartrate (bitartrate)	2933.49		1
Phenomorphan methylbromide	2933.49		1
Phenoperidine (INN)	2933.33	562-26-5	1
Phenoperidine hydrochloride	2933.33	3627-49-4	1
Pholcodine (INN)	2939.11	509-67-1	2
Pholcodine hydrogen tartrate (bitartrate)	2939.11		2
Pholcodine citrate	2939.11		2

Pholcodine guaiacolsulfonate	2939.11		2
Pholcodine hydrochloride	2939.11		2
Pholcodine phenylacetate	2939.11		2

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Pholcodine phosphate	2939.11		2
Pholcodine sulfonate	2939.11		2
Pholcodine tartrate	2939.11	7369-11-1	2
Piminodine (INN)	2933.39	13495-09-5	1
Piminodine dihydrochloride	2933.39		1
Piminodine esilate	2933.39	7081-52-9	1
Piritramide (INN)	2933.33	302-41-0	1
Poppy straw	1211.40		
Proheptazine (INN)	2933.99	77-14-5	1
Proheptazine citrate	2933.99		1

Proheptazine hydrobromide	2933.99		1
Proheptazine hydrochloride	2933.99		1
Properidine (INN)	2933.39	561-76-2	1
Properidine hydrochloride	2933.39		1
Propiram (INN)	2933.33	15686-91-6	2
Propiram fumarate	2933.33		2
Racemethorphan (INN)	2933.49	510-53-2	1
Racemethorphan hydrobromide	2933.49		1
Racemethorphan hydrogen tartrate (bitartrate)	2933.49		1
Racemoramide (INN)	2934.99	545-59-5	1
Racemoramide dihydrochloride	2934.99		1
Racemoramide hydrogen tartrate (bitartrate)	2934.99		1
Racemoramide tartrate	2934.99		1
Racemorphan (INN)	2933.49	297-90-5	1
Racemorphan hydrobromide	2933.49		1
Racemorphan hydrochloride	2933.49		1

Racemorphan hydrogen tartrate (bitartrate)	2933.49		1
Remifentanil (INN)	2933.33	132875-61-7	1
Remifentanil hydrochloride	2933.33		1
Sufentanil (INN)	2934.91	56030-54-7	1
Sufentanil citrate	2934.91		1
Thebacon (INN)	2939.11	466-90-0	1
Thebacon hydrochloride	2939.11	20236-82-2	1
Thebaine hydrochloride	2939.11		1
Thebaine hydrogen tartrate (bitartrate)	2939.11		1
Thebaine oxalate	2939.11		1
Thebaine salicylate	2939.11		1
Tetrahydrofuranylfentanyl	2934.92		1
Thiofentanyl	2934.92	1165-22-6	4
Thiofentanyl acetate	2934.92		1
Thiofentanyl hydrochloride	2934.92		4
Tilidine (INN)	2922.44	20380-58-9	1

Tilidine hydrochloride	2922.44	27107-79-5	1
Trimeperidine (INN)	2933.33	64-39-1	1
Trimeperidine hydrochloride	2933.33	125-80-4	1
U-47700	2924.29		1

II. **Psychotropic substances subject to control under the 1971 Convention on Psychotropic Substances**

Name	HS subheading	CAS No.	Convention Schedule No.
AB-CHMINACA	2933.99		2
AB-PINACA	2933.99		2
Allobarbital (INN)	2933.53	52-43-7	4
Allobarbital aminophenazone	2933.54		4
Alprazolam (INN)	2933.91	28981-97-7	4

II. **Psychotropic substances subject to control under the 1971 Convention on Psychotropic Substances** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.

AM-2201; JWH-2201	2933.99		2
Amfepramone (INN)	2922.31	90-84-6	4
Amfepramone glutamate	2922.42		4
Amfepramone hydrochloride	2922.31	134-80-5	4
Amfepramone resinate	3003.90		4
Amfetamine (INN)	2921.46	300-62-9	2
Amfetamine acetylsalicylate	2921.46		2
Amfetamine adipate	2921.46		2
Amfetamine p-aminophenylacetate	2922.49		2
Amfetamine aspartate	2922.49		2
Amfetamine p-chloro- phenoxyacetate	2921.46		2
Amfetamine hydrochloride	2921.46		2
Amfetamine hydrogen tartrate (bitartrate)	2921.46		2
Amfetamine pentobarbiturate	2933.54		2
Amfetamine phosphate	2921.46	139-10-6	2
Amfetamine resinate	3003.90		2

Amfetamine sulfate	2921.46	60-13-9	2
Amfetamine tannate	3201.90		2
Amfetamine tartrate	2921.46		2
Amineptine (INN)	2922.49		2
Amineptine hydrochloride	2922.49		2
Aminorex (INN)	2934.91	2207-50-3	4
Aminorex fumarate	2934.91		4
Aminorex hydrochloride	2934.91		4
Amobarbital (INN)	2933.53	57-43-2	3
Amobarbital resinate	3003.90		3
Amobarbital sodium	2933.53	64-43-7	3
Barbital (INN)	2933.53	57-44-3	4
Barbital calcium	2933.53		4
Barbital magnesium	2933.53		4
Barbital sodium	2933.53	144-02-5	4
Benzfetamine (INN)	2921.46	156-08-1	4

Benzfetamine hydrochloride	2921.46	5411-22-3	4
N-Benzylpiperazine; Benzylpiperazine; BZP	2933.59		2
N-Benzylpiperazine dihydrochloride	2933.59		2
N-Benzylpiperazine hydrochloride	2933.59		2
25B-NBOMe; 2C-B-NBOMe	2922.29		1
25B-NBOMe hydrochloride	2922.29		1
Brolamfetamine (INN) (DOB)	2922.29	64638-07-9	1
Brolamfetamine (DOB) hydrochloride	2922.29		1
Bromazepam (INN)	2933.33	1812-30-2	4
Brotizolam (INN)	2934.91	57801-81-7	4
Buprenorphine (INN)	2939.11	52485-79-7	3
Buprenorphine hydrochloride	2939.11	53152-21-9	3
Buprenorphine hydrogen tartrate (bitartrate)	2939.11		3
Buprenorphine sulfate	2939.11		3
Butalbital (INN)	2933.53	77-26-9	3
Butobarbital	2933.53	77-28-1	4

Camazepam (INN)	2933.91	36104-80-0	4
Cathine (INN)	2939.43	492-39-7	3
Cathine hydrochloride	2939.43	2153-98-2	3
Cathine phenobarbiturate	2939.43		3
Cathine resinate	3003.49		3
Cathine sulfate	2939.43		3
Cathinone (INN)	2939.79	71031-15-7	1
Cathinone hydrochloride	2939.79		1
2C-B	2922.29		2
2C-B hydrochloride	2922.29		2
Chlordiazepoxide (INN)	2933.91	58-25-3	4
Chlordiazepoxide dibunate	2933.91		4
Chlordiazepoxide hydrochloride	2933.91	438-41-5	4
Clobazam (INN)	2933.72	22316-47-8	4
Clonazepam (INN)	2933.91	1622-61-3	4
Clorazepate	2933.91		4

Clorazepate dipotassium	2933.91	57109-90-7	4
Clorazepate monopotassium	2933.91	5991-71-9	4
Clotiazepam (INN)	2934.91	33671-46-4	4
Cloxazolam (INN)	2934.91	24166-13-0	4
Cyclobarbital (INN)	2933.53	52-31-3	3

II. **Psychotropic substances subject to control under the 1971 Convention on Psychotropic Substances** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Cyclobarbital calcium	2933.53	5897-20-1	3
Delorazepam (INN)	2933.91	2894-67-9	4
DET	2939.79	61-51-8	1
DET hydrochloride	2939.79		1
Dexamfetamine (INN)	2921.46	51-64-9	2
Dexamfetamine adipate	2921.46		2
Dexamfetamine carboxy- methylcellulose	3912.31		2
Dexamfetamine hydrochloride	2921.46	405-41-4	2

Dexamfetamine hydrogen tartrate (bitartrate)	2921.46		2
Dexamfetamine pento- barbiturate	2933.54		2
Dexamfetamine phosphate	2921.46	7528-00-9	2
Dexamfetamine resinate	3003.90		2
Dexamfetamine saccharate	2921.49		2
Dexamfetamine sulfate	2921.46	51-63-8	2
Dexamfetamine tannate	3201.90		2
Diazepam (INN)	2933.91	439-14-5	4
DMA	2922.29		1
DMA hydrochloride	2922.29		1
DMHP	2932.99		1
DMT	2939.79	61-50-7	1
DMT hydrochloride	2939.79		1
DMT methyliodide	2939.79		1
DOET	2922.29		1
DOET hydrochloride	2922.29		1

Estazolam (INN)	2933.91	29975-16-4	4
Ethchlorvynol (INN)	2905.51	113-18-8	4
Ethinamate (INN)	2924.24	126-52-3	4
Ethyl loflazepate (INN)	2933.91	29177-84-2	4
N-Ethyl MDA	2932.99		1
N-Ethyl MDA hydrochloride	2932.99		1
Eticyclidine (PCE) (INN)	2921.49	2201-15-2	1
Eticyclidine (PCE) hydrochloride	2921.49		1
Etilamfetamine (INN)	2921.46	457-87-4	4
Etilamfetamine hydrochloride	2921.46		4
Etryptamine (INN)	2939.79		1
Etryptamine acetate	2939.79		1
Etryptamine hydrochloride	2939.79		1
5F-ADB; 5F-MDMB-PINACA	2933.99		2
5F-APINACA; 5F-AKB-48	2933.99		2
5F-PB-22	2933.49		2

Fencamfamin (INN)	2921.46	1209-98-9	4
Fencamfamin hydrochloride	2921.46	2240-14-4	4
Fenetylline (INN)	2939.51	3736-08-1	2
Fenetylline hydrochloride	2939.51	1892-80-4	2
Fenproporex (INN)	2926.30	15686-61-0	4
Fenproporex diphenylacetate	2926.30		4
Fenproporex hydrochloride	2926.30	18305-29-8	4
Fenproporex resinate	3003.90		4
Fludiazepam (INN)	2933.91	3900-31-0	4
Flunitrazepam (INN)	2933.91	1622-62-4	4
Flurazepam (INN)	2933.91	17617-23-1	4
Flurazepam dihydrochloride	2933.91	1172-18-5	4
Flurazepam hydrochloride	2933.91	36105-20-1	4
Glutethimide (INN)	2925.12	77-21-4	3
Halazepam (INN)	2933.91	23092-17-3	4

Haloxazolam (INN)	2934.91	59128-97-1	4
N-Hydroxy MDA	2932.99		1
N-Hydroxy MDA hydrochloride	2932.99		1
Ketazolam (INN)	2934.91	27223-35-4	4
Lefetamine (INN)	2921.46	7262-75-1	4
Lefetamine hydrochloride	2921.46	14148-99-3	4
Levamfetamine (INN)	2921.46	156-34-3	2

II. **Psychotropic substances subject to control under the 1971 Convention on Psychotropic Substances** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Levamfetamine alginate	3913.10		2
Levamfetamine succinate	2921.49	5634-40-2	2
Levamfetamine sulfate	2921.49		2
Levometamfetamine	2939.45		2
Levometamfetamine hydrochloride	2939.45		2

Loprazolam (INN)	2933.55	61197-73-7	4
Loprazolam mesilate	2933.55		4
Lorazepam (INN)	2933.91	846-49-1	4
Lorazepam acetate	2933.91		4
Lorazepam mesilate	2933.91		4
Lorazepam pivalate	2933.91		4
Lormetazepam (INN)	2933.91	848-75-9	4
Lysergide (INN), LSD, LSD-25	2939.69	50-37-3	1
(+)-Lysergide tartrate	2939.69		1
Mazindol (INN)	2933.91	22232-71-9	4
MDMA	2932.99		1
MDMA hydrochloride	2932.99		1
Mecloqualone (INN)	2933.55	340-57-8	2
Mecloqualone hydrochloride	2933.55		2
Medazepam (INN)	2933.91	2898-12-6	4
Medazepam dibunate	2933.91		4

Medazepam hydrochloride	2933.91		4
Mefenorex (INN)	2921.46	17243-57-1	4
Mefenorex hydrochloride	2921.46		4
Meprobamate (INN)	2924.11	57-53-4	4
Mescaline	2939.79	54-04-6	1
Mescaline aurichloride	2843.30		1
Mescaline hydrochloride	2939.79	832-92-8	1
Mescaline picrate	2939.79		1
Mescaline platinichloride	2843.90		1
Mescaline sulfate	2939.79	1152-76-7	1
Mesocarb (INN)	2934.71	34262-84-5	4
Metamfetamine (INN)	2939.45	537-46-2	2
Metamfetamine hydrochloride	2939.45	51-57-0	2
Metamfetamine hydrogen tartrate (bitartrate)	2939.45		2
Metamfetamine racemate	2939.45	7632-10-2	2
Metamfetamine racemate hydrochloride	2939.45		2

Metamfetamine sulfate	2939.45		2
Methaqualone (INN)	2933.55	72-44-6	2
Methaqualone hydrochloride	2933.55	340-56-7	2
Methaqualone resinate	3003.90		2
Methylaminorex	2934.99		1
Methylaminorex hydrochloride	2934.99		1
Methylphenidate (INN)	2933.33	113-45-1	2
Methylphenidate hydrochloride	2933.33	298-59-9	2
Methylphenobarbital (INN)	2933.53	115-38-8	4
Methylphenobarbital sodium	2933.53		4
Methyprylon (INN)	2933.72	125-64-4	4
Midazolam (INN)	2933.91	59467-70-8	4
Midazolam hydrochloride	2933.91		4
Midazolam maleate	2933.91		4
MMDA	2932.99		1
MMDA hydrochloride	2932.99		1

Nimetazepam (INN)	2933.91	2011-67-8	4
Nitrazepam (INN)	2933.91	146-22-5	4
Nordazepam (INN)	2933.91	1088-11-5	4
Oxazepam (INN)	2933.91	604-75-1	4
Oxazepam acetate	2933.91		4
Oxazepam hemisuccinate	2933.91		4

II. **Psychotropic substances subject to control under the 1971 Convention on Psychotropic Substances** (contd.)

Name	**HS subheading**	**CAS No.**	**Convention Schedule No.**
Oxazepam succinate	2933.91		4
Oxazepam valproate	2933.91		4
Oxazolam (INN)	2934.91	24143-17-7	4
Parahexyl	2932.99		1
Pemoline (INN)	2934.91	2152-34-3	4
Pemoline copper	2934.91		4

Pemoline iron	2934.91		4
Pemoline magnesium	2934.91		4
Pemoline nickel	2934.91		4
Pentazocine (INN)	2933.33	359-83-1	3
Pentazocine hydrochloride	2933.33		3
Pentazocine lactate	2933.33	17146-95-1	3
Pentobarbital (INN)	2933.53	76-74-4	3
Pentobarbital calcium	2933.53	7563-42-0	3
Pentobarbital sodium	2933.53	57-33-0	3
Phencyclidine (INN) (PCP)	2933.33	77-10-1	2
Phencyclidine hydrobromide	2933.33		2
Phencyclidine hydrochloride	2933.33	956-90-1	2
Phendimetrazine (INN)	2934.91	634-03-7	4
Phendimetrazine hydrochloride	2934.91		4
Phendimetrazine hydrogen tartrate (bitartrate)	2934.91	50-58-8	4
Phendimetrazine pamoate	2934.91		4

Phenmetrazine (INN)	2934.91	134-49-6	2
Phenmetrazine hydrochloride	2934.91	1707-14-8	2
Phenmetrazine hydrogen tartrate (bitartrate)	2934.91		2
Phenmetrazine sulfate	2934.91		2
Phenmetrazine teoclate	2939.59	13931-75-4	2
Phenobarbital (INN)	2933.53	50-06-6	4
Phenobarbital ammonium	2933.53		4
Phenobarbital calcium	2933.53	58766-25-9	4
Phenobarbital diethylamine	2933.53		4
Phenobarbital diethylaminoethanol	2933.53		4
Phenobarbital lysidine	2933.53		4
Phenobarbital magnesium	2933.53		4
Phenobarbital propylhexedrine	2933.53		4
Phenobarbital quinidine	2939.20		4
Phenobarbital sodium, magnesium	2933.53		4
Phenobarbital sodium (INN)	2933.53	57-30-7	4

Phenobarbital sparteine	2939.79		4
Phenobarbital tetramethyl- ammonium	2933.53		4
Phenobarbital yohimbine	2939.79		4
Phentermine (INN)	2921.46	122-09-8	4
Phentermine hydrochloride	2921.46	1197-21-3	4
Phentermine resinate	3003.90		4
Pinazepam (INN)	2933.91	52463-83-9	4
Pipradrol (INN)	2933.33	467-60-7	4
Pipradrol hydrochloride	2933.33	71-78-3	4
PMA	2922.29		1
PMA hydrochloride	2922.29		1
Prazepam (INN)	2933.91	2955-38-6	4
Psilocine, psilotsin	2939.79		1
Psilocine, psilotsin hydrochloride	2939.79		1
Psilocybine (INN)	2939.79	520-52-5	1
Psilocybine hydrochloride	2939.79		1

Pyrovalerone (INN)	2933.91	3563-49-3	4
Pyrovalerone hydrochloride	2933.91	1147-62-2	4

II. **Psychotropic substances subject to control under the 1971 Convention on Psychotropic Substances** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Rolicyclidine (INN) (PHP, PCPY)	2933.99	2201-39-0	1
Secbutabarbital (INN)	2933.53	125-40-6	4
Secbutabarbital sodium	2933.53		4
Secobarbital (INN)	2933.53	76-73-3	2
Secobarbital calcium	2933.53		2
Secobarbital resinate	3003.90		2
Secobarbital sodium	2933.53	309-43-3	2
STP, DOM	2922.29	15588-95-1	1
STP, DOM hydrochloride	2922.29		1
Temazepam (INN)	2933.91	846-50-4	4

Tenamfetamine (INN) (MDA)	2932.99	51497-09-7	1
Tenamfetamine (MDA) hydrochloride	2932.99		1
Tenocyclidine (INN)	2934.99	21500-98-1	1
Tenocyclidine hydrochloride	2934.99		1
Tetrahydrocannabinols, all isomers	2932.95	various	2
d-9-Tetrahydrocannabinol	2932.95	1972-08-3	2
Tetrazepam (INN)	2933.91	10379-14-3	4
TMA	2922.29		1
TMA hydrochloride	2922.29		1
Triazolam (INN)	2933.91	28911-01-5	4
Vinylbital (INN)	2933.53	2430-49-1	4
Zipeprol (INN)	2933.55	34758-83-3	2

III. **Precursors**

Name	HS subheading	CAS No.

Acetic anhydride	2915.24	108-24-7
Acetone	2914.11	67-64-1
N-Acetylanthranilic acid	2924.23	89-52-1
alpha-Phenylacetoacetonitrile (APAAN)	2926.40	4468-48-8
4-Anilino-N-phenethylpiperidine (ANPP)	2933.36	21409-26-7
Anthranilic acid	2922.43	118-92-3
Butanone (ethyl methyl ketone)	2914.12	78-93-3
Diethyl ether	2909.11	60-29-7
Ephedrine	2939.41	299-42-3
Ephedrine hydrochloride	2939.41	50-98-6
Ephedrine nitrate	2939.41	81012-98-8
Ephedrine sulfate	2939.41	134-72-5
Ergometrine (INN)	2939.61	60-79-7
Ergometrine hydrochloride	2939.61	74283-21-9
Ergometrine hydrogen maleate	2939.61	129-51-1
Ergometrine oxalate	2939.61	

Ergometrine tartrate	2939.61	129-50-0
Ergotamine (INN)	2939.62	113-15-5
Ergotamine hydrochloride	2939.62	
Ergotamine succinate	2939.62	
Ergotamine tartrate	2939.62	379-79-3
Hydrogen chloride (hydrochloric acid)	2806.10	7647-01-0
Isosafrole	2932.91	120-58-1
Lysergic acid	2939.63	82-58-6
3,4-(Methylenedioxy)phenyl-2-propanone	2932.92	4676-39-5
Norephedrine	2939.44	14838-15-4
Norephedrine hydrochloride	2939.44	154-41-6
N-Phenethyl-4-piperidone (NPP)	2933.37	39742-60-4
Phenylacetone (benzyl methyl ketone, phenylpropan-2-one)	2914.31	103-79-7
Phenylacetic acid	2916.34	103-82-2

Piperidine	2933.32	110-89-4
Piperidine aurichloride	2843.30	
Piperidine hydrochloride	2933.32	6091-44-7
Piperidine hydrogen tartrate (bitartrate)	2933.32	6091-46-9
Piperidine nitrate	2933.32	6091-45-8
Piperidine phosphate	2933.32	
Piperidine picrate	2933.32	6091-49-2
Piperidine platinichloride	2843.90	
Piperidine thiocyanate	2933.32	22205-64-7
Piperonal	2932.93	120-57-0
Potassium permanganate	2841.61	7722-64-7
Pseudoephedrine (INN)	2939.42	90-82-4
Pseudoephedrine hydrochloride	2939.42	345-78-8
Pseudoephedrine sulfate	2939.42	7460-12-0
Safrole	2932.94	94-59-7
Sulphuric acid	2807.00	7664-93-9

Toluene	2902.30	108-88-3

LIST OF PRECURSORS AND ESSENTIAL CHEMICALS WHICH ARE MOST COMMONLY USED IN THE ILLEGAL PRODUCTION OF CERTAIN CONTROLLED SUBSTANCES

CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABSTRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR SALTS (S)**
HEROIN or **DIACETY-MORPHINE** (2939.11)	(i) Codeine (P) (2939.11)	Codicept Coducept 7,8-Didehydro-4,5- epoxy-3-methoxy-17-methylmorphinan-6-o1 Methylmorphine 3-**O**-Methylmorphine Morphinan-6-ol, 7,8- didehydro-4,5-epoxy- 3-methoxy-17-methyl Morphine, 3-methyl ether Morphine monomethyl ether	76-57-3 52-28-8 (S)
	(ii) Morphine (P) (2939.11)	7,8-Didehydro-4,5- epoxy-17-methyl- morphinan-3,6-diol	57-27-2 (anhydrous)

		Morphinan-3,6-diol, 7,8-didehydro-4,5- epoxy-17-methyl	6009-81-0 (monohydrate)
	(iii) Acetic anhydride (E) (2915.24)	Acetanhydride Acetic oxide Acetyl oxide Ethanoic anhydride	108-24-7
	(iv) Acetyl chloride (E) (2915.90)	Ethanoyl chloride	75-36-5
	(v) Ethylidene diacetate (E) (2915.39)	Acetic acid, ethylidene ester 1,1-Diacetoxyethane	542-10-9
COCAINE or **METHYL BENZOYL-ECGONINE** (2939.72)	(i) Acetone (E) (2914.11)	2-Propanone Dimethylketone *β*-Ketopropane Pyroacetic ether Propane-2-one	67-64-1
	(ii) Diethyl ether (E) (2909.11)	Ethyl ether Ether Ethoxyethane Ethyl oxide	60-29-7

		Diethyl oxide Anaesthetic ether	
	(iii) Methyl ethyl ketone (MEK) (E) (2914.12)	Butanone	78-93-3

CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABSTRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR SALTS (S)**
LYSERGIDE (INN) or **LSD** or **N,N-DIETHYL-LYSERGAMIDE** (2939.69)	(i) Ergotamine (INN) (P) (2939.62)	5'-Benzyl-12'-hydroxy- 2'- methylergotaman-3',6',18-trione Ergotaman-3',6',18- trione, 12'-hydroxy-2'- methyl-5'- (phenylmethyl) 12'-Hydroxy-2'-methyl-5'-(phenylmethyl) ergotaman-3',6', 18- trione Indolo[4,3-**fg**]quinoline, ergotaman-3',6',18- trione derivative	113-15-5 379-79-3 (S)

		8*H*-Oxazolo[3,2,-**a**]-pyrrolo[2,1-**c**]pyrazine, ergotaman-3',6',18- trione derivative **N**-(5-Benzyl-10b- hydroxy- 2-methyl -3,6-dioxoperhydrooxazolo-[3,2-**a**]pyrrolo[2,1-**c**]-pyrazin-2-yl)-**D**- lysergamide Ergam Ergate Ergomar Ergostat Ergotamine bitartrate Ergotamine, tartrate (2 : 1) (S) Ergotamini tartras Ergotaman-3',6',18- trione, 12'-hydroxy-2'-methyl-5'-(phenyl-methyl)-, -2,3dihydroxy-butanedioate (2 : 1) (S) Ergotartrate Etin Exmigra Femergin Gotamine tartrate Gynergene Lingraine Lingran	

		Medihaler Ergotamine Neo-Ergotine Rigetamine Secagyne Secupan	
	(ii) Lysergamide (P) (2939.69)	9,10-Didehydro-6- methylergoline-8-carboxamide Ergine Ergoline-8-carboxamide, 9,10-didehydro-6-methyl Indolo[4,3-**fg**]quinoline, ergoline-8-carboxamide derivative	478-94-4

CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABS-TRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR SALTS (S)**

	(iii) Lysergic acid (P) (2939.63)	Ergoline-8-carboxylic acid, 9,10-didehydro-6- methyl- indolo [4,3-**fg**] quinoline, ergoline-8-carboxylic acid derivative 4,6,6a,7,8,9-Hexahydro- 7-methylindolo-[4,3-**fg**]-quinoline-9-carboxylic acid 9,10-Didehydro- 6-methyl- ergoline-8- carboxylic acid	82-58-6
	(iv) Methyl 6-methylnicotinate (P) (2933.39)	Methyl 6-methylpyridine-3- carboxylate 6-Methylnicotinic acid, methyl ester Nicotinic acid, 6-methyl-, methyl ester 3-Pyridinecarboxylic acid, 6-methyl-, methyl ester	5470-70-2
	(v) Ergometrine (INN) (P) (2939.61)	Ergonovine Ergobasine Ergotocine Ergostetrine Ergotrate Ergoklinine Syntometrine 9,10-Didehydro-N-(2- hydroxy-1-methylethyl)- 6 -methylergoline-8- carboxamide N-(2-Hydroxy-1-methyl- etethyl)lysergamide Lysergic acid, 2-propanolamide	60-79-7 60-79-7
		Lysergic acid, 2-hydroxy-1-methylethyl amide	129-50-0 (S)

		Hydroxypropyllyserg- amide Basergin Neofemergen Cornocentin Ermetrine	129-51-1 (S)

CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABS-TRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR SALTS (S)**
AMFETAMINE (INN) (AMPHETAMINE) or α-**METHYL-PHENETHYLAMINE** (2921.46)	(i) Allylbenzene (P) (2902.90)	3-Phenylprop-1-ene	300-57-2
(ii) Phenyl-acetone (P) (2914.31)	P-2-P Phenylpropan-2-one 1-Phenyl-2-oxopropane Benzyl methyl ketone BMK	103-79-7	

	(iii) Cathine (INN) (P) (2939.43)	Norpseudoephedrine Adiposetten N 2-Amino-1-hydroxy-1- phenyl propane 2-Amino-2-methyl-1- phenyle thanol 2-Amino-1-phenylpropan-1-ol Benzenemethanol, α-(1-aminoethyl) E 50 Exponcit Fugoa-Depot Katine Miniscap M.D. Minusin(e) Norisoephedrine 1-Phenyl-2-aminopropan-1-ol Phenylpropanolamine Pseudonorephedrin(e) Reduform	37577-07-04 36393-56-3 492-39-7
	(iv) Phenylacetic acid (P) (2916.34)	Benzeneacetic acid α-Toluic acid	103-82-2

	(v) Formamide (P) (2924.19)	Methanamide Carbamaldehyde Formic acid amide	75-12-7
	(vi) Benzaldehyde (P) (2912.21)	Benzoic aldehyde Benzenecarbonal	100-52-7
	(vii) Ammonium formate (E) (2915.12)	—	540-69-2
	(viii) Nitroethane (E) (2904.20)	—	79-24-3
	(ix) Hydroxyl-ammonium chloride (E) (2825.10)	Hydroxylamine hydrochloride Oxammonium hydro- chloride	5470-11-1
	(x) Trans-*β*-Methyl-styrene (P) (2902.90)	1-Phenylpropene Prop-1-enylbenzene	873-66-5

CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABS-TRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR**

			SALTS (S)
METHYLENE DIOXYAMPHETA-MINE or **MDA** or α-**METHYL-3,4- METHYLENE-DIOXYPHEN-ETHYLAMINE** (2932.99)	(i) Piperonal (P) (2932.93)	1,3-Benzodioxole-5- carbaldehyde Protocatechualdehyde, methylene ether 1,3-Benzodioxole-5- carboxaldehyde 3,4-(Methylenedioxy)-benzaldehyde Heliotropin Piperonylaldehyde Dioxymethyleneproto- catechuic aldehyde	120-57-0
	(ii) Safrole (P) (2932.94)	5-Allyl-1,3-benzodioxole 1,2-Methylenedioxy- 4-prop-2-enylbenzene 5-Prop-2-enyl-1,3- benzodioxole	94-59-7
	(iii) Isosafrole (P) (2932.91)	5-Prop-1-enyl-1,3-benzodioxole 1,2-Methylenedioxy-4-prop-1-enylbenzene	120-58-1
	(iv) Nitroethane (E) (2904.20)	—	79-24-3

	(v) 1-(1,3-Benzo-dioxole-5-yl) propan-2- one (P) (2932.92)	3,4-Methylenedioxy-phenylacetone 3,4-Methylenedioxy-phenylpropane-2-one	4676-39-5
	(vi) Ammonium formate (E) (2915.12)	—	540-69-2
	(vii) Hydroxyl-ammonium chloride (E) (2825.10)	Hydroxylamine hydrochloride Oxammonium hydrochloride	5470-11-1
	(viii) Formamide (E) (2924.19)	Methanamide Carbamaldehyde Formic acid amide	75-12-7
METAMFETAMINE (INN) (METHAMPHETAMINE) or **2-METHYLAMINO-1-PHENYLPROPANE** or **DEOXYEPHEDRINE** (2939.45)	(i) Phenylacetone (P) (2914.31)	P-2-P Phenylpropan-2-one 1-Phenyl-2-oxopropane Benzyl methyl ketone BMK	103-79-7
	(ii) N-Methyl-formamide	Methylformamide	123-39-7

	(P) (2924.19)		
	(iii) Benzyl chloride(P) (2903.99)	(Chloromethyl)benzene α-Chlorotoluene	100-44-7
	(iv) Ephedrine (P) (2939.41)	1-Phenyl-1-hydroxy-2- methylaminopropane 2-Methylamino-1-phenyl-propan-1-ol	299-42-3

CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABS-TRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR SALTS (S)**
	(v) Methylamine (P) (2921.11)	Aminomethane Monomethylamin(e) Methanamine	74-89-5

	(vi) Phenylacetic acid (P) (2916.34) (vii) Benzaldehyde (P) (2912.21)	Benzeneacetic acid α-Toluic acid Benzoic aldehyde Benzenecarbonal	103-82-2 100-52-7
METHYLENE- DIOXYMETHAM-PHETAMINE or **MDMA** or **α-METHYL-3,4-METHYLENE- DIOXYPHENETHYL- (METHYL)AMINE** or **XTC (Ecstasy)** (2932.99)	(i) Methylamine (E) (2921.11)	Aminomethane Monomethylamine Methanamine	74-89-5
(ii) Piperonal (P) (2932.93)	1,3-Benzodioxole-5- carbaldehyde Protocatechualdehyde, methylene ether 1,3-Benzodioxole-5- carboxaldehyde 3,4-(Methylenedioxy)- benzaldehyde Heliotropin Piperonylaldehyde Dioxymethyleneprotoca- technic aldehyde	120-57-0	
	(iii) Safrole (P) (2932.94)	5-Allyl-1,3- benzodioxole 1,2-Methylenedioxy-4-prop-2-enylbenzene	94-59-7

		5-Prop-2-enyl-1,3-benzodioxole	
	(iv) Isosafrole (P) (2932.91)	5-Prop-1-enyl-1,3-benzodioxole 1,2-Methylenedioxy-4-prop-1-enylbenzene	120-58-1
	(v) Nitroethane (E) (2904.20)	—	79-24-3
	(vi) 1-(1,3-Benzo-dioxole-5-yl) propan- 2-one (P) (2932.92)	3,4-Methylenedioxy- phenylacetone 3,4-Methylenedioxyphenyl-propane-2-one	4676-39-5
METHAQUALONE (INN) or **2-METHYL-3-*O*-TOLYL-4-(3H)-QUINAZOLINONE** (2933.55)	(i) Anthranilic acid (P) (2922.43)	*o*-Aminobenzoic acid 2-Aminobenzoic acid	118-92-3
	(ii) *o*-Toluidine (P) (2921.43)	*o*-Aminotoluene 2-Aminotoluene	95-53-4
	(iii) *o*-Nitro-toluene (P) (2904.20)	1-Methyl-2-nitrobenzene 2-Nitrotoluene	88-72-2
	(iv) Acetic anhydride (E) (2915.24)	Acetanhydride Acetic oxide	108-24-7

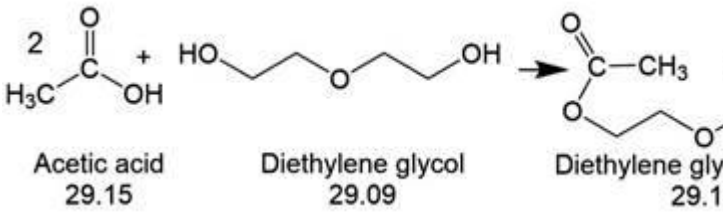
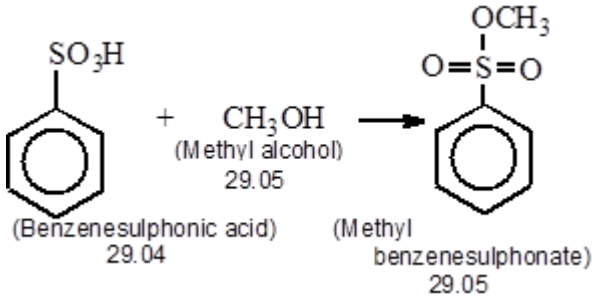
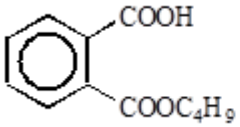
		Acetyl oxide Ethanoic anhydride	
	(v) 2-Methyl- 1,3-benzoxazole (P) (2934.99)	—	95-21-6
	(vi) 2-Acetamido-benzoic acid (P) (2924.23)	2-Acetylaminobenzoic acid o-Acetylaminobenzoic acid N-Acetylanthranilic acid	89-52-1

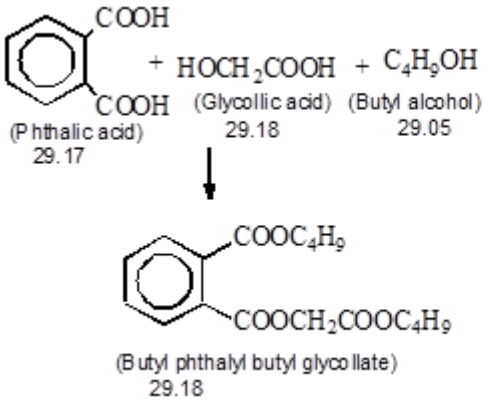
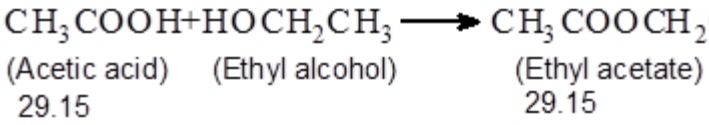
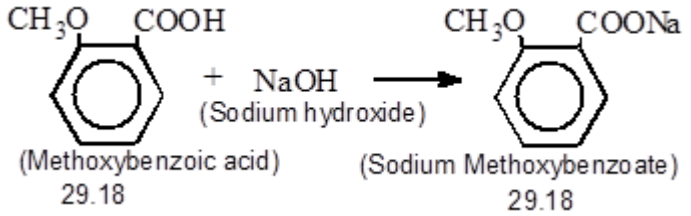
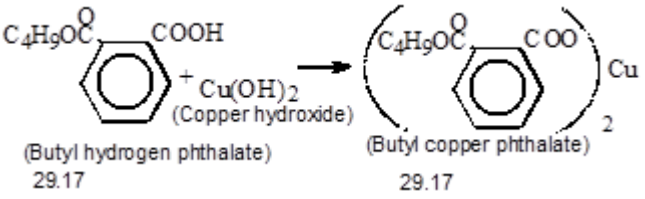
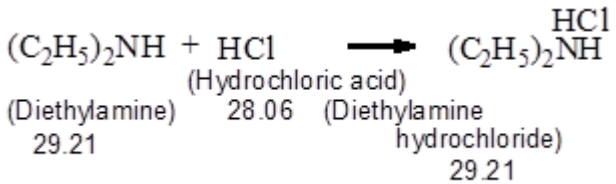
CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABS-TRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR SALTS (S)**
MESCALINE or **3,4,5-TRIMETHOXY-PHENETHYLAMINE** (2939.79)	(i) 3,4,5-Trimethoxy-benzalde-hyde (P) (2912.49) (ii) 3,4,5- Trimeth oxy-benzoic acid (P) (2918.99)	3,4,5-Trimethoxyformyl- benzene Gallic acid, trimethyl	86-81-7 118-41-2

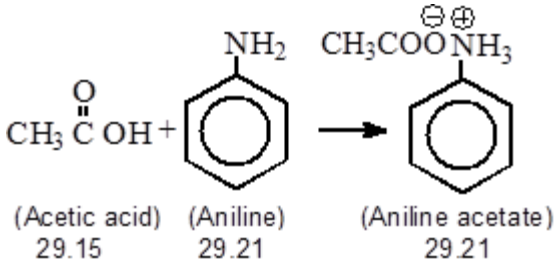
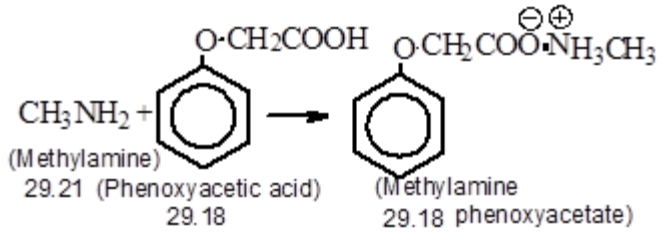
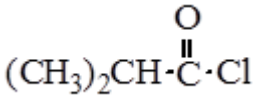
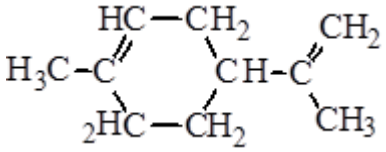
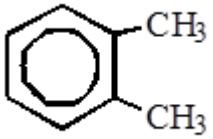
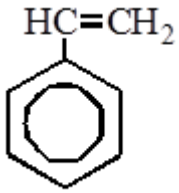
	(iii) 3,4,5-Trimeth-oxybenzoyl chloride (P) (2918.99)	—	4521-61-3
	(iv) 3,4,5-Trimeth-oxybenzyl alcohol (P) (2909.49)	—	3840-31-1
	(v) Nitromethane (E) (2904.20)	—	75-52-5
PHENCYCLIDINE (INN) or **PCP** or **1-(1-PHENYLCYCLOHEXYL) PIPERIDINE** (2933.33)	(i) Piperidine (P) (2933.32)	Hexahydropyridine Pentamethylenimine	110-89-4
(ii) Cyclohexanone (P) (2914.22)	Pimelic ketone Ketohexamethylene Hytrol o Anone Nadone	108-94-1	
	(iii) Bromobenzene (P) (2903.99)	Monobromobenzene Phenyl bromide	108-86-1

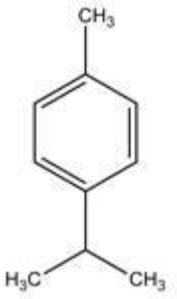
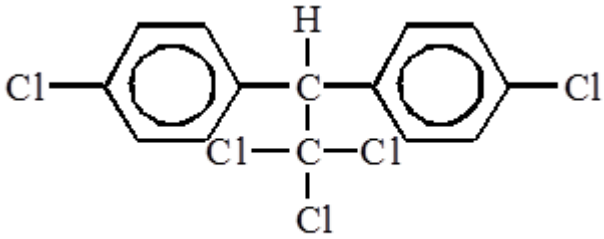
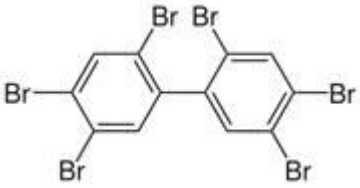
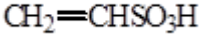
CHEMICAL STRUCTURES OF CERTAIN PRODUCTS DESCRIBED IN THE EXPLANATORY NOTES TO CHAPTER 29

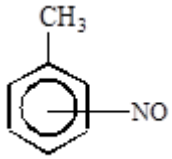
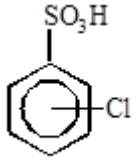
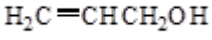
ing	Paragraph	Description in the Explanatory Notes	Chemical Structure

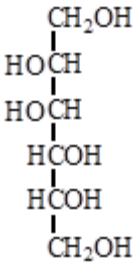
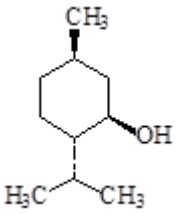
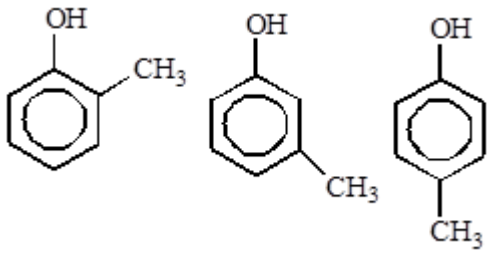
al	(G)			**Classification of esters, salts, co-ordination compounds and certain halides**	
		(1)		Esters	
			(a)		
			(b)		
			(c)		 (Butyl hydrogenphthalate) 29.17

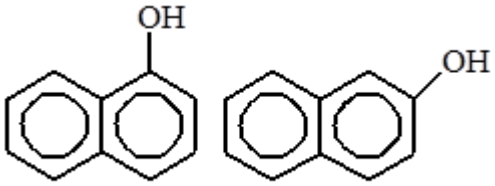
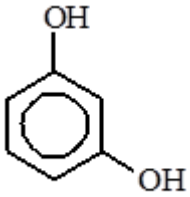
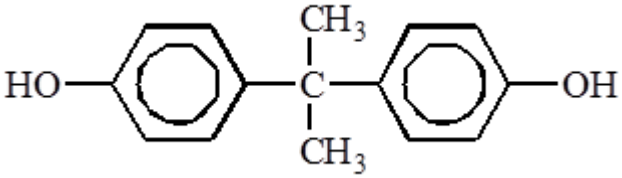
	(G)	(1)	(d)		
			(d)		
		(2)		Salts	
			(a)(i)		
	(G)	(2)	(a)(i)		
			(ii)		

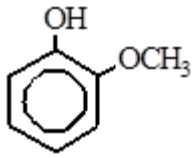
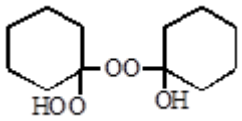
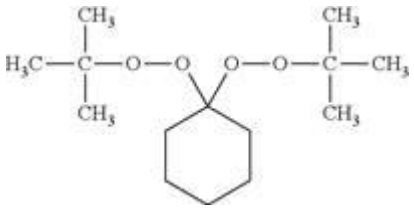
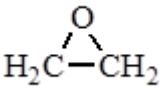
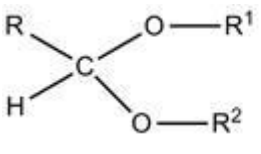
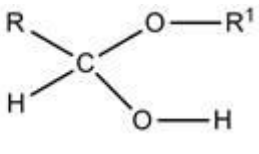
			(b)(i)		 (Acetic acid) 29.15 (Aniline) 29.21 (Aniline acetate) 29.21
			(ii)		 (Methylamine) 29.21 (Phenoxyacetic acid) 29.18 (Methylamine phenoxyacetate) 29.18
	(G)	(4)		Halides of carboxylic acids (Isobutyryl chloride : 29.15)	
				Cyclic hydrocarbons	
	(B)			CYCLOTERPENES	
		(3)		Limonene	
	(C)			AROMATIC HYDROCARBONS	
		(I)	(c)	o-xylene	
			(d)(1)	Styrene	

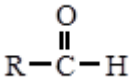
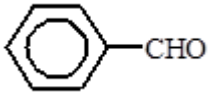
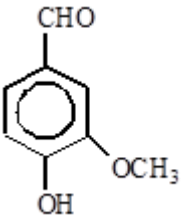
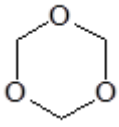
2)	(C)	(I)	(d)(4)	***p*-Cymene**	
				Halogenated derivatives of hydrocarbons	
	(F)			HALOGANATED DERIVATIVES OF AROMATIC HYDROCARBONS	
		(6)		DDT (ISO) (clofenotane (INN), 1,1,1-trichloro-2,2-bis(*p*-chlorophenyl)ethane or dichlorodiphenyltrichloroethane)	
		(11)		2.2'.4.4'.5.5'-hexabromobiphenyl	
				Sulphonated, nitrated or nitrosated derivatives of hydrocarbons, whether or not halogenated	
	(A)			SULPHONATED DERIVATIVES	
		(1)	(a)	Ethylenesulphonic acid	
	(B)			NITRATED DERIVATIVES	

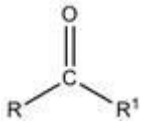
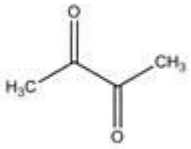
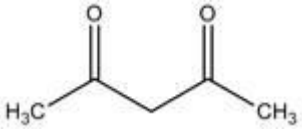
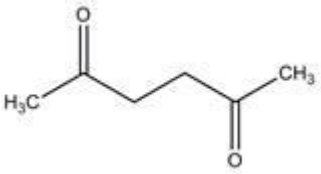
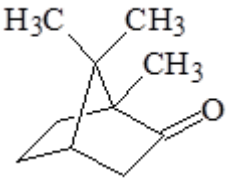
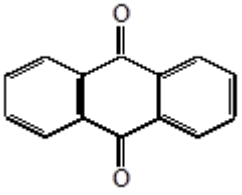
		(1)	(d)	Trinitromethane	$CH(NO_2)_3$
	(C)			NITROSATED DERIVATIVES	
		(2)		Nitrosotoluene	
	(D)			SULPHOHALOGENATED DERIVATIVES	
		(1)		Chlorobenzenesulphonic acid	
		(5)		Perfluorooctane sulphonic acid (PFOS)	
				Acyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(B)			UNSATURATED MONOHYDRIC ALCOHOLS	
		(1)		Allyl alcohol	
	(C)			DIOLS AND OTHER POLYHYDRIC ALCOHOLS	

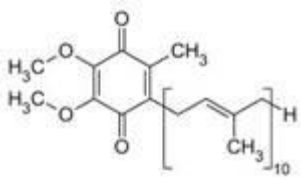
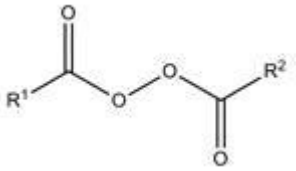
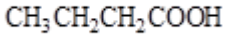
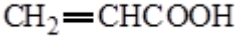
		(II)	(4)	Mannitol	
				Cyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(A)			CYCLANIC, CYCLENIC OR CYCLOTERPENIC ALCOHOLS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
		(1)		Menthol	
				Phenols; phenol-alcohols	
	(A)			MONONUCLEAR MONOPHENOLS	
		(2)		Cresol(s)	 (o-Cresol) (m-Cresol) (p-Cresol)

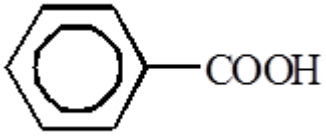
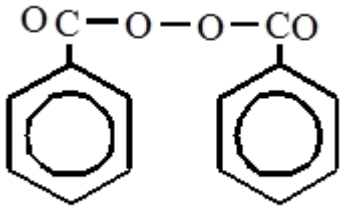
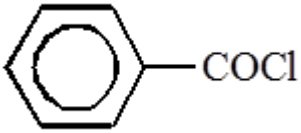
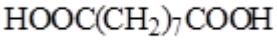
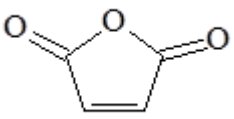
	(B)			POLYNUCLEAR MONOPHENOLS	
		(1)		Naphthol(s)	 (α-Naphthol) (β-Naphthol)
	(C)			POLYPHENOLS	
		(1)		Resorcinol	
7)	(C)	(3)		Bisphenol A	
				Ethers, ether-alcohols, ether-phenols, ether-alcohol-phenols, alcohol peroxides, ether peroxides, acetal and hemiacetal peroxide, ketone peroxides (whether or not chemically defined), and their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(C)			ETHER-PHENOLS AND ETHER-ALCOHOL-PHENOLS	

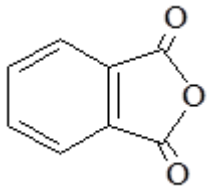
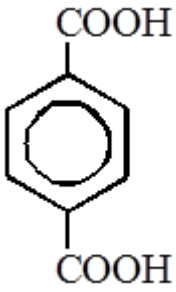
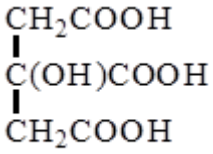
		(1)		Guaiacol	
	(D)			ALCOHOL PEROXIDES, ETHER PEROXIDES, ACETAL AND HEMIACETAL PEROXIDES AND KETONE PEROXIDES	
				Ketone peroxides (Cyclohexanone peroxide)	
				1,1-di(tert-butylperoxy)cyclohexane	
				Epoxides, epoxyalcohols, epoxyphenols and epoxyethers, with a three-membered ring, and their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(1)			Oxirane	
				Acetals and hemiacetals, whether or not with other oxygen function, and their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(A)			ACETALS AND HEMIACETALS	 

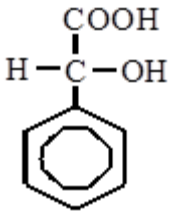
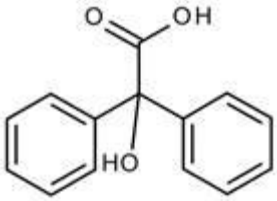
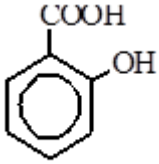
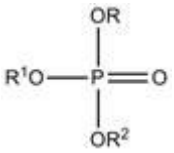
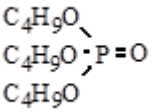
				Aldehydes, whether or not with other oxygen function; cyclic polymers of aldehydes; paraformaldehyde	
	(A)			ALDEHYDES	
		(IV)	(1)	Benzaldehyde	
	(B)			ALDEHYDE-ETHERS, ALDEHYDE-PHENOLS AND ALDEHYDES WITH OTHER OXYGEN FUNCTION	
		(4)		Vanillin	
	(C)			CYCLIC POLYMERS OF ALDEHYDES	
		(1)		Trioxan	
				Ketones and quinones, whether or not with other oxygen function, and their halogenated, sulphonated, nitrated or nitrosated derivatives	

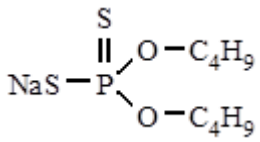
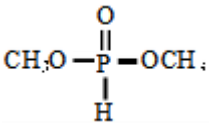
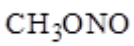
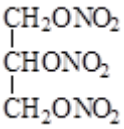
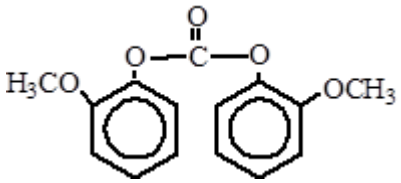
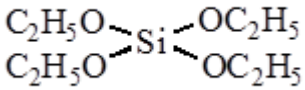
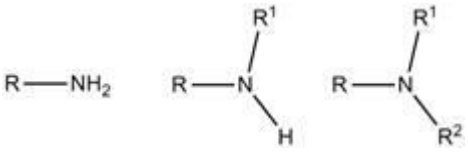
	(A)	(I)		KETONES	
			(8)	Diacetyl	
			(9)	Acetylacetone	
			(10)	Acetonylacetone	
		(II)	(1)	Camphor	
4)	(E)			QUINONES	
		(1)		Anthraquinone	
4)	(F)			QUINONE-ALCOHOLS, QUINONE-PHENOLS, QUINONE-ALDEHYDES AND OTHER OXYGEN FUNCTION QUINONES	

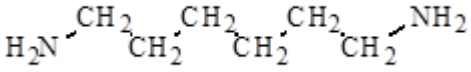
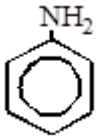
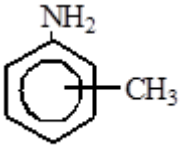
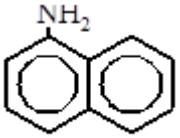
		(4)		Coenzyme Q10 (ubidecarenone (INN))	
				Saturated acyclic monocarboxylic acids and their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(C)			ACID PEROXIDES	
		(V)	(a)	n-Butyric acid	
				Unsaturated acyclic monocarboxylic acids, cyclic monocarboxylic acids, their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(A)			UNSATURATED ACYCLIC MONOCARBOXYLIC ACIDS AND THEIR SALTS, ESTERS AND OTHER DERIVATIVES	
		(1)		Acrylic acid	
	(C)			AROMATIC SATURATED MONOCARBOXYLIC ACIDS AND	

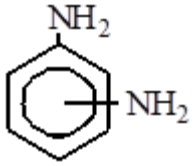
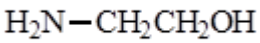
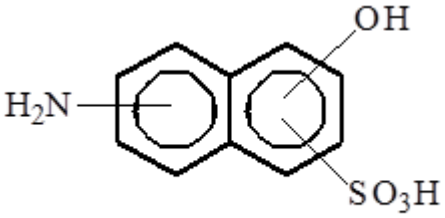
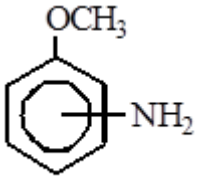
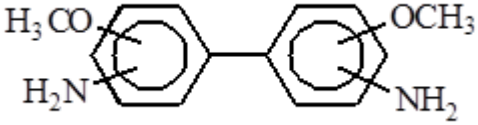
				THEIR SALTS, ESTERS AND OTHER DERIVATIVES	
		(1)		Benzoic acid	
			(a)	Benzoyl peroxide	
6)	(C)	(1)	(b)	Benzoyl chloride	
				Polycarboxylic acids, their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(A)			ACYCLIC POLYCARBOXYLIC ACIDS AND THEIR ESTERS, SALTS AND DERIVATIVES	
		(3)		Azelaic acid	
		(5)		Maleic anhydride	
	(C)			AROMATIC POLYCARBOXYLIC ACIDS AND THEIR ESTERS,	

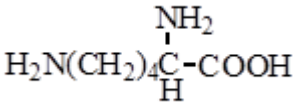
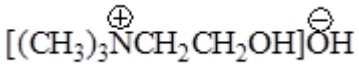
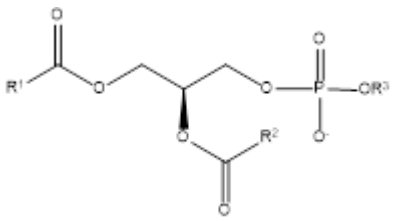
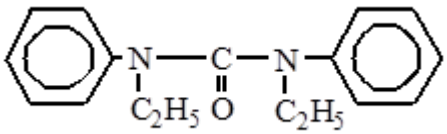
				SALTS AND OTHER DERIVATIVES	
		(1)		Phthalic anhydride	
7)	(C)	(2)		Terephthalic acid	
				Carboxylic acids with additional oxygen function and their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(A)			CARBOXYLIC ACIDS WITH ALCOHOL FUNCTION AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES	
		(3)		Citric acid	

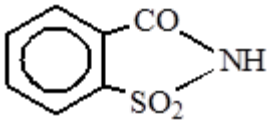
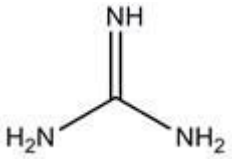
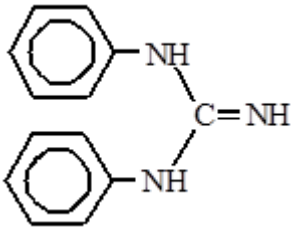
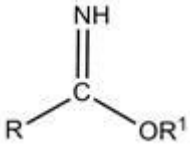
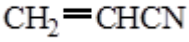
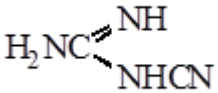
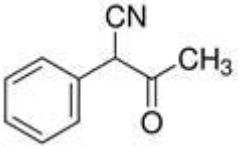
3)	(A)	(6)		Phenylglycolic acid	
		(8)		2,2-Diphenyl-2-hydroxyacetic acid (benzilic acid)	
	(B)			CARBOXYLIC ACIDS WITH PHENOL FUNCTION AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES	
3)	(B)	(I)		Salicylic acid	
				Phosphoric esters and their salts, including lactophosphates; their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(3)			Tributyl phosphate	
				Esters of other inorganic acids of non-metals (excluding esters of hydrogen halides) and their salts; their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(A)			Thiophosphoric esters	

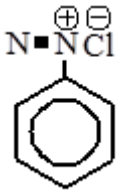
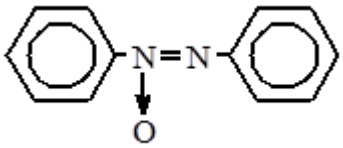
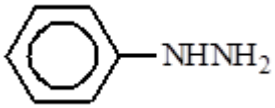
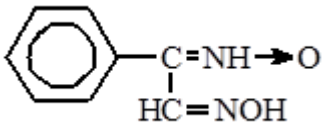
				Sodium O,O-dibutyldithiophosphates	
	(B)			PHOSPHITE ESTERS AND THEIR SALTS.	
				Dimethyl phosphite	
	(D)			Nitrous and nitric esters	
				Methyl nitrite	
0)	(D)			Nitroglycerol	
	(E)			Carbonic or peroxocarbonic esters and their salts	
		(1)		Diguaiacyl carbonate	
	(F)			Silicic acid esters and their salts	
				Tetraethyl silicate	
				Amine-function compounds	

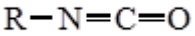
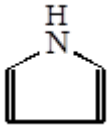
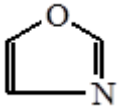
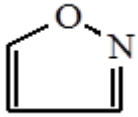
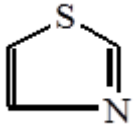
	(A)			ACYCLIC MONOAMINES AND THEIR DERIVATIVES; SALTS THEREOF	
		(4)		Ethylamine	CH_3-CH_2-NH_2
)	(B)			ACYCLIC POLYAMINES AND THEIR DERIVATIVES; SALTS THEREOF	
		(2)		Hexamethylenediamine	
	(D)			AROMATIC MONOAMINES AND THEIR DERIVATIVES; SALTS THEREOF	
		(1)		Aniline	
		(2)		Toluidine(s)	
		(4)		1-Naphtylamine	
)	(E)			AROMATIC POLYAMINES AND THEIR DERIVATIVES; SALTS THEREOF	

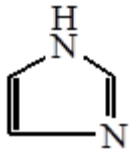
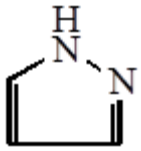
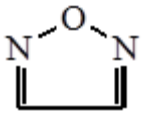
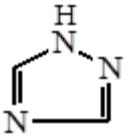
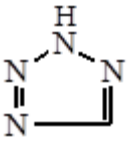
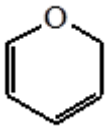
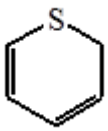
		(1)		Phenylenediamine(s)	
				Oxygen-function amino-compounds	
	(A)			AMINO-ALCOHOLS, THEIR ETHERS AND ESTERS; SALTS THEREOF	
		(1)		Monoethanolamine	
	(B)			AMINO-NAPHTHOLS AND OTHER AMINO-PHENOLS, THEIR ETHERS AND ESTERS; SALTS THEREOF	
		(1)		Aminohydroxynaphthalenesulphonic acids	
2)	(B)	(a)		Anisidine(s)	
		(b)		Dianisidine(s)	

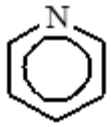
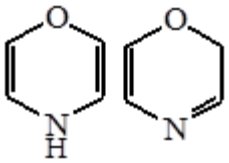
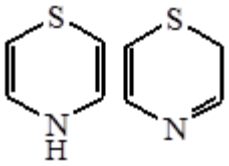
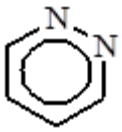
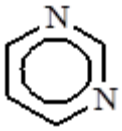
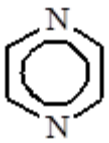
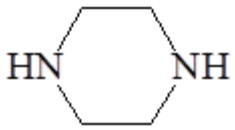
	(D)			AMINO-ACIDS AND THEIR ESTERS; SALTS THEREOF	
		(1)		Lysine	
				Quaternary ammonium salts and hydroxides; lecithins and other phosphoaminolipids, whether or not chemically defined	
	(1)			Choline (Choline hydroxide)	
3)	(2)			Lecithin	
				Carboxyamide-function compounds; amide-function compounds of carbonic acid	
	(B)			CYCLIC AMIDES	
		(1)	(ii)	Diethyldiphenylurea	
				Carboxyimide-function compounds (including saccharin and its salts) and imine-function compounds	
	(A)			IMIDES	

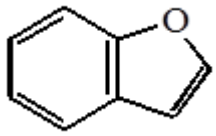
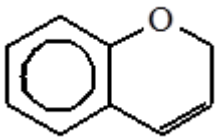
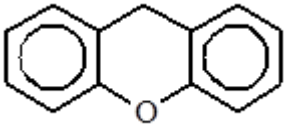
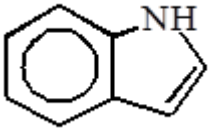
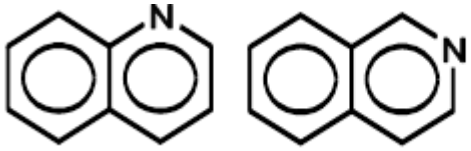
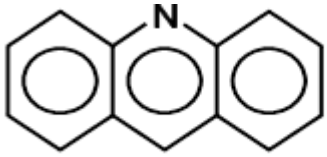
		(1)		Saccharin	
5)	(B)			IMINES	
		(1)		guanidine	
			(a)	Diphenylguanidine	
		(3)		Imino ethers	
				Nitrile-function compounds	
	(1)			Acrylonitrile	
	(2)			1-Cyanoguanidine	
6)	(19)			alpha-Phenylacetoacetonitrile (APAAN)	

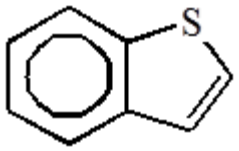
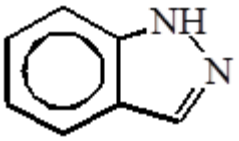
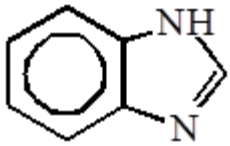
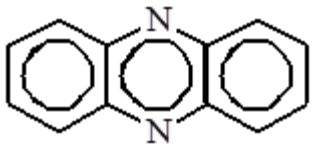
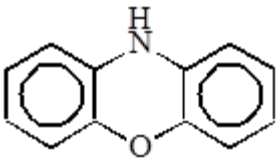
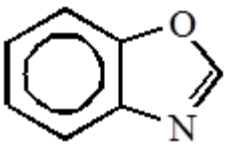
				Diazo-, azo- or azoxy-compounds	
	(A)			DIAZO-COMPOUNDS	
		(1)	(a)	Benzenediazonium chloride	
	(B)			AZO-COMPOUNDS	$R^1N = NR^2$
	(C)			AZOXY-COMPOUNDS	$R^1\text{-}N_2O\text{-}R^2$
		(1)		Azoxybenzene	
				Organic derivatives of hydrazine or of hydroxylamine	
	(1)			Phenylhydrazine	
	(11)			Phenylglyoxime	
				Compounds with other nitrogen function	

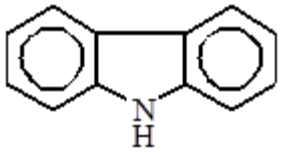
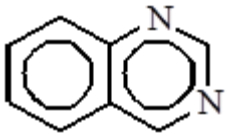
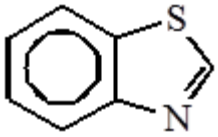
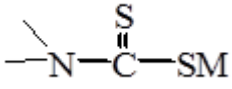
	(1)			Isocyanates	
X **ral**				**ORGANO-INORGANIC COMPOUNDS, HETEROCYCLIC COMPOUNDS, NUCLEIC ACIDS AND THEIR SALTS, AND SULPHONAMIDES**	
	(A)			FIVE-MEMBERED RINGS	
		(1)	(a)	Furan	
ral)	(A)	(1)	(b)	Thiophen	
			(c)	Pyrrole	
		(2)	(a)	Oxazole	
			(a)	Isoxazole	
			(b)	Thiazole	

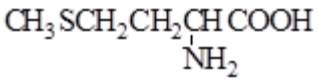
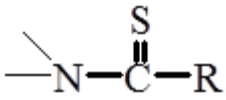
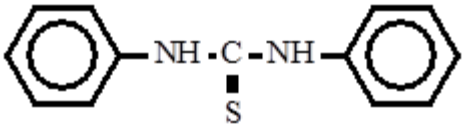
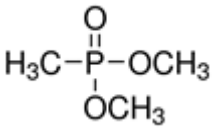
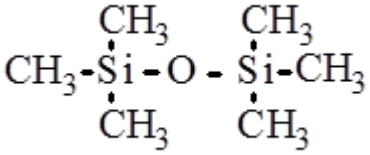
ral)	(A)	(2)	(c)	Imidazole	
			(c)	Pyrazole	
		(3)	(a)	Furazan	
			(b)	Triazole (1,2,4-Triazole)	
			(c)	Tetrazole	
ral)	(B)			SIX-MEMBERED RINGS	
		(1)	(a)	Pyran (2H-Pyran)	
			(b)	Thiin	

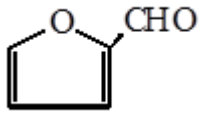
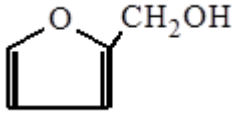
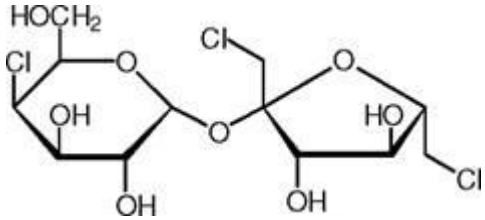
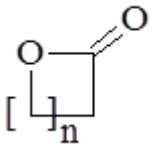
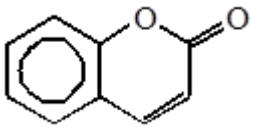
			(c)	Pyridine	
		(2)	(a)	Oxazine (1,4-Oxazine)	
			(b)	Thiazine (1,4-Thiazine)	
ral)	(B)	(2)	(c)	Pyridazine	
			(c)	Pyrimidine	
			(c)	Pyrazine	
			(c)	Piperazine	

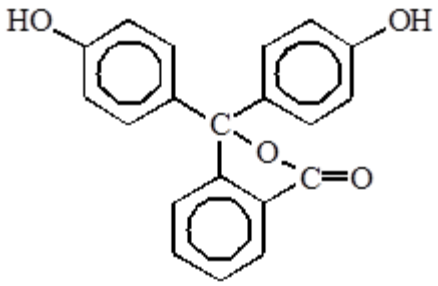
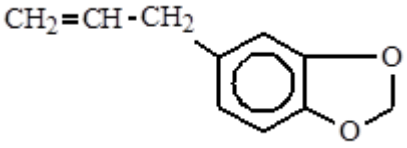
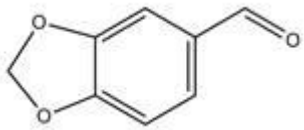
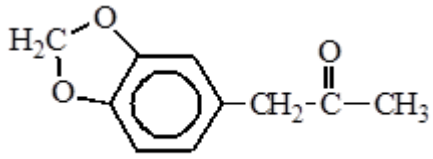
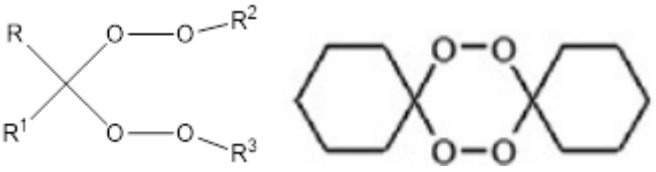
	(C)			OTHER MORE COMPLEX HETEROCYCLIC COMPOUNDS	
		(a)		Coumarone	
ral)	(C)	(b)		Benzopyran	
		(c)		Xanthene	
		(d)		Indole	
		(e)		Quinoline and isoquinoline	
		(f)		Acridine	

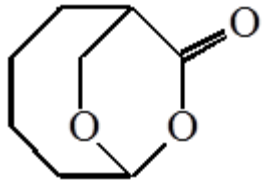
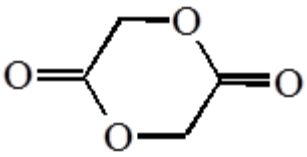
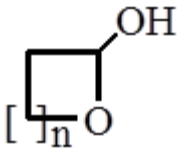
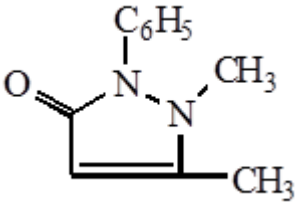
ral)	(C)	(g)		Benzothiophene (Thionaphthene)	
		(h)		Indazole	
		(ij)		Benzimidazole	
		(k)		Phenazine	
		(l)		Phenoxazine	
ral)	(C)	(m)		Benzoxazole	

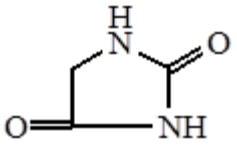
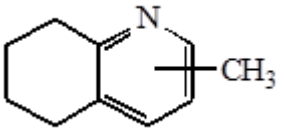
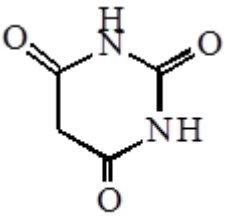
		(n)		Carbazole	
		(o)		Quinazoline	
		(p)		Benzothiazole	
				Organo-sulphur compounds	Compounds with C-S bond
	(A)			DITHIOCARBONATES (XANTHATES)	$ROC(S)SR^1$ R1 = Metal or an organic radical
		(1)		Sodium ethyldithiocarbonate	$C_2H_5O-CS_2Na$
)	(B)			THIOCARBAMATES, DITHIOCARBAMATES AND THIURAM SULPHIDES	
		(2)		Dithiocarbamates	
	(C)			SULPHIDES (OR THIOETHERS)	RSR^1

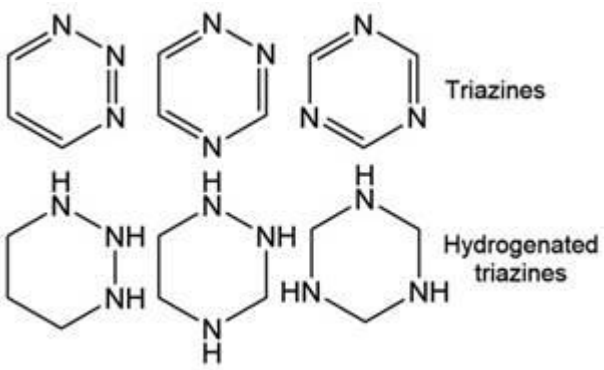
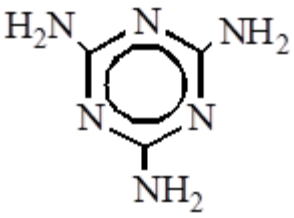
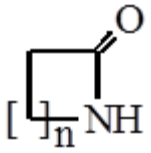
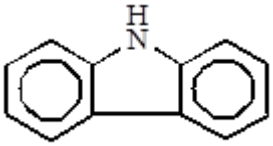
		(1)		Methionine	
	(D)			THIOAMIDES	
		(2)		Thiocarbanilide	
				Other organo-inorganic compounds	
	(3)			Organo-phosphorus compounds	Compounds with C-P bond
				Dimethyl methylphosphonate	
)	(4)			Organo-silicon compounds	Compounds with C-Si bond
				Hexamethyldisiloxane	
				Heterocyclic compounds with oxygen hetero-atom(s) only	

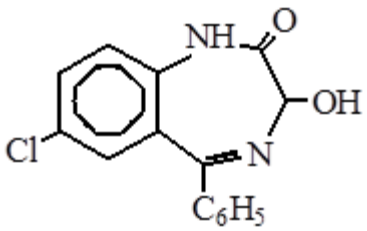
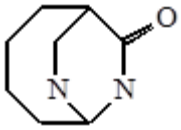
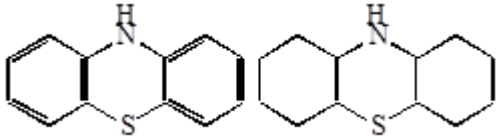
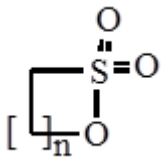
	(A)			Compounds containing an unfused furan ring (whether or not hydrogenated) in the structure	(See structure of furan against page VI-2930-1 for Sub-(1) (a))
		(2)		2-Furaldehyde	
		(3)		Furfuryl alcohol	
		(5)		Sucralose	
2)	(B)			Lactones	
		(a)		Coumarin	

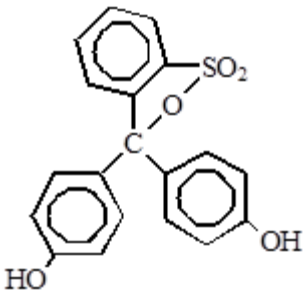
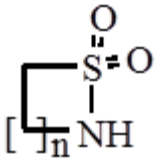
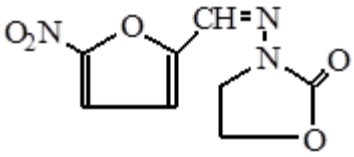
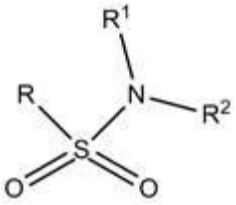
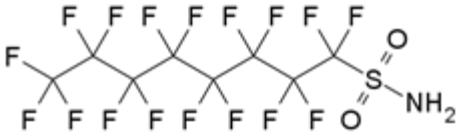
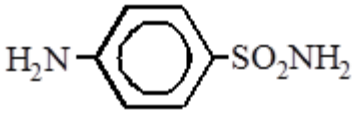
		(p)		Phenolphthalein	
	(C)			Other heterocyclic compounds with oxygen hetero-atom(s) only	
		(5)		Safrole	
2)	(C)	(8)		Piperonal	
		(10)		1-(1,3-Benzodioxol-5-yl)propan-2-one	
				Ketone peroxides (exclusion) – see 29.09	

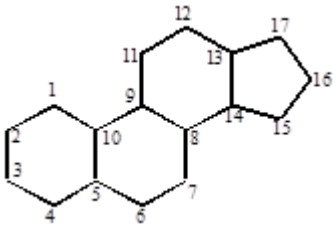
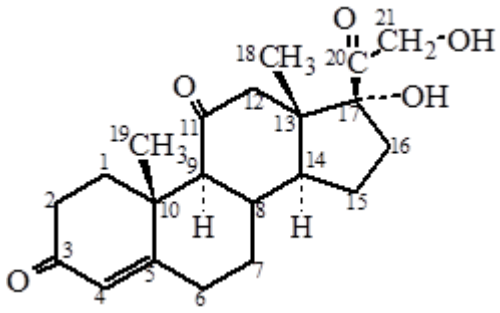
				Example for esters (lactone) forming part of two rings (Subheading Explanatory Notes)	
				Example for dilactone (Subheading Explanatory Notes)	
2)				Internal Hemiacetals	
				Heterocyclic compounds with nitrogen hetero-atom(s) only	
	(A)			Compounds containing an unfused pyrazole ring (whether or not hydrogenated) in the structure	(See structure of pyrazole against page VI-2930-1 for S (A) (2) (c))
		(1)		Phenazone	
3)	(B)			Compounds containing an unfused imidazole ring (whether or not hydrogenated) in the structure	(See structure of imidazole against page VI-2930-1 for S (A) (2) (c))

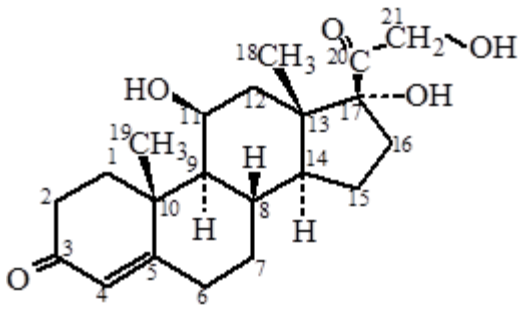
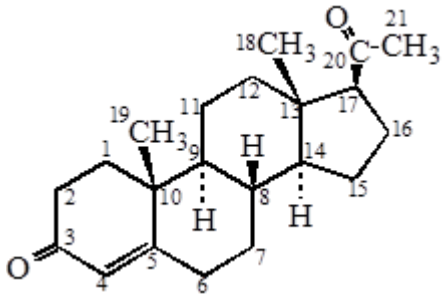
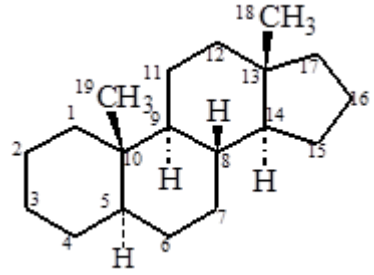
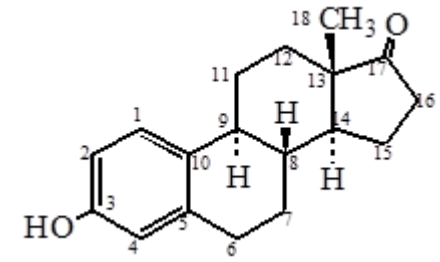
		(1)		Hydantoin	
	(C)			Compounds containing an unfused pyridine ring (whether or not hydrogenated) in the structure	(See structure of pyridine against page VI-2930-2 for S (B) (1) (c))
				Fentanyl (INN)	
	(D)			Compounds containing a quinoline or isoquiniline ring-system (whether or not hydrogenated), not further fused	(See structures of quinoline and isoquinoline against p for Sub-Chapter X (C) (e))
		(4)		Tetrahydromethylquinoline (5,6,7,8-Tetrahydromethylquinoline)	
	(E)			Compounds containing a pyrimidine ring (whether or not hydrogenated) or piperazine ring in the structure	(See structure of pyrimidine against page VI-2930-2 for (B) (2) (c))
		(1)		Malonylurea (Barbituric acid)	

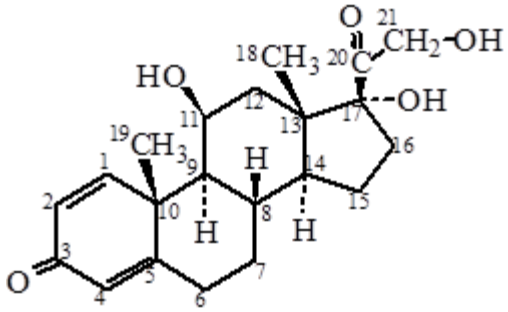
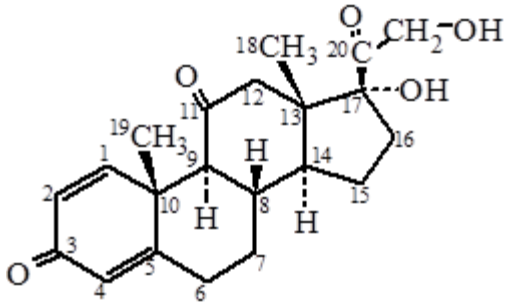
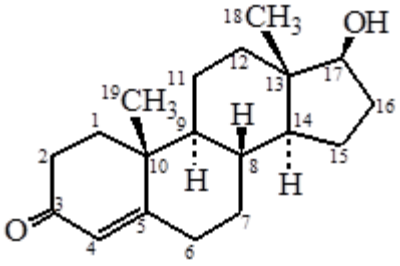
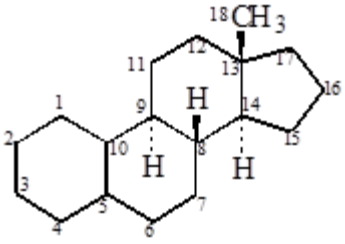
3)	(F)			Compounds containing an unfused triazine ring (whether or not hydrogenated) in the structure	
		(1)		Melamine	
	(G)			Lactams	
3)	(H)			Other heterocyclic compounds with nitrogen hetero-atom(s) only	
		(1)		Carbazole	
		(2)		Acridine	(See structure of acridine against page VI-2930-2 for S (C) (f))

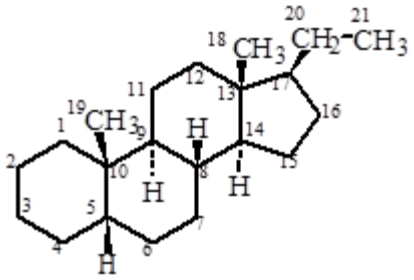
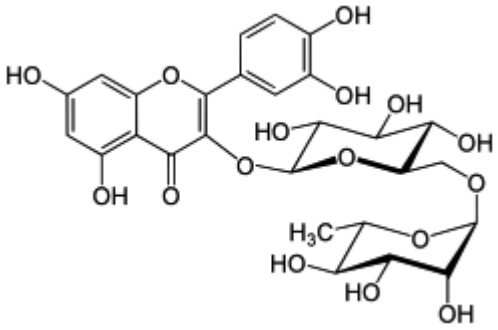
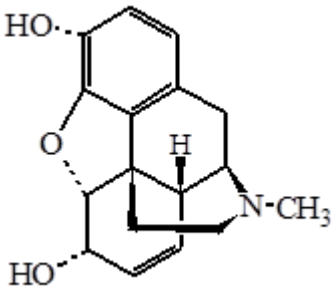
				Oxazepam (Subheading Explanatory Notes)	
				Example for amide (lactam) forming part of two rings (Subheading Explanatory Notes)	
				Nucleic acids and their salts, whether or not chemically defined; other heterocyclic compounds	
	(A)			Compounds containing an unfused thiazole ring (whether or not hydrogenated) in the structure	(See structure of thiazole against page VI-2930-1 for S (A) (2) (b))
	(B)			Compounds containing a benzothiazole ring-system (whether or not hydrogenated), not further fused	(See structure of benzothiazole against page VI-2930-2 fo X (C) (p))
	(C)			Compounds containing a phenothiazine ring-system (whether or not hydrogenated), not further fused	
	(D)			Other heterocyclic compounds	
		(1)		Sultones	

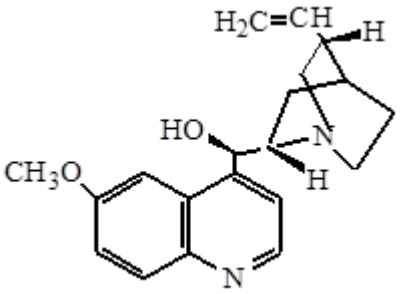
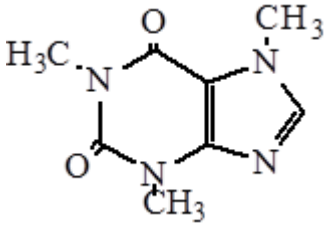
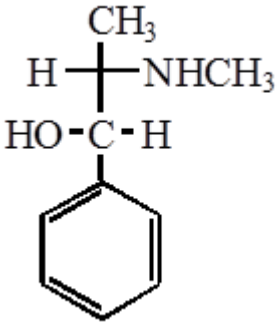
			(a)	Phenolsulfonephthalein	
4)	(D)	(2)		Sultams	
		(4)		Furazolidone (INN)	
				Sulphonamides	
	(1)			Perfluorooctane sulphonamide	
	(5)			p-Aminobenzenesulphonamide	

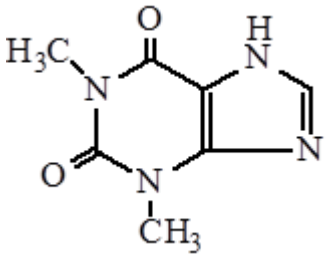
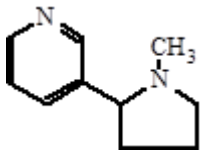
				Hormones, prostaglandins, thromboxanes and leukotrienes, natural or reproduced by synthesis; derivatives and structural analogues thereof, including chain modified polypeptides, used primarily as hormones	
	(V)			Analogues of hormones, prostaglandins, thromboxanes and leukotrienes	
		(b)		Gonane	
	(B)			STEROIDAL HORMONES, THEIR DERIVATIVES AND STRUCTURAL ANALOGUES	
		(1)		Corticosteroid hormones	
			(a)	Cortisone (INN)	

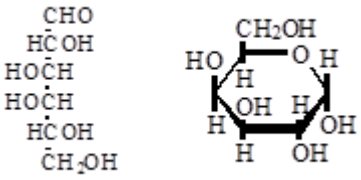
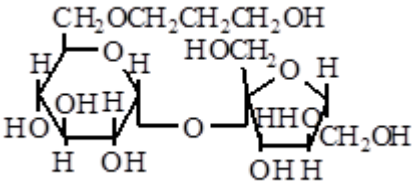
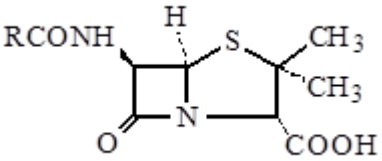
7)	(B)	(1)	(b)	Hydrocortisone (INN)	
		(3)		Oestrogens and progestogens	
			(a)	Progesterone (INN)	
	List			Androstane	
7)	List			Estrone (INN)	

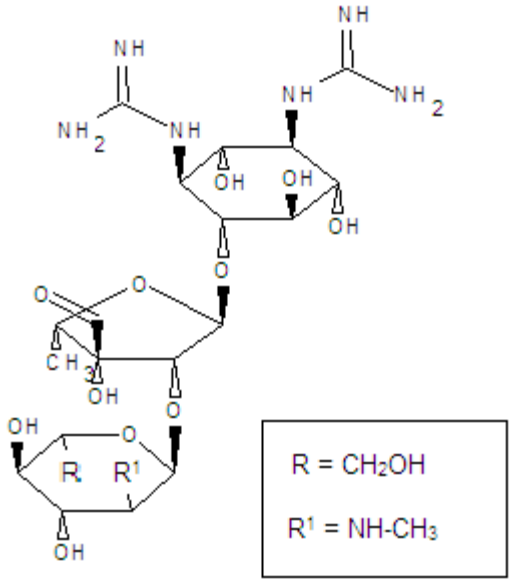
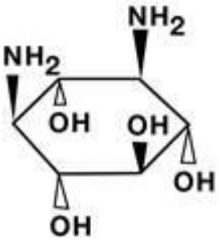
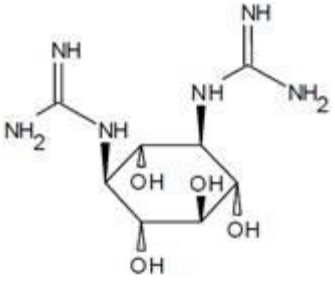
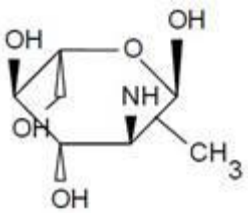
				Prednisolone (INN)	
				Prednisone (INN)	
7)	List			Testosterone (INN)	
				Estrane	

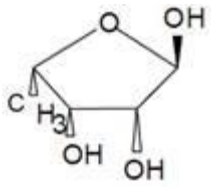
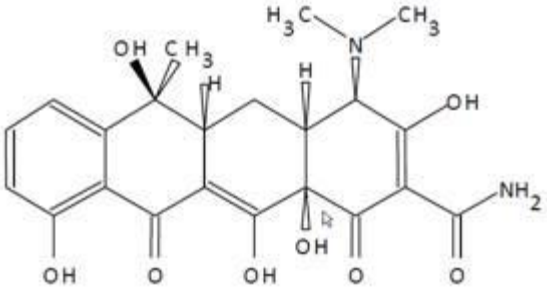
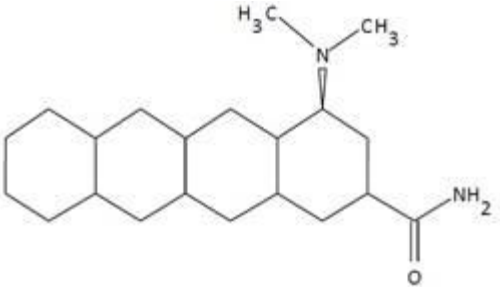
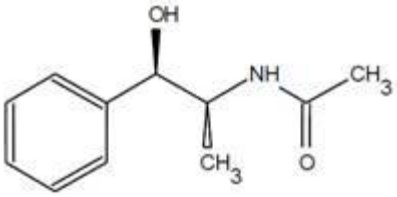
				Pregnane	
				Glycosides, natural or reproduced by synthesis, and their salts, ethers, esters and other derivatives	
	(1)			Rutoside	
				Vegetable alkaloids, natural or reproduced by synthesis, and their salts, ethers, esters and other derivatives	
	(A)			ALKALOIDS OF OPIUM AND THEIR DERIVATIVES; SALTS THEREOF	
		(1)		Morphine	

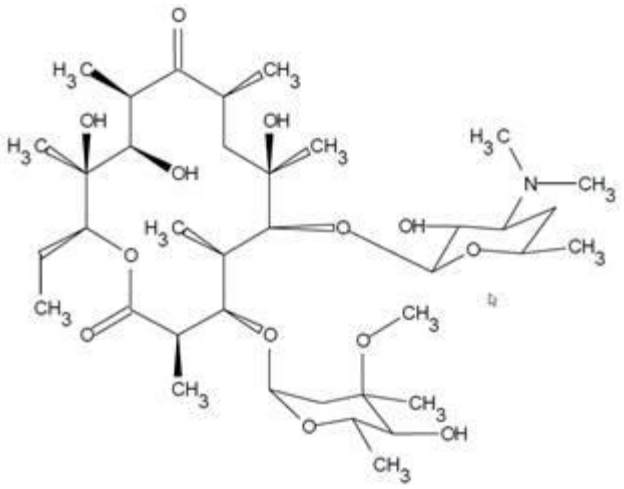
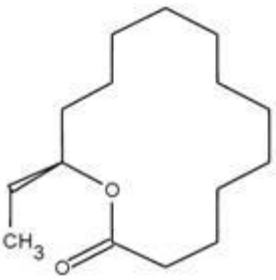
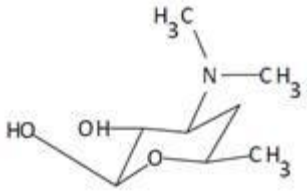
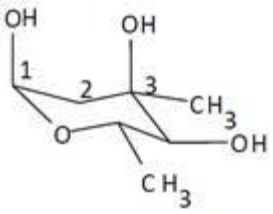
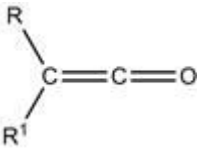
9)	(B)			ALKALOIDS OF CINCHONA AND THEIR DERIVATIVES; SALTS THEREOF	
		(1)		Quinine	
	(C)			CAFFEINE AND ITS SALTS	
				Caffeine	
9)	(D)			ALKALOIDS OF EPHEDRA AND THEIR DERIVATIVES; SALTS THEREOF	
		(1)		Ephedrine	
	(E)			THEOPHYLLINE AND AMINOPHYLLINE	

				(THEOPHYLLINE-ETHYLENEDIAMINE) AND THEIR DERIVATIVES; SALTS THEREOF	
	(E)			Theophylline	
9)	(G)			NICOTINE AND ITS SALTS	
				Nicotine	
				OTHER ALKALOIDS OF NON VEGETAL ORIGIN	
	(IJ)			Viridicatin (fungal), histrionicotoxin (animal), coccinelline (insect), varacin (marine) and procyanine (bacrterial)	
				Sugars, chemically pure, other than sucrose, lactose, maltose, glucose and fructose; sugar ethers, sugar acetals and sugar esters, and their salts, other than products of heading 29.37, 29.38 or 29.39	

	(A)			SUGARS, CHEMICALLY PURE	
		(1)		Galactose	
	(B)			SUGAR ETHERS, SUGAR ACETALS AND SUGAR ESTERS, AND THEIR SALTS	
		(1)		Hydroxypropyl sucrose	
				Antibiotics	
	(1)			Penicillins	

)	(2)			Streptomycin	
				Streptamine (constituent of the streptomycin skeleton) (Subheading Explanatory Notes)	
)				Streptidine (constituent of the streptomycin skeleton) (Subheading Explanatory Notes)	
				Methylglucosamine (constituent of the streptomycin skeleton) (Subheading Explanatory Notes)	

				5-deoxylyxose (constituent of the streptomycin skeleton) (Subheading Explanatory Notes)	
	(3)			Tetracycline	
)	(3)			4-dimethylamino-naphthacene-2-carboxamide (fully hydrogenated) (constituent of the tetracycline skeleton) (Subheading Explanatory Notes)	
	(4)			N-(2-hydroxy-1-methyl-2-phenethyl)acetamide (constituent of the chloramphenicol skeleton) (Subheading Explanatory Notes)	

	(5)			Erythromycin	
)	(5)			13-ethyl-13-tridecanolide (constituent of the erythromycin skeleton) (Subheading Explanatory Notes)	
				Desosamine (constituent of the erythromycin skeleton) (Subheading Explanatory Notes)	
				Mycarose (constituent of the erythromycin skeleton) (Subheading Explanatory Notes)	
				Other organic compounds	
	(1)			Ketenes	

	(2)			Boron trifluoride complexes with diethyl ether	$(C_2H_5)_2O{\cdot}BF_3$

(*) Dextromethorphan (INN) ((+)-3- methoxy-N- Methylmorphinan) is specifically excluded from thislist.

(**) Dextrophane (INN) ((+)-3-hydroxy-N-methylmorphinan) is specifically excluded from this list.

(*) Other substances not added.

(**) Natural mixtures, constituents other than alkaloids sufficiently removed, other substances not added .

2942.00

Other organic compounds.

Annexes

LIST OF NARCOTIC DRUGS AND PSYCHOTROPIC SUBSTANCES

EXPLANATORY NOTES

LIST

OF NARCOTIC DRUGS AND PSYCHOTROPIC SUBSTANCES ARRANGED IN ALPHABETICAL ORDER BY TYPE OF DRUG

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol**

Name	HS subheading	CAS No.	Convention Schedule No
Acetorphine (INN)	2939.19	25333-77-1	4
Acetorphine hydrochloride	2939.19	25333-78-2	4
Acetyldihydrocodeine	2939.19	3861-72-1	2
Acetyldihydrocodeine hydrochloride	2939.19		2

Acetylfentanyl	2933.34	3258-84-2	1
Acetylmethadol (INN)	2922.19	509-74-0	1
Acetyl-a-methylfentanyl	2933.34	101860-00-8	1
Acetylmorphine	2939.19		1
3-Acetylmorphine	2939.19		1
6-Acetylmorphine	2939.19	2784-73-8	1
Acryloylfentanyl	2933.34	82003-75-6	1
AH-7921	2924.29		1
Alfentanil (INN)	2933.33	71195-58-9	1
Alfentanil hydrochloride	2933.33	69049-06-5	1
Allylprodine (INN)	2933.39	25384-17-2	1
Allylprodine hydrochloride	2933.39		1
Alphacetylmethadol (INN)	2922.19	17199-58-5	1
L-Alphacetylmethadol	2922.19		

Alphacetylmethadol hydrochloride	2922.19		1
Alphameprodine (INN)	2933.39	468-51-9	1
Alphamethadol (INN)	2922.19	17199-54-1	1
Alphaprodine (INN)	2933.39	77-20-3	1
Alphaprodine hydrochloride	2933.39	561-78-4	1
Anileridine (INN)	2933.33	144-14-9	1
Anileridine dihydrochloride	2933.33	126-12-5	1
Anileridine phosphate	2933.39	4268-37-5	1
Benzethidine (INN)	2933.39	3691-78-9	1
Benzethidine hydrobromide	2933.39		1
Benzethidine hydrochloride	2933.39		1
Benzoylmorphine	2939.19		1
Benzylmorphine	2939.19	14297-87-1	1
Benzylmorphine hydrochloride	2939.19	630-86-4	1
Benzylmorphine mesilate	2939.19		1

Betacetylmethadol (INN)	2922.19	17199-59-6	1
Betameprodine (INN)	2933.39	468-50-8	1
Betamethadol (INN)	2922.19	17199-55-2	1
Betaprodine (INN)	2933.39	468-59-7	1
Betaprodine hydrochloride	2933.39		1
Bezitramide (INN)	2933.33	15301-48-1	1
Bezitramide hydrochloride	2933.33		1
Butyrfentanyl	2933.34	1169-70-6	1
Cannabis	1211.90		4
Cannabis extracts and tinctures	1302.19		
Cannabis oil	1302.19		
Cannabis resin	1301.90		
Carfentanil (INN)	2933.33	59708-52-0	1
Clonitazene (INN)	2933.99	3861-76-5	1
Clonitazene hydrochloride	2933.99		1

Clonitazene mesilate	2933.99		1
Coca leaf	1211.30		
Cocaine	2939.72	50-36-2	1
d-Cocaine	2939.72	478-73-9	1
Cocaine benzoate	2939.72		1
Cocaine borate	2939.72		1
Cocaine citrate	2939.72		1
Cocaine formate	2939.72		1
Cocaine hydriodide	2939.72		1
Cocaine hydrobromide	2939.72		1

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Cocaine hydrochloride	2939.72	53-21-4	1
Cocaine lactate	2939.72		1
Cocaine nitrate	2939.72	5913-62-2	1
Cocaine salicylate	2939.72	5913-64-4	1

Cocaine sulfate	2939.72		1
Cocaine tartrate	2939.72		1
Codeine	2939.11	76-57-3	2
Codeine acetate	2939.11		2
Codeine allobarbiturate	2939.11		2
Codeine barbiturate	2939.11		2
Codeine camphosulfonate	2939.11		2
Codeine citrate	2939.11	5913-73-5	2
Codeine cyclobarbiturate	2939.11		2
Codeine cyclopentobarbiturate	2939.11		2
Codeine 6-glucuronide	2939.19		2
Codeine hydrobromide	2939.11	125-25-7	2
Codeine hydrochloride	2939.11	1422-07-7	2
Codeine hydroiodide	2939.11	125-26-8	2
Codeine methylbromide	2939.19	125-27-9	2
Codeine phenobarbiturate	2939.11		2

Codeine phosphate	2939.11	52-28-8	2
Codeine resinate	3003.49		2
Codeine salicylate	2939.11		2
Codeine sulfate	2939.11	1420-53-7	2
Codeine-N-oxide	2939.19	3688-65-1	
Codeine-N-oxide hydrochloride	2939.19		
Codoxime (INN)	2939.19	7125-76-0	1
Concentrate of poppy straw	1302.11		1
	2939.11		
Cyclopropylfentanyl	2933.34	1169-68-2	1
Desomorphine (INN)	2939.19	427-00-9	4
Desomorphine hydrobromide	2939.19		4
Desomorphine hydrochloride	2939.19		4
Desomorphine sulfate	2939.19		4
Dextromoramide (INN)	2934.91	357-56-2	1
Dextromoramide dihydrochloride	2934.91		1

Dextromoramide hydrochloride	2934.91		1
Dextromoramide hydrogen tartrate (bitartrate)	2934.99	2922-44-3	1
Dextropropoxyphene (INN)	2922.14	469-62-5	2
Dextropropoxyphene hydrochloride	2922.14	1639-60-7	2
Napsilate	2922.19	17140-78-2	2
Dextropropoxyphene resinate	3003.90		2
Diampromide (INN)	2924.29	552-25-0	1
Diampromide sulfate	2924.29		1
Diethylthiambutene (INN)	2934.99	86-14-6	1

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Diethylthiambutene hydrochloride	2934.99	132-19-4	1
Difenoxin (INN)	2933.33	28782-42-5	1
Difenoxin hydrochloride	2933.33	35607-36-4	1
Dihydrocodeine (INN)	2939.11	125-28-0	2

Dihydrocodeine hydrochloride	2939.11		2
Dihydrocodeine hydrogen tartrate (bitartrate)	2939.11	5965-13-9	2
Dihydrocodeine phosphate	2939.11	24204-13-5	2
Dihydrocodeine resinate	3003.49		2
Dihydrocodeine thiocyanate	2939.11		2
Dihydroisomorphin	2939.19		
Dihydroisomorphin 6-glucuronide	2939.19		
Dihydromorphine	2939.19	509-60-4	2
Dihydromorphine hydriodide	2939.19		2
Dihydromorphine hydrochloride	2939.19	1421-28-9	2
Dihydromorphine picrate	2939.19		2
Dimenoxadol (INN)	2922.19	509-78-4	1
Dimenoxadol hydrochloride	2922.19	242-75-1	1
Dimepheptanol (INN)	2922.19	545-90-4	1
Dimepheptanol hydrochloride	2922.19		1
Dimethylthiambutene (INN)	2934.99	524-84-5	1

Dimethylthiambutene hydrochloride	2934.99		1
Dioxaphetyl butyrate (INN)	2934.99	467-86-7	1
Dioxaphetyl butyrate hydrochloride	2934.99		1
Diphenoxylate (INN)	2933.33	915-30-0	1
Diphenoxylate hydrochloride	2933.33	3810-80-8	1
Dipipanone (INN)	2933.33	467-83-4	1
Dipipanone hydrobromide	2933.33		1
Dipipanone hydrochloride	2933.33	75783-06-1	1
Drotebanol (INN)	2933.49	3176-03-2	1
Ecgonine, its esters and derivatives which are convertible to ecgonine and cocaine	2939.72	481-37-8	1
Ecgonine benzoylethyl ester	2939.72		1
Ecgonine benzoylpropyl ester	2939.72		1
Ecgonine cinnamoylmethyl ester	2939.72		1
Ecgonine 2,6-dimethyl-benzoylmethyl ester	2939.72		1
Ecgonine hydrochloride	2939.72		1
Ecgonine *m*-hydroxybenzoylester	2939.72		1

Ecgonine methyl ester	2939.72		1
Ecgonine methyl ester hydrochloride	2939.72		1
Ecgonine phenylacetyl-methyl ester	2939.72		1
Ethylmethylthiambutene (INN)	2934.99	441-61-2	1
Ethylmethylthiambutene hydrochloride	2934.99		1
Ethylmorphine	2939.11	76-58-4	2
Ethylmorphine camphosulfonate	2939.11		2
Ethylmorphine hydrobromide	2939.11		2
Ethylmorphine hydrochloride	2939.11	125-30-4	2
Ethylmorphine methyliodide	2939.19		2
Ethylmorphine phenobarbiturate	2939.11		2
Etonitazene (INN)	2933.99	911-65-9	1
Etonitazene hydrochloride	2933.99		1
Etorphine (INN)	2939.11	14521-96-1	4

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention

			Schedule No.
Etorphine hydrochloride	2939.11	13764-49-3	4
Etorphine 3-methyl ether	2939.19		4
Etoxeridine (INN)	2933.39	469-82-9	1
Etoxeridine hydrochloride	2933.39		1
Fentanyl (INN)	2933.33	437-38-7	1
Fentanyl citrate	2933.33	990-73-8	1
p-Fluorobutyrylfentanyl	2933.34	244195-31-1	1
o-Fluorofentanyl	2933.34	910616-29-4	1
p-Fluorofentanyl	2933.34		4
p-Fluorofentanyl hydrochloride	2933.34		4
4-Fluoroisobutyrfentanyl	2933.34	244195-32-2	1
Furanylfentanyl	2934.92	101345-66-8	1
Furethidine (INN)	2934.99	2385-81-1	1

Furethidine hydrobromide	2934.99		1
Furethidine methyliodide	2934.99		1
Furethidine picrate	2934.99		1
Heroin	2939.11	561-27-3	4
Heroin hydrochloride	2939.11	1502-95-0	4
Heroin methyliodide	2939.19		4
Hydrocodone (INN)	2939.11	125-29-1	1
Hydrocodone citrate	2939.11		1
Hydrocodone hydriodide	2939.11		1
Hydrocodone hydrochloride	2939.11	25968-91-6	1
Hydrocodone hydrogen tartrate (bitartrate)	2939.11	143-71-5	1
Hydrocodone methyliodide	2939.19		1
Hydrocodone phosphate	2939.11	34366-67-1	1
Hydrocodone resinate	3003.49		1
Hydrocodone terephthalate	2939.11		1
Hydromorphinol (INN)	2939.19	2183-56-4	1

Hydromorphinol hydrochloride	2939.19		1
Hydromorphinol hydrogen tartrate (bitartrate)	2939.19		1
Hydromorphone (INN)	2939.11	466-99-9	1
Hydromorphone hydrochloride	2939.11	71-68-1	1
Hydromorphone sulfate	2939.11		1
Hydromorphone terephthalate	2939.11		1
ß-Hydroxyfentanyl	2933.34		4
ß-Hydroxyfentanyl hydrochloride	2933.34		4
(+)-cis-ß-Hydroxy-3-m-methylfentanyl	2933.34		
ß-Hydroxy-3-methylfentanyl	2933.34		4
ß-Hydroxy-3-methylfentanyl hydrochloride	2933.34		4
Hydroxypethidine (INN)	2933.39	468-56-4	1
Hydroxypethidine hydrochloride	2933.39		1
Isomethadone (INN)	2922.39	466-40-0	1
d-Isomethadone	2922.39		
l-Isomethadone	2922.39		

Isomethadone hydrobromide	2922.39		1
Isomethadone hydrochloride	2922.39		1
Ketobemidone (INN)	2933.33	469-79-4	4
Ketobemidone hydrochloride	2933.33	5965-49-1	4
Levacetylmethadol (INN)	2922.19	34433-66-4	1
Levomethorphan (INN)(*)	2933.49	125-70-2	1
Levomethorphan hydrobromide	2933.49		1
Levomethorphan hydrogen tartrate (bitartrate)	2933.49		1
Levomoramide (INN)	2934.99	5666-11-5	1
Levomoramide dihydrochloride	2934.99		1
Levophenacylmorphan (INN)	2933.49	10061-32-2	1
Levophenacylmorphan hydrochloride	2933.49		1
Levophenacylmorphan methylsulfonate	2933.49		1
Levopropoxyphene (INN)	2922.19	2338-37-6	
Levorphanol (INN)(**)	2933.41	77-07-6	1

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Levorphanol hydrogen tartrate (bitartrate)	2933.41	125-72-4	1
Levorphanol hydrochloride	2933.41		1
Metazocine (INN)	2933.39	3734-52-9	1
Metazocine hydrobromide	2933.39		1
Metazocine hydrochloride	2933.39		1
l-Methadol	2922.19		
Methadone (INN)	2922.31	76-99-3	1
d-Methadone	2922.31		
l-Methadone	2922.31		1
Methadone hydrobromide	2922.31		1
Methadone hydrochloride	2922.31	1095-90-5	1
Methadone hydrogen tartrate (bitartrate)	2922.31		1
d-Methadone hydrochloride	2922.31		
l-Methadone hydrochloride	2922.31		

l-Methadone hydrogen tartrate (bitartrate)	2922.31		1
Methadone (INN) intermediate4-cyano-2-dimethylamino-4,4-diphenylbutane or 2-dimethylamino-4,4-diphenyl-4-cyanobutane	2926.30		1
Methoxyacetylfentanyl	2933.34	101345-67-9	1
Methyldesorphine (INN)	2939.19	16008-36-9	1
Methyldesorphine hydrochloride	2939.19		1
Methyldihydromorphine (INN)	2939.19	509-56-8	1
3-Methylfentanyl	2933.34		4
3-Methylfentanyl hydrochloride	2933.34		4
α-Methylfentanyl	2933.34		4
α-Methylfentanyl hydrochloride	2933.34		4
α-Methylthiofentanyl	2934.92		1
α-Methylthiofentanyl hydrochloride	2934.92		1
3-Methylthiofentanyl	2934.92		4
3-Methylthiofentanyl hydrochloride	2934.92		4
(+)-*cis*-3-Methylthiofentanyl	2934.92		4

(+)-*cis*-3-Methylthioentanyl-hydrochloride	2934.92		
Metopon (INN)	2939.19	143-52-2	1
Metopon hydrochloride	2939.19		1
Moramide intermediate	2934.99		1
Morpheridine (INN)	2934.99	469-81-8	1
Morpheridine dihydrochloride	2934.99		1
Morpheridine picrate	2934.99		1
Morphine	2939.11	57-27-2	1
Morphine acetate	2939.11	596-15-6	1
Morphine citrate	2939.11		1
Morphine 3,6-diglucuronide	2939.19		1
Morphine dimethyl ether	2939.19		
Morphine gluconate	2939.19		1
Morphine 3-glucuronide	2939.19		1
Morphine 3-glucuronide	2939.19		1
Morphine 6-glucuronide	2939.19		1

Morphine 3-β-D-glucuronide	2939.19		1
Morphine 6-β-D-glucuronide	2939.19		1
Morphine hydriodide	2939.11		1
Morphine hydrobromide	2939.11	630-81-9	1
Morphine hydrochloride	2939.11	52-26-6	1
Morphine hypophosphite	2939.11		1
Morphine isobutyrate	2939.11		1
Morphine lactate	2939.11		1
Morphine meconate	2939.11		1
Morphine methobromide	2939.19		1
Morphine methylbromide	2939.19		1
Morphine methylchoride	2939.19		1
Morphine methyliodide	2939.19		1
Morphine methylsulfonate	2939.11		1

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention

			Schedule No.
Morphine mucate	2939.11		1
Morphine nitrate	2939.11	596-16-7	1
Morphine phenylpropionate	2939.11		1
Morphine phosphate	2939.11		1
Morphine phthalate	2939.11		1
Morphine stearate	2939.11		1
Morphine sulfate	2939.11	64-31-3	1
Morphine tartrate	2939.11	302-31-8	1
Morphine valerate	2939.11		1
Morphine-N-oxide	2939.19	639-46-3	1
Morphine-N-oxide quinate	2939.19		1
MPPP	2933.39		4
MPPP hydrochloride	2933.39		4
MT-45	2933.59		1
Myrophine (INN)	2939.19	467-18-5	1

Myrophine hydrochloride	2939.19		1
Nicocodine (INN)	2939.19	3688-66-2	2
Nicocodine hydrochloride	2939.19		2
Nicodicodine (INN)	2939.19	808-24-2	2
Nicomorphine (INN)	2939.11	639-48-5	1
Nicomorphine hydrochloride	2939.11		1
Noracymethadol (INN)	2922.19	1477-39-0	1
Noracymethadol gluconate	2922.19		1
Noracymethadol hydrochloride	2922.19		1
Norcodeine (INN)	2939.19	467-15-2	2
Norcodeine acetate	2939.19		2
Norcodeine hydriodide	2939.19		2
Norcodeine hydrochloride	2939.19	14648-14-7	2
Norcodeine nitrate	2939.19		2
Norcodeine platinichloride	2843.90		2
Norcodeine sulfate	2939.19		2

Norlevorphanol (INN)	2933.49	1531-12-0	1
Norlevorphanol hydrobromide	2933.49		1
Norlevorphanol hydrochloride	2933.49		1
Normethadone (INN)	2922.31	467-85-6	1
Normethadone 2,6-di-tert-butylnaphthalenedisulfonate	2922.31		1
Normethadone hydrobromide	2922.31		1
Normethadone hydrochloride	2922.31	847-84-7	1
Normethadone methyliodide	2922.39		1
Normethadone oxalate	2922.31		1
Normethadone picrate	2922.31		1
Normethadone (INN) intermediate	2926.90		
Normorphine (INN)	2939.19	466-97-7	1
Normorphine hydrochloride	2939.19		1
Norpipanone (INN)	2933.39	561-48-8	1
Norpipanone hydrobromide	2933.39		1
Norpipanone hydrochloride	2933.39		1

Ocfentanil (INN)	2933.34	101343-69-5	1
Opium	1302.11		1

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Opium, mixed alkaloids of	1302.11(*)		
	2939.11(**)		
Opium, prepared	1302.19		
	2939.11		
Oripavine	2939.19		1
Oripavine hydrochloride	2939.19		1
Oxycodone (INN)	2939.11	76-42-6	1
Oxycodone camphosulfonate	2939.11		1
Oxycodone hydrochloride	2939.11	124-90-3	1
Oxycodone hydrogen tartrate (bitartrate)	2939.11		1
Oxycodone pectinate	2939.11		1

Oxycodone phenylpropionate	2939.11		1
Oxycodone phosphate	2939.11		1
Oxycodone terephthalate	2939.11		1
Oxymorphone (INN)	2939.11	76-41-5	1
Oxymorphone hydrochloride	2939.11	357-07-3	1
Papaver bracteatum	1211.90		
PEPAP	2933.39		4
PEPAP hydrochloride	2933.39		4
Pethidine (INN)	2933.33	57-42-1	1
Pethidine hydrochloride	2933.33	50-13-5	1
Pethidine (INN) intermediate A	2933.33		1
Pethidine (INN) intermediate B	2933.39		1
Pethidine intermediate B hydrobromide	2933.39		1
Pethidine intermediate B hydrochloride	2933.39		1
Pethidine (INN) intermediate C	2933.39		1
Phenadoxone (INN)	2934.99	467-84-5	1

Phenadoxone hydrochloride	2934.99	545-91-5	1
Phenampromide (INN)	2933.39	129-83-9	1
Phenampromide hydrochloride	2933.39		1
Phenazocine (INN)	2933.39	127-35-5	1
Phenazocine hydrobromide	2933.39		1
Phenazocine hydrochloride	2933.39	7303-75-5	1
Phenazocine mesilate	2933.39		1
Phenomorphan (INN)	2933.49	468-07-5	1
Phenomorphan hydrobromide	2933.49		1
Phenomorphan hydrogen tartrate (bitartrate)	2933.49		1
Phenomorphan methylbromide	2933.49		1
Phenoperidine (INN)	2933.33	562-26-5	1
Phenoperidine hydrochloride	2933.33	3627-49-4	1
Pholcodine (INN)	2939.11	509-67-1	2
Pholcodine hydrogen tartrate (bitartrate)	2939.11		2
Pholcodine citrate	2939.11		2

Pholcodine guaiacolsulfonate	2939.11		2
Pholcodine hydrochloride	2939.11		2
Pholcodine phenylacetate	2939.11		2

I. **Narcotic drugs subject to control under the Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Pholcodine phosphate	2939.11		2
Pholcodine sulfonate	2939.11		2
Pholcodine tartrate	2939.11	7369-11-1	2
Piminodine (INN)	2933.39	13495-09-5	1
Piminodine dihydrochloride	2933.39		1
Piminodine esilate	2933.39	7081-52-9	1
Piritramide (INN)	2933.33	302-41-0	1
Poppy straw	1211.40		
Proheptazine (INN)	2933.99	77-14-5	1
Proheptazine citrate	2933.99		1

Proheptazine hydrobromide	2933.99		1
Proheptazine hydrochloride	2933.99		1
Properidine (INN)	2933.39	561-76-2	1
Properidine hydrochloride	2933.39		1
Propiram (INN)	2933.33	15686-91-6	2
Propiram fumarate	2933.33		2
Racemethorphan (INN)	2933.49	510-53-2	1
Racemethorphan hydrobromide	2933.49		1
Racemethorphan hydrogen tartrate (bitartrate)	2933.49		1
Racemoramide (INN)	2934.99	545-59-5	1
Racemoramide dihydrochloride	2934.99		1
Racemoramide hydrogen tartrate (bitartrate)	2934.99		1
Racemoramide tartrate	2934.99		1
Racemorphan (INN)	2933.49	297-90-5	1
Racemorphan hydrobromide	2933.49		1
Racemorphan hydrochloride	2933.49		1

Racemorphan hydrogen tartrate (bitartrate)	2933.49		1
Remifentanil (INN)	2933.33	132875-61-7	1
Remifentanil hydrochloride	2933.33		1
Sufentanil (INN)	2934.91	56030-54-7	1
Sufentanil citrate	2934.91		1
Thebacon (INN)	2939.11	466-90-0	1
Thebacon hydrochloride	2939.11	20236-82-2	1
Thebaine hydrochloride	2939.11		1
Thebaine hydrogen tartrate (bitartrate)	2939.11		1
Thebaine oxalate	2939.11		1
Thebaine salicylate	2939.11		1
Tetrahydrofuranylfentanyl	2934.92		1
Thiofentanyl	2934.92	1165-22-6	4
Thiofentanyl acetate	2934.92		1
Thiofentanyl hydrochloride	2934.92		4
Tilidine (INN)	2922.44	20380-58-9	1

Tilidine hydrochloride	2922.44	27107-79-5	1
Trimeperidine (INN)	2933.33	64-39-1	1
Trimeperidine hydrochloride	2933.33	125-80-4	1
U-47700	2924.29		1

II. **Psychotropic substances subject to control under the 1971 Convention on Psychotropic Substances**

Name	HS subheading	CAS No.	Convention Schedule No.
AB-CHMINACA	2933.99		2
AB-PINACA	2933.99		2
Allobarbital (INN)	2933.53	52-43-7	4
Allobarbital aminophenazone	2933.54		4
Alprazolam (INN)	2933.91	28981-97-7	4

II. **Psychotropic substances subject to control under the 1971 Convention on Psychotropic Substances** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.

AM-2201; JWH-2201	2933.99		2
Amfepramone (INN)	2922.31	90-84-6	4
Amfepramone glutamate	2922.42		4
Amfepramone hydrochloride	2922.31	134-80-5	4
Amfepramone resinate	3003.90		4
Amfetamine (INN)	2921.46	300-62-9	2
Amfetamine acetylsalicylate	2921.46		2
Amfetamine adipate	2921.46		2
Amfetamine p-aminophenylacetate	2922.49		2
Amfetamine aspartate	2922.49		2
Amfetamine p-chloro- phenoxyacetate	2921.46		2
Amfetamine hydrochloride	2921.46		2
Amfetamine hydrogen tartrate (bitartrate)	2921.46		2
Amfetamine pentobarbiturate	2933.54		2
Amfetamine phosphate	2921.46	139-10-6	2
Amfetamine resinate	3003.90		2

Amfetamine sulfate	2921.46	60-13-9	2
Amfetamine tannate	3201.90		2
Amfetamine tartrate	2921.46		2
Amineptine (INN)	2922.49		2
Amineptine hydrochloride	2922.49		2
Aminorex (INN)	2934.91	2207-50-3	4
Aminorex fumarate	2934.91		4
Aminorex hydrochloride	2934.91		4
Amobarbital (INN)	2933.53	57-43-2	3
Amobarbital resinate	3003.90		3
Amobarbital sodium	2933.53	64-43-7	3
Barbital (INN)	2933.53	57-44-3	4
Barbital calcium	2933.53		4
Barbital magnesium	2933.53		4
Barbital sodium	2933.53	144-02-5	4
Benzfetamine (INN)	2921.46	156-08-1	4

Benzfetamine hydrochloride	2921.46	5411-22-3	4
N-Benzylpiperazine; Benzylpiperazine; BZP	2933.59		2
N-Benzylpiperazine dihydrochloride	2933.59		2
N-Benzylpiperazine hydrochloride	2933.59		2
25B-NBOMe; 2C-B-NBOMe	2922.29		1
25B-NBOMe hydrochloride	2922.29		1
Brolamfetamine (INN) (DOB)	2922.29	64638-07-9	1
Brolamfetamine (DOB) hydrochloride	2922.29		1
Bromazepam (INN)	2933.33	1812-30-2	4
Brotizolam (INN)	2934.91	57801-81-7	4
Buprenorphine (INN)	2939.11	52485-79-7	3
Buprenorphine hydrochloride	2939.11	53152-21-9	3
Buprenorphine hydrogen tartrate (bitartrate)	2939.11		3
Buprenorphine sulfate	2939.11		3
Butalbital (INN)	2933.53	77-26-9	3
Butobarbital	2933.53	77-28-1	4

Camazepam (INN)	2933.91	36104-80-0	4
Cathine (INN)	2939.43	492-39-7	3
Cathine hydrochloride	2939.43	2153-98-2	3
Cathine phenobarbiturate	2939.43		3
Cathine resinate	3003.49		3
Cathine sulfate	2939.43		3
Cathinone (INN)	2939.79	71031-15-7	1
Cathinone hydrochloride	2939.79		1
2C-B	2922.29		2
2C-B hydrochloride	2922.29		2
Chlordiazepoxide (INN)	2933.91	58-25-3	4
Chlordiazepoxide dibunate	2933.91		4
Chlordiazepoxide hydrochloride	2933.91	438-41-5	4
Clobazam (INN)	2933.72	22316-47-8	4
Clonazepam (INN)	2933.91	1622-61-3	4
Clorazepate	2933.91		4

Clorazepate dipotassium	2933.91	57109-90-7	4
Clorazepate monopotassium	2933.91	5991-71-9	4
Clotiazepam (INN)	2934.91	33671-46-4	4
Cloxazolam (INN)	2934.91	24166-13-0	4
Cyclobarbital (INN)	2933.53	52-31-3	3

II. **Psychotropic substances subject to control under the 1971 Convention on Psychotropic Substances** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Cyclobarbital calcium	2933.53	5897-20-1	3
Delorazepam (INN)	2933.91	2894-67-9	4
DET	2939.79	61-51-8	1
DET hydrochloride	2939.79		1
Dexamfetamine (INN)	2921.46	51-64-9	2
Dexamfetamine adipate	2921.46		2
Dexamfetamine carboxy- methylcellulose	3912.31		2
Dexamfetamine hydrochloride	2921.46	405-41-4	2

Dexamfetamine hydrogen tartrate (bitartrate)	2921.46		2
Dexamfetamine pento- barbiturate	2933.54		2
Dexamfetamine phosphate	2921.46	7528-00-9	2
Dexamfetamine resinate	3003.90		2
Dexamfetamine saccharate	2921.49		2
Dexamfetamine sulfate	2921.46	51-63-8	2
Dexamfetamine tannate	3201.90		2
Diazepam (INN)	2933.91	439-14-5	4
DMA	2922.29		1
DMA hydrochloride	2922.29		1
DMHP	2932.99		1
DMT	2939.79	61-50-7	1
DMT hydrochloride	2939.79		1
DMT methyliodide	2939.79		1
DOET	2922.29		1
DOET hydrochloride	2922.29		1

Estazolam (INN)	2933.91	29975-16-4	4
Ethchlorvynol (INN)	2905.51	113-18-8	4
Ethinamate (INN)	2924.24	126-52-3	4
Ethyl loflazepate (INN)	2933.91	29177-84-2	4
N-Ethyl MDA	2932.99		1
N-Ethyl MDA hydrochloride	2932.99		1
Eticyclidine (PCE) (INN)	2921.49	2201-15-2	1
Eticyclidine (PCE) hydrochloride	2921.49		1
Etilamfetamine (INN)	2921.46	457-87-4	4
Etilamfetamine hydrochloride	2921.46		4
Etryptamine (INN)	2939.79		1
Etryptamine acetate	2939.79		1
Etryptamine hydrochloride	2939.79		1
5F-ADB; 5F-MDMB-PINACA	2933.99		2
5F-APINACA; 5F-AKB-48	2933.99		2
5F-PB-22	2933.49		2

Fencamfamin (INN)	2921.46	1209-98-9	4
Fencamfamin hydrochloride	2921.46	2240-14-4	4
Fenetylline (INN)	2939.51	3736-08-1	2
Fenetylline hydrochloride	2939.51	1892-80-4	2
Fenproporex (INN)	2926.30	15686-61-0	4
Fenproporex diphenylacetate	2926.30		4
Fenproporex hydrochloride	2926.30	18305-29-8	4
Fenproporex resinate	3003.90		4
Fludiazepam (INN)	2933.91	3900-31-0	4
Flunitrazepam (INN)	2933.91	1622-62-4	4
Flurazepam (INN)	2933.91	17617-23-1	4
Flurazepam dihydrochloride	2933.91	1172-18-5	4
Flurazepam hydrochloride	2933.91	36105-20-1	4
Glutethimide (INN)	2925.12	77-21-4	3
Halazepam (INN)	2933.91	23092-17-3	4

Haloxazolam (INN)	2934.91	59128-97-1	4
N-Hydroxy MDA	2932.99		1
N-Hydroxy MDA hydrochloride	2932.99		1
Ketazolam (INN)	2934.91	27223-35-4	4
Lefetamine (INN)	2921.46	7262-75-1	4
Lefetamine hydrochloride	2921.46	14148-99-3	4
Levamfetamine (INN)	2921.46	156-34-3	2

II. **Psychotropic substances subject to control under the 1971 Convention on Psychotropic Substances** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Levamfetamine alginate	3913.10		2
Levamfetamine succinate	2921.49	5634-40-2	2
Levamfetamine sulfate	2921.49		2
Levometamfetamine	2939.45		2
Levometamfetamine hydrochloride	2939.45		2

Loprazolam (INN)	2933.55	61197-73-7	4
Loprazolam mesilate	2933.55		4
Lorazepam (INN)	2933.91	846-49-1	4
Lorazepam acetate	2933.91		4
Lorazepam mesilate	2933.91		4
Lorazepam pivalate	2933.91		4
Lormetazepam (INN)	2933.91	848-75-9	4
Lysergide (INN), LSD, LSD-25	2939.69	50-37-3	1
(+)-Lysergide tartrate	2939.69		1
Mazindol (INN)	2933.91	22232-71-9	4
MDMA	2932.99		1
MDMA hydrochloride	2932.99		1
Mecloqualone (INN)	2933.55	340-57-8	2
Mecloqualone hydrochloride	2933.55		2
Medazepam (INN)	2933.91	2898-12-6	4
Medazepam dibunate	2933.91		4

Medazepam hydrochloride	2933.91		4
Mefenorex (INN)	2921.46	17243-57-1	4
Mefenorex hydrochloride	2921.46		4
Meprobamate (INN)	2924.11	57-53-4	4
Mescaline	2939.79	54-04-6	1
Mescaline aurichloride	2843.30		1
Mescaline hydrochloride	2939.79	832-92-8	1
Mescaline picrate	2939.79		1
Mescaline platinichloride	2843.90		1
Mescaline sulfate	2939.79	1152-76-7	1
Mesocarb (INN)	2934.71	34262-84-5	4
Metamfetamine (INN)	2939.45	537-46-2	2
Metamfetamine hydrochloride	2939.45	51-57-0	2
Metamfetamine hydrogen tartrate (bitartrate)	2939.45		2
Metamfetamine racemate	2939.45	7632-10-2	2
Metamfetamine racemate hydrochloride	2939.45		2

Metamfetamine sulfate	2939.45		2
Methaqualone (INN)	2933.55	72-44-6	2
Methaqualone hydrochloride	2933.55	340-56-7	2
Methaqualone resinate	3003.90		2
Methylaminorex	2934.99		1
Methylaminorex hydrochloride	2934.99		1
Methylphenidate (INN)	2933.33	113-45-1	2
Methylphenidate hydrochloride	2933.33	298-59-9	2
Methylphenobarbital (INN)	2933.53	115-38-8	4
Methylphenobarbital sodium	2933.53		4
Methyprylon (INN)	2933.72	125-64-4	4
Midazolam (INN)	2933.91	59467-70-8	4
Midazolam hydrochloride	2933.91		4
Midazolam maleate	2933.91		4
MMDA	2932.99		1
MMDA hydrochloride	2932.99		1

Nimetazepam (INN)	2933.91	2011-67-8	4
Nitrazepam (INN)	2933.91	146-22-5	4
Nordazepam (INN)	2933.91	1088-11-5	4
Oxazepam (INN)	2933.91	604-75-1	4
Oxazepam acetate	2933.91		4
Oxazepam hemisuccinate	2933.91		4

II. **Psychotropic substances subject to control under the 1971 Convention on Psychotropic Substances** (contd.)

Name	**HS subheading**	**CAS No.**	**Convention Schedule No.**
Oxazepam succinate	2933.91		4
Oxazepam valproate	2933.91		4
Oxazolam (INN)	2934.91	24143-17-7	4
Parahexyl	2932.99		1
Pemoline (INN)	2934.91	2152-34-3	4
Pemoline copper	2934.91		4

Pemoline iron	2934.91		4
Pemoline magnesium	2934.91		4
Pemoline nickel	2934.91		4
Pentazocine (INN)	2933.33	359-83-1	3
Pentazocine hydrochloride	2933.33		3
Pentazocine lactate	2933.33	17146-95-1	3
Pentobarbital (INN)	2933.53	76-74-4	3
Pentobarbital calcium	2933.53	7563-42-0	3
Pentobarbital sodium	2933.53	57-33-0	3
Phencyclidine (INN) (PCP)	2933.33	77-10-1	2
Phencyclidine hydrobromide	2933.33		2
Phencyclidine hydrochloride	2933.33	956-90-1	2
Phendimetrazine (INN)	2934.91	634-03-7	4
Phendimetrazine hydrochloride	2934.91		4
Phendimetrazine hydrogen tartrate (bitartrate)	2934.91	50-58-8	4
Phendimetrazine pamoate	2934.91		4

Phenmetrazine (INN)	2934.91	134-49-6	2
Phenmetrazine hydrochloride	2934.91	1707-14-8	2
Phenmetrazine hydrogen tartrate (bitartrate)	2934.91		2
Phenmetrazine sulfate	2934.91		2
Phenmetrazine teoclate	2939.59	13931-75-4	2
Phenobarbital (INN)	2933.53	50-06-6	4
Phenobarbital ammonium	2933.53		4
Phenobarbital calcium	2933.53	58766-25-9	4
Phenobarbital diethylamine	2933.53		4
Phenobarbital diethylaminoethanol	2933.53		4
Phenobarbital lysidine	2933.53		4
Phenobarbital magnesium	2933.53		4
Phenobarbital propylhexedrine	2933.53		4
Phenobarbital quinidine	2939.20		4
Phenobarbital sodium, magnesium	2933.53		4
Phenobarbital sodium (INN)	2933.53	57-30-7	4

Phenobarbital sparteine	2939.79		4
Phenobarbital tetramethyl- ammonium	2933.53		4
Phenobarbital yohimbine	2939.79		4
Phentermine (INN)	2921.46	122-09-8	4
Phentermine hydrochloride	2921.46	1197-21-3	4
Phentermine resinate	3003.90		4
Pinazepam (INN)	2933.91	52463-83-9	4
Pipradrol (INN)	2933.33	467-60-7	4
Pipradrol hydrochloride	2933.33	71-78-3	4
PMA	2922.29		1
PMA hydrochloride	2922.29		1
Prazepam (INN)	2933.91	2955-38-6	4
Psilocine, psilotsin	2939.79		1
Psilocine, psilotsin hydrochloride	2939.79		1
Psilocybine (INN)	2939.79	520-52-5	1
Psilocybine hydrochloride	2939.79		1

Pyrovalerone (INN)	2933.91	3563-49-3	4
Pyrovalerone hydrochloride	2933.91	1147-62-2	4

II. **Psychotropic substances subject to control under the 1971 Convention on Psychotropic Substances** (contd.)

Name	HS subheading	CAS No.	Convention Schedule No.
Rolicyclidine (INN) (PHP, PCPY)	2933.99	2201-39-0	1
Secbutabarbital (INN)	2933.53	125-40-6	4
Secbutabarbital sodium	2933.53		4
Secobarbital (INN)	2933.53	76-73-3	2
Secobarbital calcium	2933.53		2
Secobarbital resinate	3003.90		2
Secobarbital sodium	2933.53	309-43-3	2
STP, DOM	2922.29	15588-95-1	1
STP, DOM hydrochloride	2922.29		1
Temazepam (INN)	2933.91	846-50-4	4

Tenamfetamine (INN) (MDA)	2932.99	51497-09-7	1
Tenamfetamine (MDA) hydrochloride	2932.99		1
Tenocyclidine (INN)	2934.99	21500-98-1	1
Tenocyclidine hydrochloride	2934.99		1
Tetrahydrocannabinols, all isomers	2932.95	various	2
d-9-Tetrahydrocannabinol	2932.95	1972-08-3	2
Tetrazepam (INN)	2933.91	10379-14-3	4
TMA	2922.29		1
TMA hydrochloride	2922.29		1
Triazolam (INN)	2933.91	28911-01-5	4
Vinylbital (INN)	2933.53	2430-49-1	4
Zipeprol (INN)	2933.55	34758-83-3	2

III. **Precursors**

Name	HS subheading	CAS No.

Acetic anhydride	2915.24	108-24-7
Acetone	2914.11	67-64-1
N-Acetylanthranilic acid	2924.23	89-52-1
alpha-Phenylacetoacetonitrile (APAAN)	2926.40	4468-48-8
4-Anilino-N-phenethylpiperidine (ANPP)	2933.36	21409-26-7
Anthranilic acid	2922.43	118-92-3
Butanone (ethyl methyl ketone)	2914.12	78-93-3
Diethyl ether	2909.11	60-29-7
Ephedrine	2939.41	299-42-3
Ephedrine hydrochloride	2939.41	50-98-6
Ephedrine nitrate	2939.41	81012-98-8
Ephedrine sulfate	2939.41	134-72-5
Ergometrine (INN)	2939.61	60-79-7
Ergometrine hydrochloride	2939.61	74283-21-9
Ergometrine hydrogen maleate	2939.61	129-51-1
Ergometrine oxalate	2939.61	

Ergometrine tartrate	2939.61	129-50-0
Ergotamine (INN)	2939.62	113-15-5
Ergotamine hydrochloride	2939.62	
Ergotamine succinate	2939.62	
Ergotamine tartrate	2939.62	379-79-3
Hydrogen chloride (hydrochloric acid)	2806.10	7647-01-0
Isosafrole	2932.91	120-58-1
Lysergic acid	2939.63	82-58-6
3,4-(Methylenedioxy)phenyl-2-propanone	2932.92	4676-39-5
Norephedrine	2939.44	14838-15-4
Norephedrine hydrochloride	2939.44	154-41-6
N-Phenethyl-4-piperidone (NPP)	2933.37	39742-60-4
Phenylacetone (benzyl methyl ketone, phenylpropan-2-one)	2914.31	103-79-7
Phenylacetic acid	2916.34	103-82-2

Piperidine	2933.32	110-89-4
Piperidine aurichloride	2843.30	
Piperidine hydrochloride	2933.32	6091-44-7
Piperidine hydrogen tartrate (bitartrate)	2933.32	6091-46-9
Piperidine nitrate	2933.32	6091-45-8
Piperidine phosphate	2933.32	
Piperidine picrate	2933.32	6091-49-2
Piperidine platinichloride	2843.90	
Piperidine thiocyanate	2933.32	22205-64-7
Piperonal	2932.93	120-57-0
Potassium permanganate	2841.61	7722-64-7
Pseudoephedrine (INN)	2939.42	90-82-4
Pseudoephedrine hydrochloride	2939.42	345-78-8
Pseudoephedrine sulfate	2939.42	7460-12-0
Safrole	2932.94	94-59-7
Sulphuric acid	2807.00	7664-93-9

Toluene	2902.30	108-88-3

LIST OF PRECURSORS AND ESSENTIAL CHEMICALS WHICH ARE MOST COMMONLY USED IN THE ILLEGAL PRODUCTION OF CERTAIN CONTROLLED SUBSTANCES

CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABSTRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR SALTS (S)**
HEROIN or **DIACETY-MORPHINE** (2939.11)	(i) Codeine (P) (2939.11)	Codicept Coducept 7,8-Didehydro-4,5- epoxy-3-methoxy-17-methylmorphinan-6-o1 Methylmorphine 3-**O**-Methylmorphine Morphinan-6-ol, 7,8- didehydro-4,5-epoxy- 3-methoxy-17-methyl Morphine, 3-methyl ether Morphine monomethyl ether	76-57-3 52-28-8 (S)
	(ii) Morphine (P) (2939.11)	7,8-Didehydro-4,5- epoxy-17-methyl- morphinan-3,6-diol	57-27-2 (anhydrous)

		Morphinan-3,6-diol, 7,8-didehydro-4,5- epoxy-17-methyl	6009-81-0 (monohydrate)
	(iii) Acetic anhydride (E) (2915.24)	Acetanhydride Acetic oxide Acetyl oxide Ethanoic anhydride	108-24-7
	(iv) Acetyl chloride (E) (2915.90)	Ethanoyl chloride	75-36-5
	(v) Ethylidene diacetate (E) (2915.39)	Acetic acid, ethylidene ester 1,1-Diacetoxyethane	542-10-9
COCAINE or **METHYL BENZOYL-ECGONINE** (2939.72)	(i) Acetone (E) (2914.11)	2-Propanone Dimethylketone *β*-Ketopropane Pyroacetic ether Propane-2-one	67-64-1
	(ii) Diethyl ether (E) (2909.11)	Ethyl ether Ether Ethoxyethane Ethyl oxide	60-29-7

		Diethyl oxide Anaesthetic ether	
	(iii) Methyl ethyl ketone (MEK) (E) (2914.12)	Butanone	78-93-3

CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABSTRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR SALTS (S)**
LYSERGIDE (INN) or **LSD** or **N,N-DIETHYL-LYSERGAMIDE** (2939.69)	(i) Ergotamine (INN) (P) (2939.62)	5'-Benzyl-12'-hydroxy- 2'- methylergotaman-3',6',18-trione Ergotaman-3',6',18- trione, 12'-hydroxy-2'- methyl-5'- (phenylmethyl) 12'-Hydroxy-2'-methyl-5'-(phenylmethyl) ergotaman-3',6', 18- trione Indolo[4,3-**fg**]quinoline, ergotaman-3',6',18- trione derivative	113-15-5 379-79-3 (S)

		8*H*-Oxazolo[3,2,-**a**]-pyrrolo[2,1-**c**]pyrazine, ergotaman-3',6',18- trione derivative **N**-(5-Benzyl-10b- hydroxy- 2-methyl -3,6-dioxoperhydrooxazolo-[3,2-**a**]pyrrolo[2,1-**c**]-pyrazin-2-yl)-**D**- lysergamide Ergam Ergate Ergomar Ergostat Ergotamine bitartrate Ergotamine, tartrate (2 : 1) (S) Ergotamini tartras Ergotaman-3',6',18- trione, 12'-hydroxy-2'-methyl-5'-(phenyl-methyl)-, -2,3dihydroxy-butanedioate (2 : 1) (S) Ergotartrate Etin Exmigra Femergin Gotamine tartrate Gynergene Lingraine Lingran	

		Medihaler Ergotamine Neo-Ergotine Rigetamine Secagyne Secupan	
	(ii) Lysergamide (P) (2939.69)	9,10-Didehydro-6- methylergoline-8-carboxamide Ergine Ergoline-8-carboxamide, 9,10-didehydro-6-methyl Indolo[4,3-**fg**]quinoline, ergoline-8-carboxamide derivative	478-94-4

CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABS-TRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR SALTS (S)**

	(iii) Lysergic acid (P) (2939.63)	Ergoline-8-carboxylic acid, 9,10-didehydro-6- methyl- indolo [4,3-**fg**] quinoline, ergoline-8-carboxylic acid derivative 4,6,6a,7,8,9-Hexahydro- 7-methylindolo-[4,3-**fg**]-quinoline-9-carboxylic acid 9,10-Didehydro- 6-methyl- ergoline-8- carboxylic acid	82-58-6
	(iv) Methyl 6-methylnicotinate (P) (2933.39)	Methyl 6-methylpyridine-3- carboxylate 6-Methylnicotinic acid, methyl ester Nicotinic acid, 6-methyl-, methyl ester 3-Pyridinecarboxylic acid, 6-methyl-, methyl ester	5470-70-2
	(v) Ergometrine (INN) (P) (2939.61)	Ergonovine Ergobasine Ergotocine Ergostetrine Ergotrate Ergoklinine Syntometrine 9,10-Didehydro-N-(2- hydroxy-1-methylethyl)- 6 -methylergoline-8- carboxamide N-(2-Hydroxy-1-methyl- etethyl)lysergamide Lysergic acid, 2-propanolamide	60-79-7 60-79-7
		Lysergic acid, 2-hydroxy-1-methylethyl amide	129-50-0 (S)

		Hydroxypropyllyserg- amide Basergin Neofemergen Cornocentin Ermetrine	129-51-1 (S)

CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABS-TRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR SALTS (S)**
AMFETAMINE (INN) (AMPHETAMINE) or α-**METHYL-PHENETHYLAMINE** (2921.46)	(i) Allylbenzene (P) (2902.90)	3-Phenylprop-1-ene	300-57-2
(ii) Phenyl-acetone (P) (2914.31)	P-2-P Phenylpropan-2-one 1-Phenyl-2-oxopropane Benzyl methyl ketone BMK	103-79-7	

	(iii) Cathine (INN) (P) (2939.43)	Norpseudoephedrine Adiposetten N 2-Amino-1-hydroxy-1- phenyl propane 2-Amino-2-methyl-1- phenyle thanol 2-Amino-1-phenylpropan-1-ol Benzenemethanol, α-(1-aminoethyl) E 50 Exponcit Fugoa-Depot Katine Miniscap M.D. Minusin(e) Norisoephedrine 1-Phenyl-2-aminopropan-1-ol Phenylpropanolamine Pseudonorephedrin(e) Reduform	37577-07-04 36393-56-3 492-39-7
	(iv) Phenylacetic acid (P) (2916.34)	Benzeneacetic acid α-Toluic acid	103-82-2

	(v) Formamide (P) (2924.19)	Methanamide Carbamaldehyde Formic acid amide	75-12-7
	(vi) Benzaldehyde (P) (2912.21)	Benzoic aldehyde Benzenecarbonal	100-52-7
	(vii) Ammonium formate (E) (2915.12)	—	540-69-2
	(viii) Nitroethane (E) (2904.20)	—	79-24-3
	(ix) Hydroxyl-ammonium chloride (E) (2825.10)	Hydroxylamine hydrochloride Oxammonium hydro- chloride	5470-11-1
	(x) Trans-*β*-Methyl-styrene (P) (2902.90)	1-Phenylpropene Prop-1-enylbenzene	873-66-5

CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABS-TRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR**

			SALTS (S)
METHYLENE DIOXYAMPHETA-MINE or **MDA** or α-**METHYL-3,4- METHYLENE-DIOXYPHEN-ETHYLAMINE** (2932.99)	(i) Piperonal (P) (2932.93)	1,3-Benzodioxole-5- carbaldehyde Protocatechualdehyde, methylene ether 1,3-Benzodioxole-5- carboxaldehyde 3,4-(Methylenedioxy)-benzaldehyde Heliotropin Piperonylaldehyde Dioxymethyleneproto- catechuic aldehyde	120-57-0
	(ii) Safrole (P) (2932.94)	5-Allyl-1,3-benzodioxole 1,2-Methylenedioxy- 4-prop-2-enylbenzene 5-Prop-2-enyl-1,3- benzodioxole	94-59-7
	(iii) Isosafrole (P) (2932.91)	5-Prop-1-enyl-1,3-benzodioxole 1,2-Methylenedioxy-4-prop-1-enylbenzene	120-58-1
	(iv) Nitroethane (E) (2904.20)	—	79-24-3

	(v) 1-(1,3-Benzo-dioxole-5-yl) propan-2- one (P) (2932.92)	3,4-Methylenedioxy-phenylacetone 3,4-Methylenedioxy-phenylpropane-2-one	4676-39-5
	(vi) Ammonium formate (E) (2915.12)	—	540-69-2
	(vii) Hydroxyl-ammonium chloride (E) (2825.10)	Hydroxylamine hydrochloride Oxammonium hydrochloride	5470-11-1
	(viii) Formamide (E) (2924.19)	Methanamide Carbamaldehyde Formic acid amide	75-12-7
METAMFETAMINE (INN) (METHAMPHETAMINE) or **2-METHYLAMINO-1-PHENYLPROPANE** or **DEOXYEPHEDRINE** (2939.45)	(i) Phenylacetone (P) (2914.31)	P-2-P Phenylpropan-2-one 1-Phenyl-2-oxopropane Benzyl methyl ketone BMK	103-79-7
	(ii) N-Methyl-formamide	Methylformamide	123-39-7

	(P) (2924.19)		
	(iii) Benzyl chloride(P) (2903.99)	(Chloromethyl)benzene α-Chlorotoluene	100-44-7
	(iv) Ephedrine (P) (2939.41)	1-Phenyl-1-hydroxy-2- methylaminopropane 2-Methylamino-1-phenyl-propan-1-ol	299-42-3

CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABS-TRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR SALTS (S)**
	(v) Methylamine (P) (2921.11)	Aminomethane Monomethylamin(e) Methanamine	74-89-5

	(vi) Phenylacetic acid (P) (2916.34) (vii) Benzaldehyde (P) (2912.21)	Benzeneacetic acid α-Toluic acid Benzoic aldehyde Benzenecarbonal	103-82-2 100-52-7
METHYLENE- DIOXYMETHAM-PHETAMINE or **MDMA** or **α-METHYL-3,4-METHYLENE- DIOXYPHENETHYL- (METHYL)AMINE** or **XTC (Ecstasy)** (2932.99)	(i) Methylamine (E) (2921.11)	Aminomethane Monomethylamine Methanamine	74-89-5
(ii) Piperonal (P) (2932.93)	1,3-Benzodioxole-5- carbaldehyde Protocatechualdehyde, methylene ether 1,3-Benzodioxole-5- carboxaldehyde 3,4-(Methylenedioxy)- benzaldehyde Heliotropin Piperonylaldehyde Dioxymethyleneprotoca- technic aldehyde	120-57-0	
	(iii) Safrole (P) (2932.94)	5-Allyl-1,3- benzodioxole 1,2-Methylenedioxy-4-prop-2-enylbenzene	94-59-7

		5-Prop-2-enyl-1,3-benzodioxole	
	(iv) Isosafrole (P) (2932.91)	5-Prop-1-enyl-1,3-benzodioxole 1,2-Methylenedioxy-4-prop-1-enylbenzene	120-58-1
	(v) Nitroethane (E) (2904.20)	—	79-24-3
	(vi) 1-(1,3-Benzo-dioxole-5-yl) propan- 2-one (P) (2932.92)	3,4-Methylenedioxy- phenylacetone 3,4-Methylenedioxyphenyl-propane-2-one	4676-39-5
METHAQUALONE (INN) or **2-METHYL-3-*O*-TOLYL-4-(3H)-QUINAZOLINONE** (2933.55)	(i) Anthranilic acid (P) (2922.43)	*o*-Aminobenzoic acid 2-Aminobenzoic acid	118-92-3
	(ii) *o*-Toluidine (P) (2921.43)	*o*-Aminotoluene 2-Aminotoluene	95-53-4
	(iii) *o*-Nitro-toluene (P) (2904.20)	1-Methyl-2-nitrobenzene 2-Nitrotoluene	88-72-2
	(iv) Acetic anhydride (E) (2915.24)	Acetanhydride Acetic oxide	108-24-7

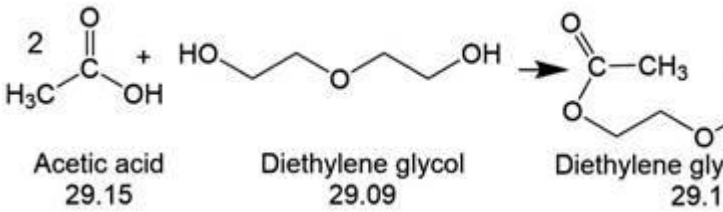
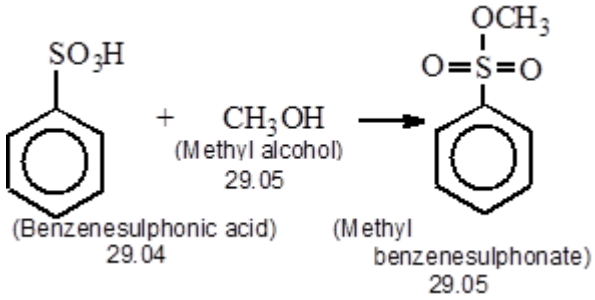
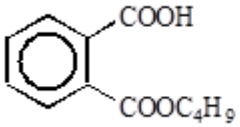
		Acetyl oxide Ethanoic anhydride	
	(v) 2-Methyl- 1,3-benzoxazole (P) (2934.99)	—	95-21-6
	(vi) 2-Acetamido-benzoic acid (P) (2924.23)	2-Acetylaminobenzoic acid o-Acetylaminobenzoic acid N-Acetylanthranilic acid	89-52-1

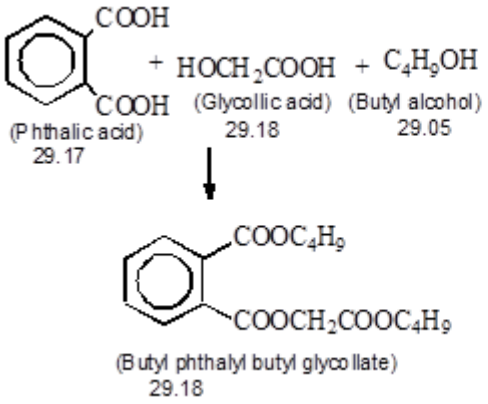
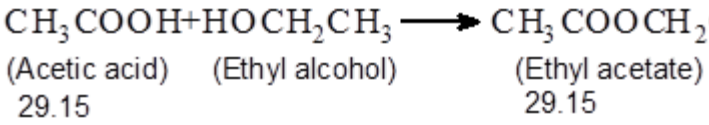
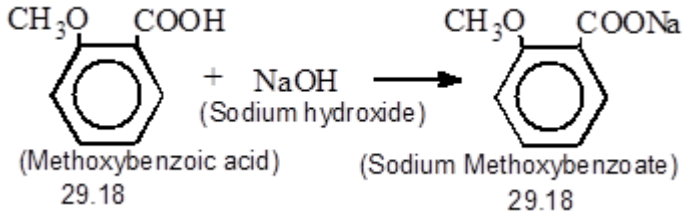
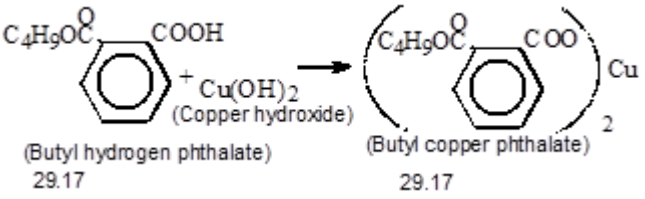
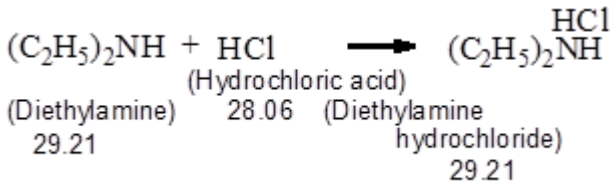
CONTROLLED SUBSTANCE (SUBHEADING NUMBER)	**PRECURSOR (P) ESSENTIAL CHEMICAL (E)** (SUBHEADING NUMBER)	**SYNONYM**	**CHEMICAL ABS-TRACTS SERVICE (CAS) NUMBER OF (P) OR (E) OR OF THEIR SALTS (S)**
MESCALINE or **3,4,5-TRIMETHOXY-PHENETHYLAMINE** (2939.79)	(i) 3,4,5-Trimethoxy-benzalde-hyde (P) (2912.49) (ii) 3,4,5- Trimeth oxy-benzoic acid (P) (2918.99)	3,4,5-Trimethoxyformyl- benzene Gallic acid, trimethyl	86-81-7 118-41-2

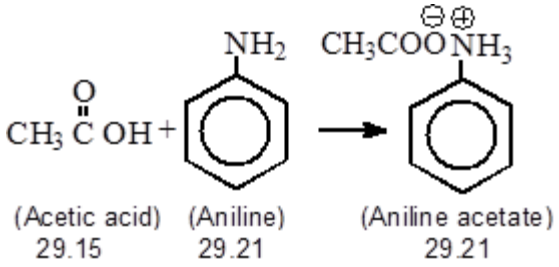
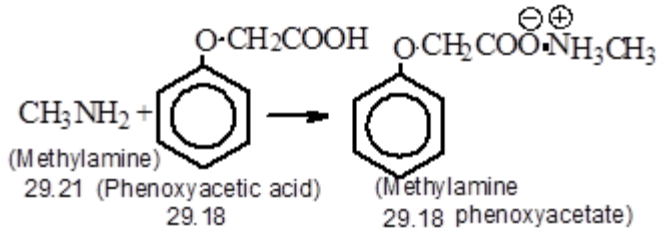
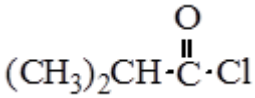
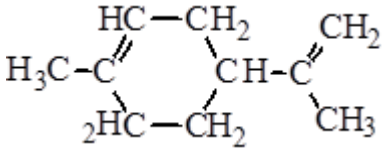
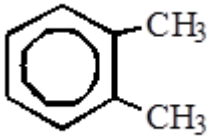
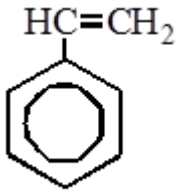
	(iii) 3,4,5-Trimeth-oxybenzoyl chloride (P) (2918.99)	—	4521-61-3
	(iv) 3,4,5-Trimeth-oxybenzyl alcohol (P) (2909.49)	—	3840-31-1
	(v) Nitromethane (E) (2904.20)	—	75-52-5
PHENCYCLIDINE (INN) or **PCP** or **1-(1-PHENYLCYCLOHEXYL) PIPERIDINE** (2933.33)	(i) Piperidine (P) (2933.32)	Hexahydropyridine Pentamethylenimine	110-89-4
(ii) Cyclohexanone (P) (2914.22)	Pimelic ketone Ketohexamethylene Hytrol o Anone Nadone	108-94-1	
	(iii) Bromobenzene (P) (2903.99)	Monobromobenzene Phenyl bromide	108-86-1

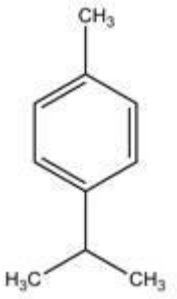
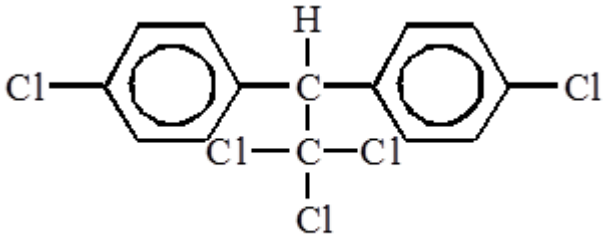
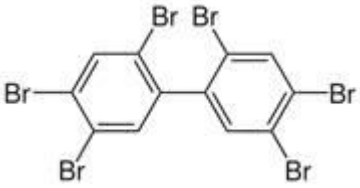
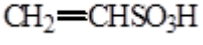
CHEMICAL STRUCTURES OF CERTAIN PRODUCTS DESCRIBED IN THE EXPLANATORY NOTES TO CHAPTER 29

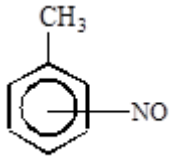
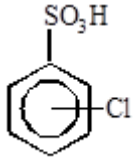
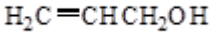
ing	Paragraph	Description in the Explanatory Notes	Chemical Structure

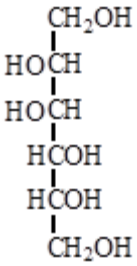
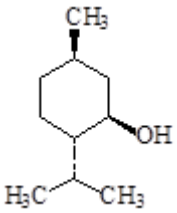
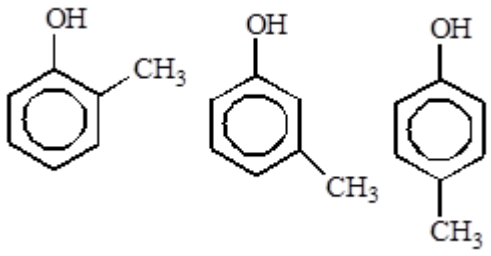
al	(G)			**Classification of esters, salts, co-ordination compounds and certain halides**	
		(1)		Esters	
			(a)		
			(b)		
			(c)		 (Butyl hydrogenphthalate) 29.17

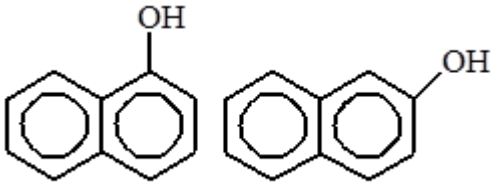
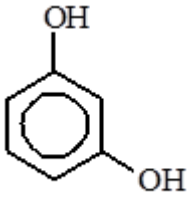
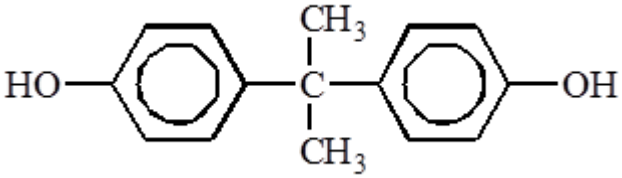
	(G)	(1)	(d)		
			(d)		
		(2)		Salts	
			(a)(i)		
	(G)	(2)	(a)(i)		
			(ii)		

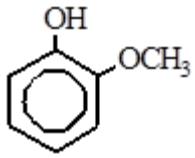
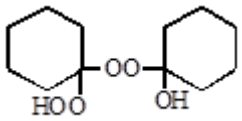
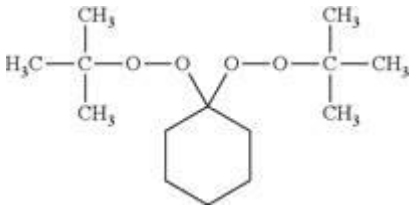
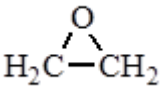
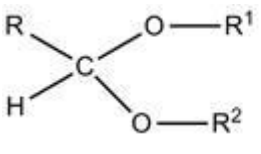
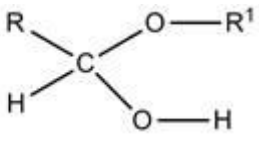
			(b)(i)		 (Acetic acid) 29.15 (Aniline) 29.21 (Aniline acetate) 29.21
			(ii)		 (Methylamine) 29.21 (Phenoxyacetic acid) 29.18 (Methylamine phenoxyacetate) 29.18
	(G)	(4)		Halides of carboxylic acids (Isobutyryl chloride : 29.15)	
				Cyclic hydrocarbons	
	(B)			CYCLOTERPENES	
		(3)		Limonene	
	(C)			AROMATIC HYDROCARBONS	
		(I)	(c)	o-xylene	
			(d)(1)	Styrene	

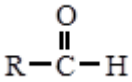
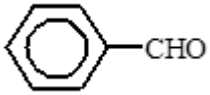
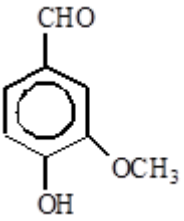
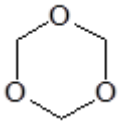
2)	(C)	(I)	(d)(4)	***p*-Cymene**	
				Halogenated derivatives of hydrocarbons	
	(F)			HALOGANATED DERIVATIVES OF AROMATIC HYDROCARBONS	
		(6)		DDT (ISO) (clofenotane (INN), 1,1,1-trichloro-2,2-bis(*p*-chlorophenyl)ethane or dichlorodiphenyltrichloroethane)	
		(11)		2.2'.4.4'.5.5'-hexabromobiphenyl	
				Sulphonated, nitrated or nitrosated derivatives of hydrocarbons, whether or not halogenated	
	(A)			SULPHONATED DERIVATIVES	
		(1)	(a)	Ethylenesulphonic acid	
	(B)			NITRATED DERIVATIVES	

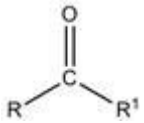
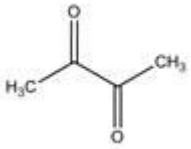
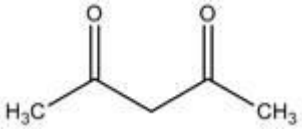
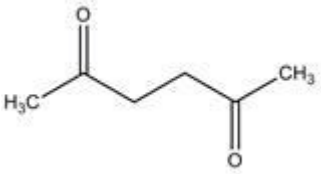
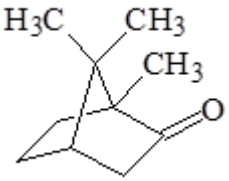
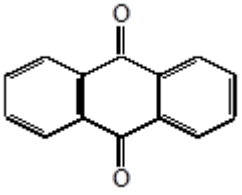
		(1)	(d)	Trinitromethane	$CH(NO_2)_3$
	(C)			NITROSATED DERIVATIVES	
		(2)		Nitrosotoluene	
	(D)			SULPHOHALOGENATED DERIVATIVES	
		(1)		Chlorobenzenesulphonic acid	
		(5)		Perfluorooctane sulphonic acid (PFOS)	
				Acyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(B)			UNSATURATED MONOHYDRIC ALCOHOLS	
		(1)		Allyl alcohol	
	(C)			DIOLS AND OTHER POLYHYDRIC ALCOHOLS	

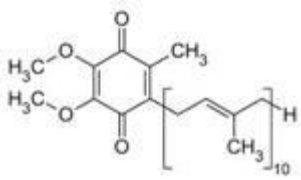
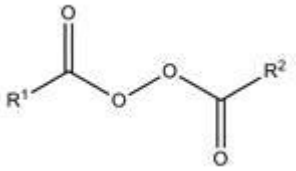
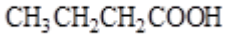
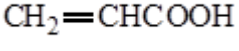
		(II)	(4)	Mannitol	
				Cyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(A)			CYCLANIC, CYCLENIC OR CYCLOTERPENIC ALCOHOLS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
		(1)		Menthol	
				Phenols; phenol-alcohols	
	(A)			MONONUCLEAR MONOPHENOLS	
		(2)		Cresol(s)	 (o-Cresol) (m-Cresol) (p-Cresol)

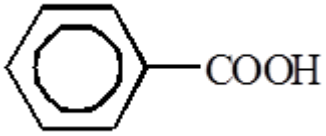
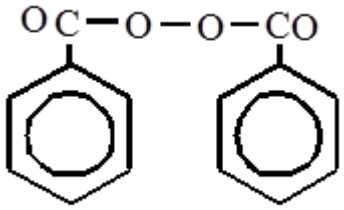
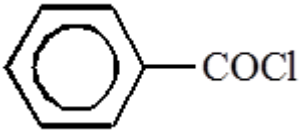
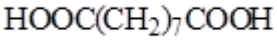
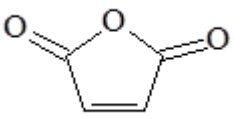
	(B)			POLYNUCLEAR MONOPHENOLS	
		(1)		Naphthol(s)	 (α-Naphthol) (β-Naphthol)
	(C)			POLYPHENOLS	
		(1)		Resorcinol	
7)	(C)	(3)		Bisphenol A	
				Ethers, ether-alcohols, ether-phenols, ether-alcohol-phenols, alcohol peroxides, ether peroxides, acetal and hemiacetal peroxide, ketone peroxides (whether or not chemically defined), and their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(C)			ETHER-PHENOLS AND ETHER-ALCOHOL-PHENOLS	

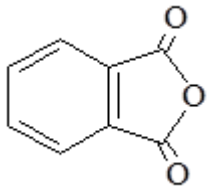
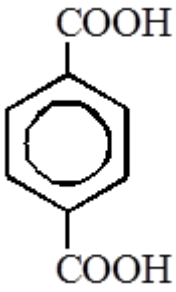
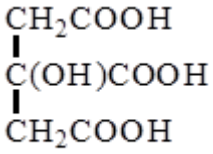
		(1)		Guaiacol	
	(D)			ALCOHOL PEROXIDES, ETHER PEROXIDES, ACETAL AND HEMIACETAL PEROXIDES AND KETONE PEROXIDES	
				Ketone peroxides (Cyclohexanone peroxide)	
				1,1-di(tert-butylperoxy)cyclohexane	
				Epoxides, epoxyalcohols, epoxyphenols and epoxyethers, with a three-membered ring, and their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(1)			Oxirane	
				Acetals and hemiacetals, whether or not with other oxygen function, and their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(A)			ACETALS AND HEMIACETALS	 

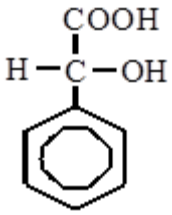
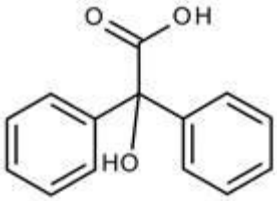
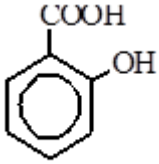
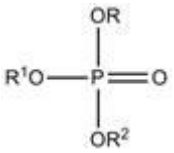
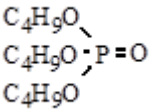
				Aldehydes, whether or not with other oxygen function; cyclic polymers of aldehydes; paraformaldehyde	
	(A)			ALDEHYDES	
		(IV)	(1)	Benzaldehyde	
	(B)			ALDEHYDE-ETHERS, ALDEHYDE-PHENOLS AND ALDEHYDES WITH OTHER OXYGEN FUNCTION	
		(4)		Vanillin	
	(C)			CYCLIC POLYMERS OF ALDEHYDES	
		(1)		Trioxan	
				Ketones and quinones, whether or not with other oxygen function, and their halogenated, sulphonated, nitrated or nitrosated derivatives	

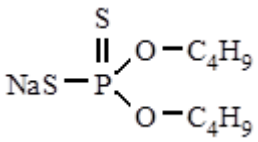
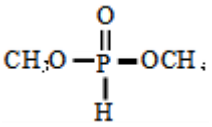
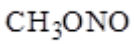
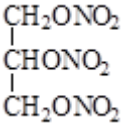
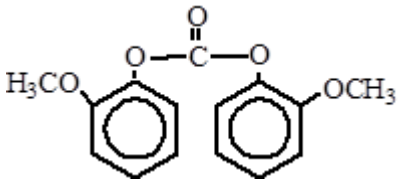
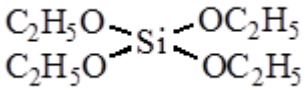
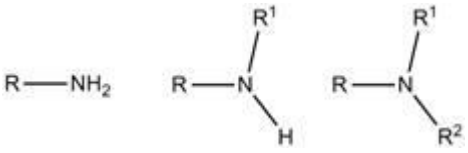
	(A)	(I)		KETONES	
			(8)	Diacetyl	
			(9)	Acetylacetone	
			(10)	Acetonylacetone	
		(II)	(1)	Camphor	
4)	(E)			QUINONES	
		(1)		Anthraquinone	
4)	(F)			QUINONE-ALCOHOLS, QUINONE-PHENOLS, QUINONE-ALDEHYDES AND OTHER OXYGEN FUNCTION QUINONES	

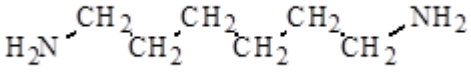
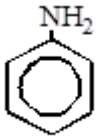
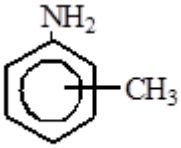
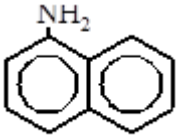
		(4)		Coenzyme Q10 (ubidecarenone (INN))	
				Saturated acyclic monocarboxylic acids and their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(C)			ACID PEROXIDES	
		(V)	(a)	n-Butyric acid	
				Unsaturated acyclic monocarboxylic acids, cyclic monocarboxylic acids, their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(A)			UNSATURATED ACYCLIC MONOCARBOXYLIC ACIDS AND THEIR SALTS, ESTERS AND OTHER DERIVATIVES	
		(1)		Acrylic acid	
	(C)			AROMATIC SATURATED MONOCARBOXYLIC ACIDS AND	

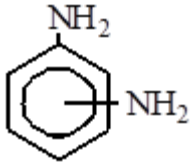
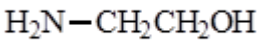
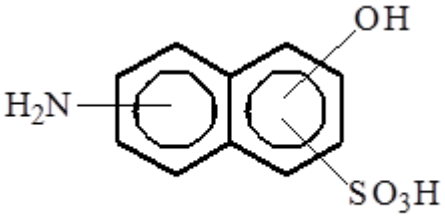
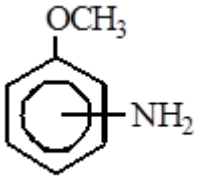
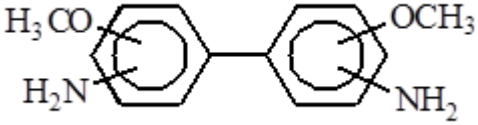
				THEIR SALTS, ESTERS AND OTHER DERIVATIVES	
		(1)		Benzoic acid	
			(a)	Benzoyl peroxide	
6)	(C)	(1)	(b)	Benzoyl chloride	
				Polycarboxylic acids, their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(A)			ACYCLIC POLYCARBOXYLIC ACIDS AND THEIR ESTERS, SALTS AND DERIVATIVES	
		(3)		Azelaic acid	
		(5)		Maleic anhydride	
	(C)			AROMATIC POLYCARBOXYLIC ACIDS AND THEIR ESTERS,	

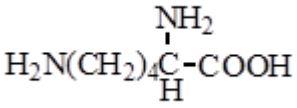
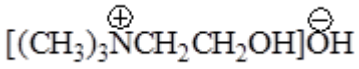
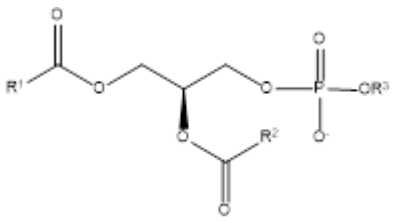
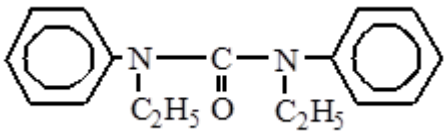
				SALTS AND OTHER DERIVATIVES	
		(1)		Phthalic anhydride	
7)	(C)	(2)		Terephthalic acid	
				Carboxylic acids with additional oxygen function and their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(A)			CARBOXYLIC ACIDS WITH ALCOHOL FUNCTION AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES	
		(3)		Citric acid	

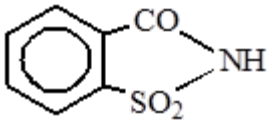
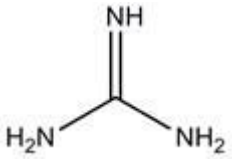
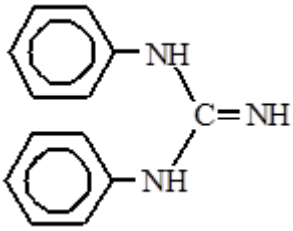
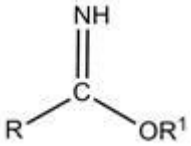
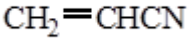
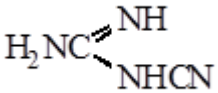
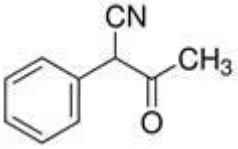
3)	(A)	(6)		Phenylglycolic acid	
		(8)		2,2-Diphenyl-2-hydroxyacetic acid (benzilic acid)	
	(B)			CARBOXYLIC ACIDS WITH PHENOL FUNCTION AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES	
3)	(B)	(I)		Salicylic acid	
				Phosphoric esters and their salts, including lactophosphates; their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(3)			Tributyl phosphate	
				Esters of other inorganic acids of non-metals (excluding esters of hydrogen halides) and their salts; their halogenated, sulphonated, nitrated or nitrosated derivatives	
	(A)			Thiophosphoric esters	

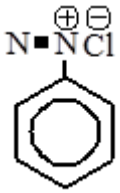
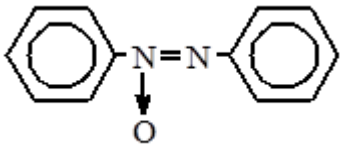
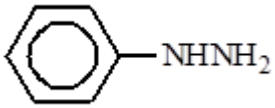
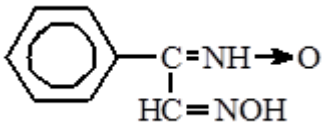
				Sodium O,O-dibutyldithiophosphates	
	(B)			PHOSPHITE ESTERS AND THEIR SALTS.	
				Dimethyl phosphite	
	(D)			Nitrous and nitric esters	
				Methyl nitrite	
0)	(D)			Nitroglycerol	
	(E)			Carbonic or peroxocarbonic esters and their salts	
		(1)		Diguaiacyl carbonate	
	(F)			Silicic acid esters and their salts	
				Tetraethyl silicate	
				Amine-function compounds	

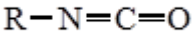
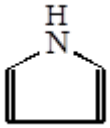
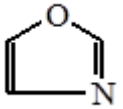
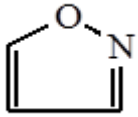
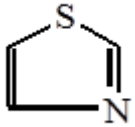
	(A)			ACYCLIC MONOAMINES AND THEIR DERIVATIVES; SALTS THEREOF	
		(4)		Ethylamine	CH_3-CH_2-NH_2
)	(B)			ACYCLIC POLYAMINES AND THEIR DERIVATIVES; SALTS THEREOF	
		(2)		Hexamethylenediamine	
	(D)			AROMATIC MONOAMINES AND THEIR DERIVATIVES; SALTS THEREOF	
		(1)		Aniline	
		(2)		Toluidine(s)	
		(4)		1-Naphtylamine	
)	(E)			AROMATIC POLYAMINES AND THEIR DERIVATIVES; SALTS THEREOF	

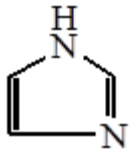
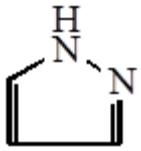
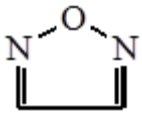
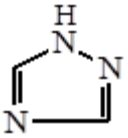
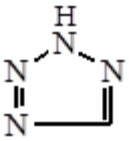
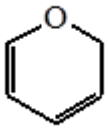
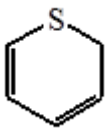
		(1)		Phenylenediamine(s)	
				Oxygen-function amino-compounds	
	(A)			AMINO-ALCOHOLS, THEIR ETHERS AND ESTERS; SALTS THEREOF	
		(1)		Monoethanolamine	
	(B)			AMINO-NAPHTHOLS AND OTHER AMINO-PHENOLS, THEIR ETHERS AND ESTERS; SALTS THEREOF	
		(1)		Aminohydroxynaphthalenesulphonic acids	
2)	(B)	(a)		Anisidine(s)	
		(b)		Dianisidine(s)	

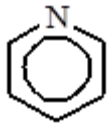
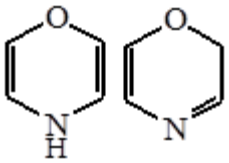
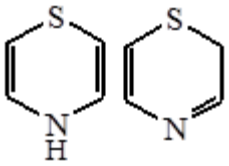
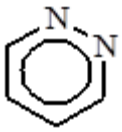
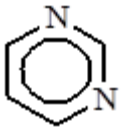
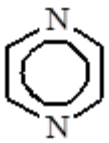
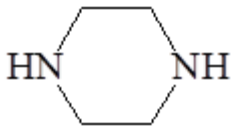
	(D)			AMINO-ACIDS AND THEIR ESTERS; SALTS THEREOF	
		(1)		Lysine	
				Quaternary ammonium salts and hydroxides; lecithins and other phosphoaminolipids, whether or not chemically defined	
	(1)			Choline (Choline hydroxide)	
3)	(2)			Lecithin	
				Carboxyamide-function compounds; amide-function compounds of carbonic acid	
	(B)			CYCLIC AMIDES	
		(1)	(ii)	Diethyldiphenylurea	
				Carboxyimide-function compounds (including saccharin and its salts) and imine-function compounds	
	(A)			IMIDES	

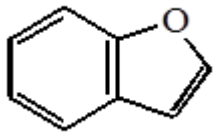
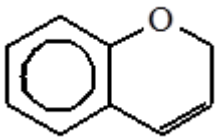
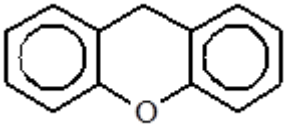
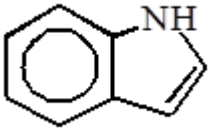
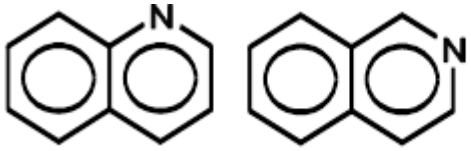
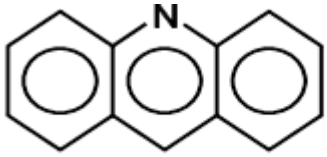
		(1)		Saccharin	
5)	(B)			IMINES	
		(1)		guanidine	
			(a)	Diphenylguanidine	
		(3)		Imino ethers	
				Nitrile-function compounds	
	(1)			Acrylonitrile	
	(2)			1-Cyanoguanidine	
6)	(19)			alpha-Phenylacetoacetonitrile (APAAN)	

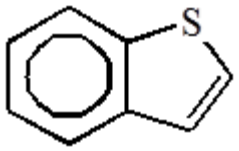
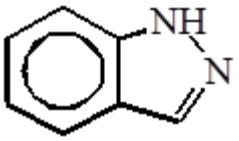
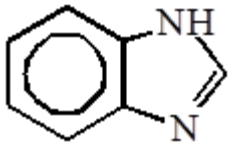
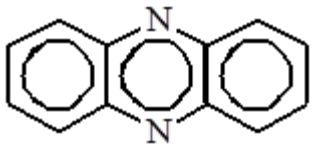
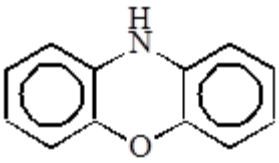
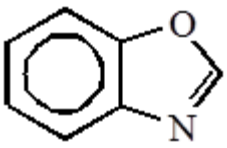
				Diazo-, azo- or azoxy-compounds	
	(A)			DIAZO-COMPOUNDS	
		(1)	(a)	Benzenediazonium chloride	
	(B)			AZO-COMPOUNDS	$R^1N = NR^2$
	(C)			AZOXY-COMPOUNDS	$R^1\text{-}N_2O\text{-}R^2$
		(1)		Azoxybenzene	
				Organic derivatives of hydrazine or of hydroxylamine	
	(1)			Phenylhydrazine	
	(11)			Phenylglyoxime	
				Compounds with other nitrogen function	

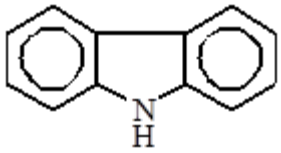
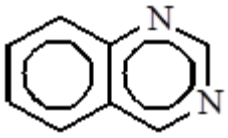
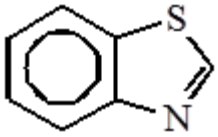
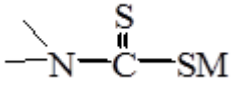
	(1)			Isocyanates	
X **ral**				**ORGANO-INORGANIC COMPOUNDS, HETEROCYCLIC COMPOUNDS, NUCLEIC ACIDS AND THEIR SALTS, AND SULPHONAMIDES**	
	(A)			FIVE-MEMBERED RINGS	
		(1)	(a)	Furan	
ral)	(A)	(1)	(b)	Thiophen	
			(c)	Pyrrole	
		(2)	(a)	Oxazole	
			(a)	Isoxazole	
			(b)	Thiazole	

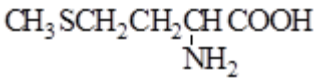
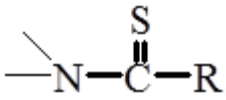
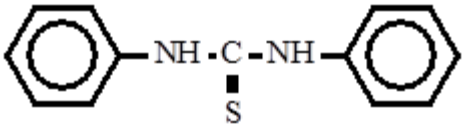
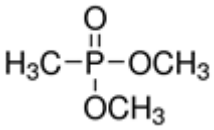
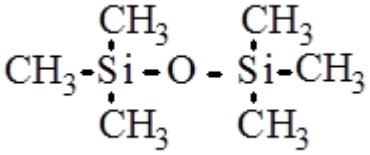
ral)	(A)	(2)	(c)	Imidazole	
			(c)	Pyrazole	
		(3)	(a)	Furazan	
			(b)	Triazole (1,2,4-Triazole)	
			(c)	Tetrazole	
ral)	(B)			SIX-MEMBERED RINGS	
		(1)	(a)	Pyran (2H-Pyran)	
			(b)	Thiin	

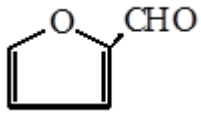
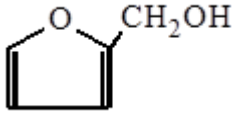
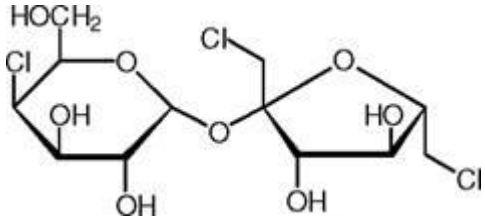
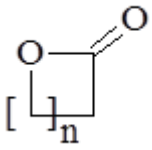
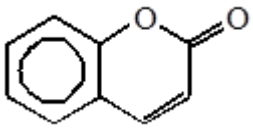
			(c)	Pyridine	
		(2)	(a)	Oxazine (1,4-Oxazine)	
			(b)	Thiazine (1,4-Thiazine)	
ral)	(B)	(2)	(c)	Pyridazine	
			(c)	Pyrimidine	
			(c)	Pyrazine	
			(c)	Piperazine	

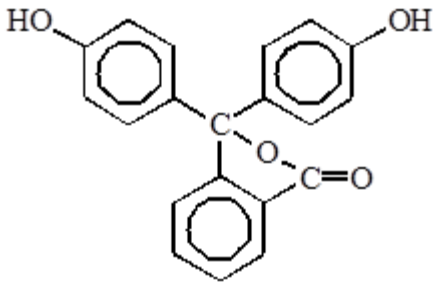
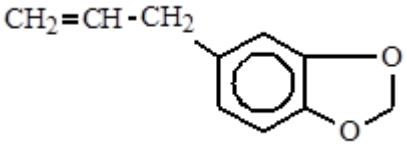
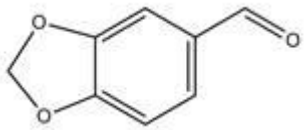
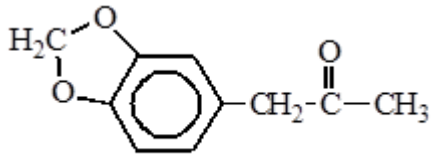
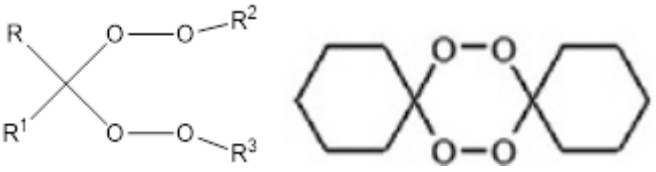
	(C)			OTHER MORE COMPLEX HETEROCYCLIC COMPOUNDS	
		(a)		Coumarone	
ral)	(C)	(b)		Benzopyran	
		(c)		Xanthene	
		(d)		Indole	
		(e)		Quinoline and isoquinoline	
		(f)		Acridine	

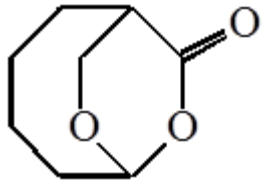
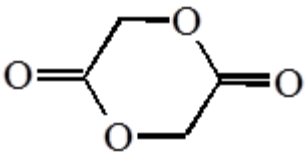
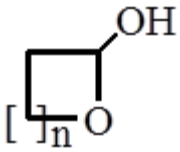
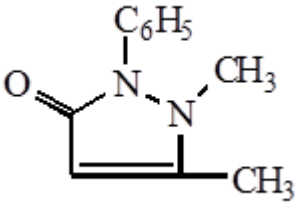
ral)	(C)	(g)		Benzothiophene (Thionaphthene)	
		(h)		Indazole	
		(ij)		Benzimidazole	
		(k)		Phenazine	
		(l)		Phenoxazine	
ral)	(C)	(m)		Benzoxazole	

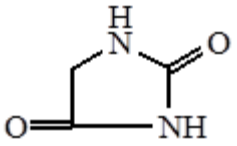
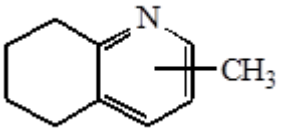
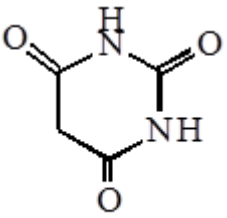
		(n)		Carbazole	
		(o)		Quinazoline	
		(p)		Benzothiazole	
				Organo-sulphur compounds	Compounds with C-S bond
	(A)			DITHIOCARBONATES (XANTHATES)	$ROC(S)SR^1$ R1 = Metal or an organic radical
		(1)		Sodium ethyldithiocarbonate	$C_2H_5O-CS_2Na$
)	(B)			THIOCARBAMATES, DITHIOCARBAMATES AND THIURAM SULPHIDES	
		(2)		Dithiocarbamates	
	(C)			SULPHIDES (OR THIOETHERS)	RSR^1

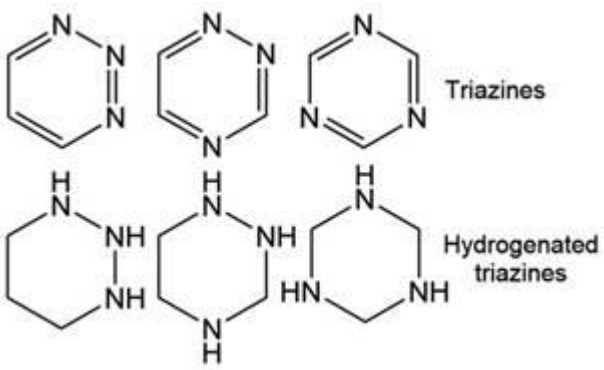
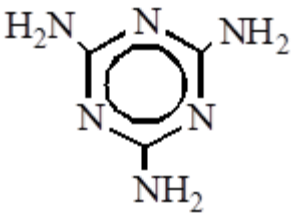
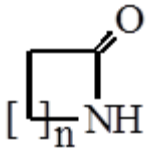
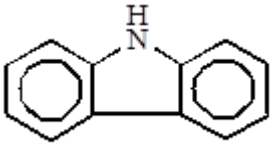
		(1)		Methionine	
	(D)			THIOAMIDES	
		(2)		Thiocarbanilide	
				Other organo-inorganic compounds	
	(3)			Organo-phosphorus compounds	Compounds with C-P bond
				Dimethyl methylphosphonate	
)	(4)			Organo-silicon compounds	Compounds with C-Si bond
				Hexamethyldisiloxane	
				Heterocyclic compounds with oxygen hetero-atom(s) only	

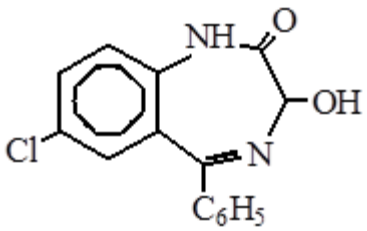
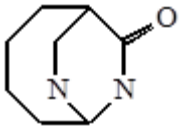
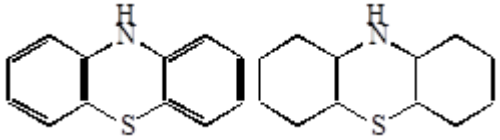
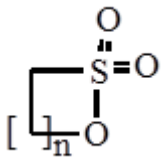
	(A)			Compounds containing an unfused furan ring (whether or not hydrogenated) in the structure	(See structure of furan against page VI-2930-1 for Sub-(1) (a))
		(2)		2-Furaldehyde	
		(3)		Furfuryl alcohol	
		(5)		Sucralose	
2)	(B)			Lactones	
		(a)		Coumarin	

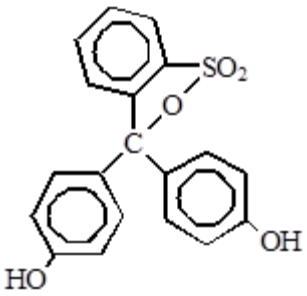
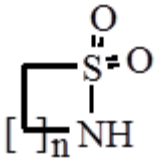
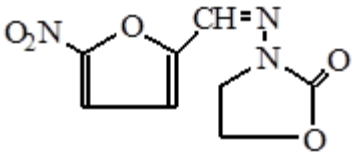
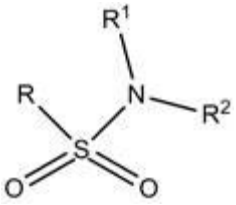
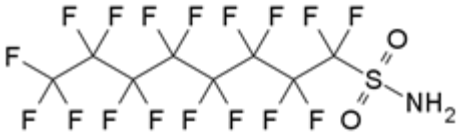
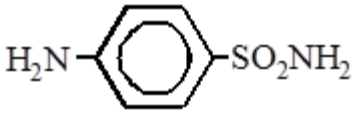
		(p)		Phenolphthalein	
	(C)			Other heterocyclic compounds with oxygen hetero-atom(s) only	
		(5)		Safrole	
2)	(C)	(8)		Piperonal	
		(10)		1-(1,3-Benzodioxol-5-yl)propan-2-one	
				Ketone peroxides (exclusion) – see 29.09	

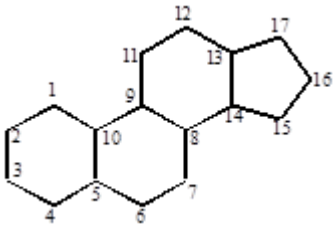
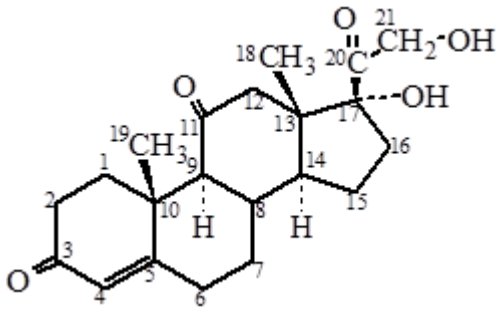
				Example for esters (lactone) forming part of two rings (Subheading Explanatory Notes)	
				Example for dilactone (Subheading Explanatory Notes)	
2)				Internal Hemiacetals	
				Heterocyclic compounds with nitrogen hetero-atom(s) only	
	(A)			Compounds containing an unfused pyrazole ring (whether or not hydrogenated) in the structure	(See structure of pyrazole against page VI-2930-1 for S (A) (2) (c))
		(1)		Phenazone	
3)	(B)			Compounds containing an unfused imidazole ring (whether or not hydrogenated) in the structure	(See structure of imidazole against page VI-2930-1 for S (A) (2) (c))

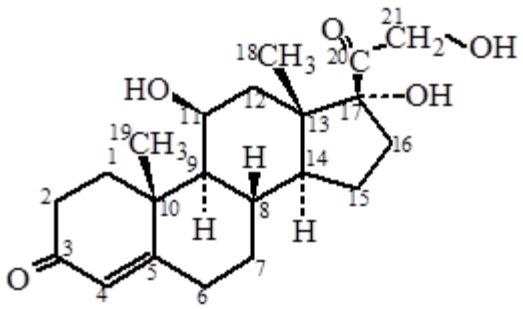
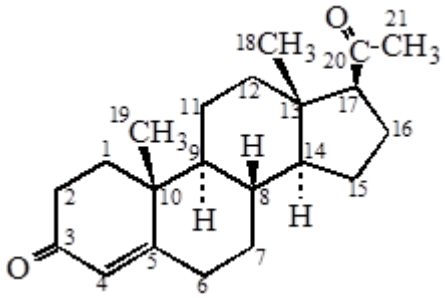
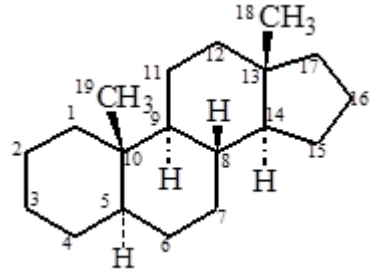
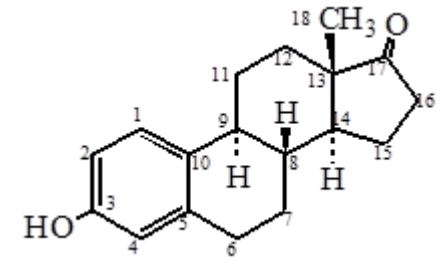
		(1)		Hydantoin	
	(C)			Compounds containing an unfused pyridine ring (whether or not hydrogenated) in the structure	(See structure of pyridine against page VI-2930-2 for S (B) (1) (c))
				Fentanyl (INN)	
	(D)			Compounds containing a quinoline or isoquiniline ring-system (whether or not hydrogenated), not further fused	(See structures of quinoline and isoquinoline against p for Sub-Chapter X (C) (e))
		(4)		Tetrahydromethylquinoline (5,6,7,8-Tetrahydromethylquinoline)	
	(E)			Compounds containing a pyrimidine ring (whether or not hydrogenated) or piperazine ring in the structure	(See structure of pyrimidine against page VI-2930-2 for (B) (2) (c))
		(1)		Malonylurea (Barbituric acid)	

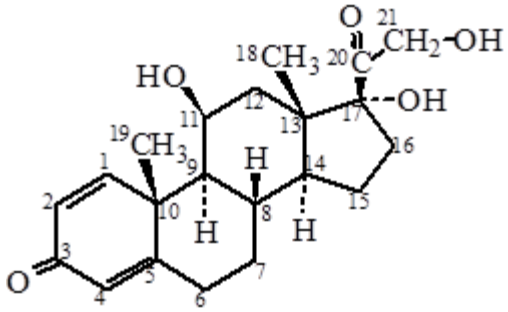
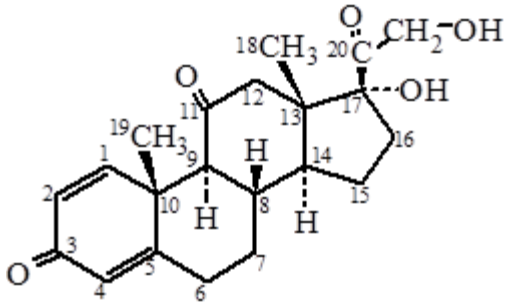
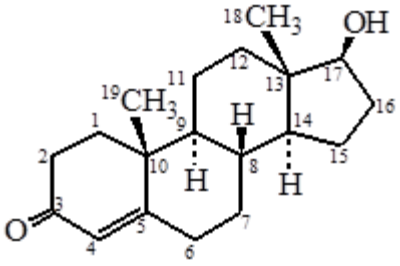
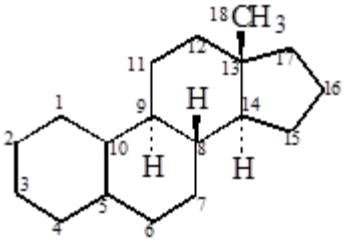
3)	(F)			Compounds containing an unfused triazine ring (whether or not hydrogenated) in the structure	
		(1)		Melamine	
	(G)			Lactams	
3)	(H)			Other heterocyclic compounds with nitrogen hetero-atom(s) only	
		(1)		Carbazole	
		(2)		Acridine	(See structure of acridine against page VI-2930-2 for S (C) (f))

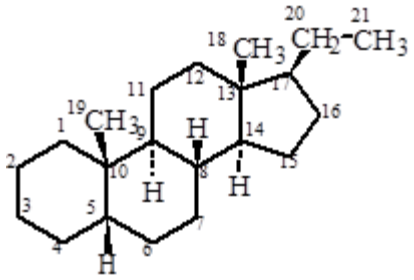
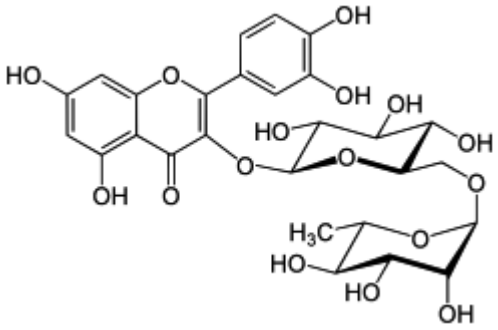
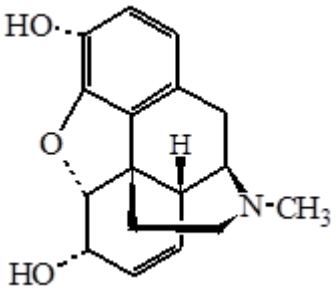
				Oxazepam (Subheading Explanatory Notes)	
				Example for amide (lactam) forming part of two rings (Subheading Explanatory Notes)	
				Nucleic acids and their salts, whether or not chemically defined; other heterocyclic compounds	
	(A)			Compounds containing an unfused thiazole ring (whether or not hydrogenated) in the structure	(See structure of thiazole against page VI-2930-1 for S (A) (2) (b))
	(B)			Compounds containing a benzothiazole ring-system (whether or not hydrogenated), not further fused	(See structure of benzothiazole against page VI-2930-2 fo X (C) (p))
	(C)			Compounds containing a phenothiazine ring-system (whether or not hydrogenated), not further fused	
	(D)			Other heterocyclic compounds	
		(1)		Sultones	

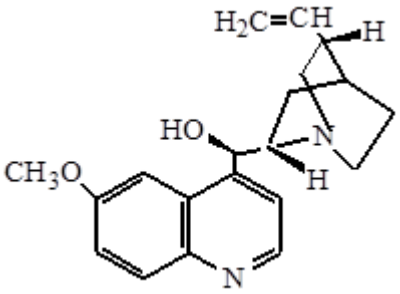
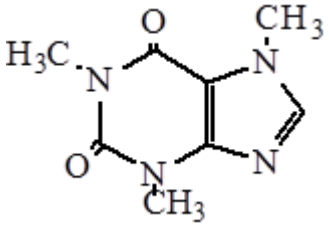
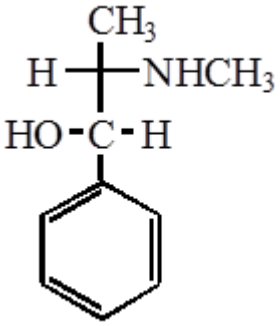
			(a)	Phenolsulfonephthalein	
4)	(D)	(2)		Sultams	
		(4)		Furazolidone (INN)	
				Sulphonamides	
	(1)			Perfluorooctane sulphonamide	
	(5)			p-Aminobenzenesulphonamide	

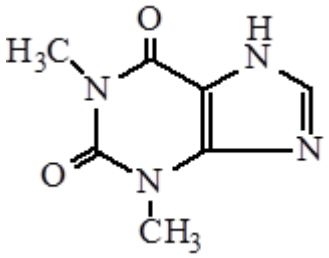
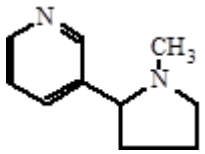
				Hormones, prostaglandins, thromboxanes and leukotrienes, natural or reproduced by synthesis; derivatives and structural analogues thereof, including chain modified polypeptides, used primarily as hormones	
	(V)			Analogues of hormones, prostaglandins, thromboxanes and leukotrienes	
		(b)		Gonane	
	(B)			STEROIDAL HORMONES, THEIR DERIVATIVES AND STRUCTURAL ANALOGUES	
		(1)		Corticosteroid hormones	
			(a)	Cortisone (INN)	

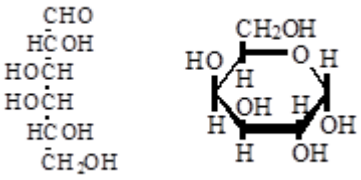
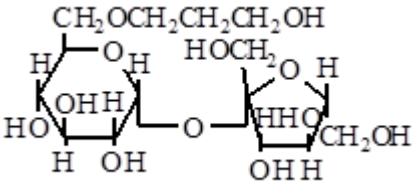
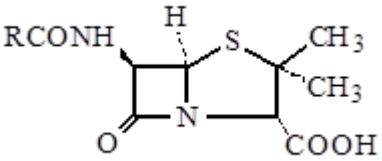
7)	(B)	(1)	(b)	Hydrocortisone (INN)	
		(3)		Oestrogens and progestogens	
			(a)	Progesterone (INN)	
	List			Androstane	
7)	List			Estrone (INN)	

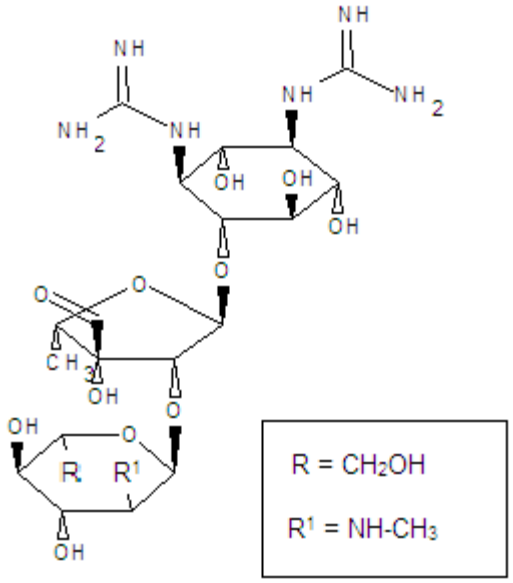
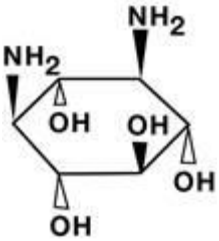
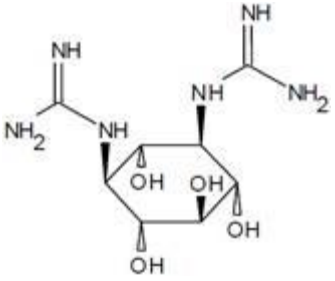
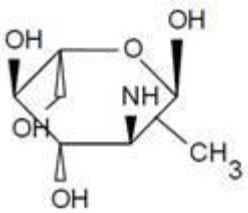
				Prednisolone (INN)	
				Prednisone (INN)	
7)	List			Testosterone (INN)	
				Estrane	

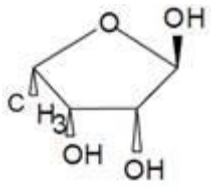
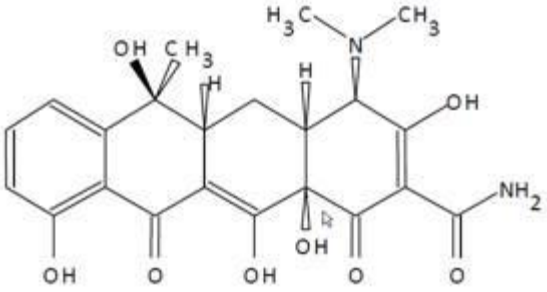
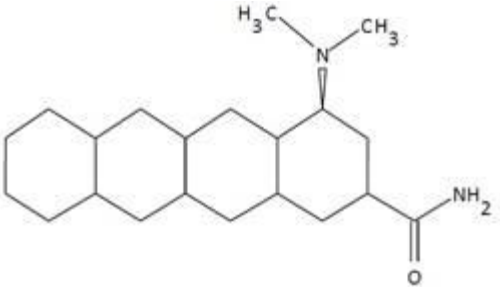
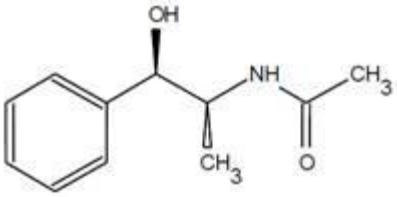
				Pregnane	
				Glycosides, natural or reproduced by synthesis, and their salts, ethers, esters and other derivatives	
	(1)			Rutoside	
				Vegetable alkaloids, natural or reproduced by synthesis, and their salts, ethers, esters and other derivatives	
	(A)			ALKALOIDS OF OPIUM AND THEIR DERIVATIVES; SALTS THEREOF	
		(1)		Morphine	

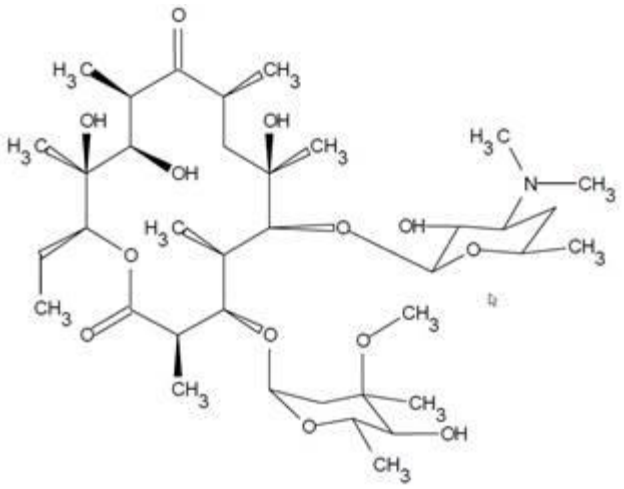
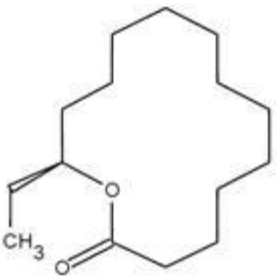
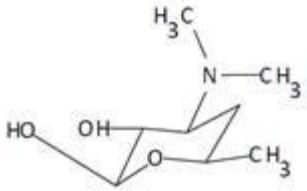
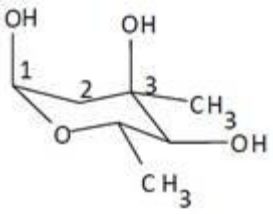
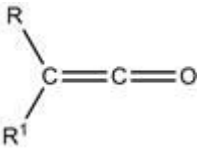
9)	(B)			ALKALOIDS OF CINCHONA AND THEIR DERIVATIVES; SALTS THEREOF	
		(1)		Quinine	
	(C)			CAFFEINE AND ITS SALTS	
				Caffeine	
9)	(D)			ALKALOIDS OF EPHEDRA AND THEIR DERIVATIVES; SALTS THEREOF	
		(1)		Ephedrine	
	(E)			THEOPHYLLINE AND AMINOPHYLLINE	

				(THEOPHYLLINE-ETHYLENEDIAMINE) AND THEIR DERIVATIVES; SALTS THEREOF	
	(E)			Theophylline	
9)	(G)			NICOTINE AND ITS SALTS	
				Nicotine	
				OTHER ALKALOIDS OF NON VEGETAL ORIGIN	
	(IJ)			Viridicatin (fungal), histrionicotoxin (animal), coccinelline (insect), varacin (marine) and procyanine (bacrterial)	
				Sugars, chemically pure, other than sucrose, lactose, maltose, glucose and fructose; sugar ethers, sugar acetals and sugar esters, and their salts, other than products of heading 29.37, 29.38 or 29.39	

	(A)			SUGARS, CHEMICALLY PURE	
		(1)		Galactose	
	(B)			SUGAR ETHERS, SUGAR ACETALS AND SUGAR ESTERS, AND THEIR SALTS	
		(1)		Hydroxypropyl sucrose	
				Antibiotics	
	(1)			Penicillins	

)	(2)			Streptomycin	
				Streptamine (constituent of the streptomycin skeleton) (Subheading Explanatory Notes)	
)				Streptidine (constituent of the streptomycin skeleton) (Subheading Explanatory Notes)	
				Methylglucosamine (constituent of the streptomycin skeleton) (Subheading Explanatory Notes)	

				5-deoxylyxose (constituent of the streptomycin skeleton) (Subheading Explanatory Notes)	
	(3)			Tetracycline	
)	(3)			4-dimethylamino-naphthacene-2-carboxamide (fully hydrogenated) (constituent of the tetracycline skeleton) (Subheading Explanatory Notes)	
	(4)			N-(2-hydroxy-1-methyl-2-phenethyl)acetamide (constituent of the chloramphenicol skeleton) (Subheading Explanatory Notes)	

	(5)			Erythromycin	
)	(5)			13-ethyl-13-tridecanolide (constituent of the erythromycin skeleton) (Subheading Explanatory Notes)	
				Desosamine (constituent of the erythromycin skeleton) (Subheading Explanatory Notes)	
				Mycarose (constituent of the erythromycin skeleton) (Subheading Explanatory Notes)	
				Other organic compounds	
	(1)			Ketenes	

	(2)			Boron trifluoride complexes with diethyl ether	$(C_2H_5)_2O \cdot BF_3$

(*) Dextromethorphan (INN) ((+)-3- methoxy-N- Methylmorphinan) is specifically excluded from thislist.

(**) Dextrophane (INN) ((+)-3-hydroxy-N-methylmorphinan) is specifically excluded from this list.

(*) Other substances not added.

(**) Natural mixtures, constituents other than alkaloids sufficiently removed, other substances not added .

Chapter 30

Pharmaceutical products

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Foods or beverages (such as dietetic, diabetic or fortified foods, food supplements, tonic beverages and mineral waters), other than nutritional preparations for intravenous administration (Section IV);

(b) Products, such as tablets, chewing gum or patches (transdermal systems), containing nicotine and intended to assist tobacco use cessation (heading 24.04);

(c) Plasters specially calcined or finely ground for use in dentistry (heading 25.20);

(d) Aqueous distillates or aqueous solutions of essential oils, suitable for medicinal uses (heading 33.01);

(e) Preparations of headings 33.03 to 33.07, even if they have therapeutic or prophylactic properties;

(f) Soap or other products of heading 34.01 containing added medicaments;

(g) Preparations with a basis of plaster for use in dentistry (heading 34.07); or

(h) Blood albumin not prepared for therapeutic or prophylactic uses (heading 35.02).

(ij) Diagnostic reagents of heading 38.22.

2.- For the purposes of heading 30.02, the expression “immunological products” applies to peptides and proteins (other than goods of heading 29.37) which are directly involved in the regulation of immunological processes, such as monoclonal antibodies (MAB), antibody fragments, antibody conjugates and antibody fragment conjugates, interleukins, interferons (IFN), chemokines and certain tumor necrosis factors (TNF), growth factors (GF), hematopoietins and colony stimulating factors (CSF).

3.- For the purposes of headings 30.03 and 30.04 and of Note 4 (d) to this Chapter, the following are to be treated :

(a) As unmixed products :

(1) Unmixed products dissolved in water;

(2) All goods of Chapter 28 or 29; and

(3) Simple vegetable extracts of heading 13.02, merely standardised or dissolved in any solvent;

(b) As products which have been mixed :

(1) Colloidal solutions and suspensions (other than colloidal sulphur);

(2) Vegetable extracts obtained by the treatment of mixtures of vegetable materials; and

(3) Salts and concentrates obtained by evaporating natural mineral waters.

4.- Heading 30.06 applies only to the following, which are to be classified in that heading and in no other heading of the Nomenclature :

(a) Sterile surgical catgut, similar sterile suture materials (including sterile absorbable surgical or dental yarns) and sterile tissue adhesives for surgical wound closure;

(b) Sterile laminaria and sterile laminaria tents;

(c) Sterile absorbable surgical or dental haemostatics; sterile surgical or dental adhesion barriers, whether or not absorbable;

(d) Opacifying preparations for X-ray examinations and diagnostic reagents designed to be administered to the patient, being unmixed products put up in measured doses or products consisting of two or more ingredients which have been mixed together for such uses;

(e) Placebos and blinded (or double-blinded) clinical trial kits for use in recognised clinical trials, put up in measured doses, even if they might contain active medicaments;

(f) Dental cements and other dental fillings; bone reconstruction cements;

(g) First-aid boxes and kits;

(h) Chemical contraceptive preparations based on hormones, on other products of heading 29.37 or on spermicides;

(ij) Gel preparations designed to be used in human or veterinary medicine as a lubricant for parts of the body for surgical operations or physical examinations or as a coupling agent between the body and medical instruments;

(k) Waste pharmaceuticals, that is, pharmaceutical products which are unfit for their originalintended purpose due to, for example, expiry of shelf life; and

(l) Appliances identifiable for ostomy use, that is, colostomy, ileostomy and urostomy pouches cut to shape and their adhesive wafers or faceplates.

Subheading Notes.

1.- For the purposes of subheadings 3002.13 and 3002.14, the following are to be treated :

(a) As unmixed products, pure products, whether or not containing impurities;

(b) As products which have been mixed :

(1) The products mentioned in (a) above dissolved in water or in other solvents;

(2) The products mentioned in (a) and (b) (1) above with an added stabiliser necessary for their preservation or transport; and

(3) The products mentioned in (a), (b) (1) and (b) (2) above with any other additive.

2.- Subheadings 3003.60 and 3004.60 cover medicaments containing artemisinin (INN) for oral ingestion combined with other pharmaceutical active ingredients, or containing any of the following active principles, whether or not combined with other pharmaceutical active ingredients : amodiaquine (INN); artelinic acid or its salts; artenimol (INN); artemotil (INN); artemether (INN); artesunate (INN); chloroquine (INN); dihydroartemisinin (INN); lumefantrine (INN); mefloquine (INN); piperaquine (INN); pyrimethamine (INN) or sulfadoxine (INN).

EXPLANATORY NOTES

Chapter 30

Pharmaceutical products

Notes.

1.- This Chapter does not cover :

(a) Foods or beverages (such as dietetic, diabetic or fortified foods, food supplements, tonic beverages and mineral waters), other than nutritional preparations for intravenous administration (Section IV);

(b) Products, such as tablets, chewing gum or patches (transdermal systems), containing nicotine and intended to assist tobacco use cessation (heading 24.04);

(c) Plasters specially calcined or finely ground for use in dentistry (heading 25.20);

(d) Aqueous distillates or aqueous solutions of essential oils, suitable for medicinal uses (heading 33.01);

(e) Preparations of headings 33.03 to 33.07, even if they have therapeutic or prophylactic properties;

(f) Soap or other products of heading 34.01 containing added medicaments;

(g) Preparations with a basis of plaster for use in dentistry (heading 34.07); or

(h) Blood albumin not prepared for therapeutic or prophylactic uses (heading 35.02).

(ij) Diagnostic reagents of heading 38.22.

2.- For the purposes of heading 30.02, the expression “immunological products” applies to peptides and proteins (other than goods of heading 29.37) which are directly involved in the regulation of immunological processes, such as monoclonal antibodies (MAB), antibody fragments, antibody conjugates and antibody fragment conjugates, interleukins, interferons (IFN), chemokines and certain tumor necrosis factors (TNF), growth factors (GF), hematopoietins and colony stimulating factors (CSF).

3.- For the purposes of headings 30.03 and 30.04 and of Note 4 (d) to this Chapter, the following are to be treated :

(a) As unmixed products :

(1) Unmixed products dissolved in water;

(2) All goods of Chapter 28 or 29; and

(3) Simple vegetable extracts of heading 13.02, merely standardised or dissolved in any solvent;

(b) As products which have been mixed :

(1) Colloidal solutions and suspensions (other than colloidal sulphur);

(2) Vegetable extracts obtained by the treatment of mixtures of vegetable materials; and

(3) Salts and concentrates obtained by evaporating natural mineral waters.

4.- Heading 30.06 applies only to the following, which are to be classified in that heading and in no other heading of the Nomenclature :

(a) Sterile surgical catgut, similar sterile suture materials (including sterile absorbable surgical or dental yarns) and sterile tissue adhesives for surgical wound closure;

(b) Sterile laminaria and sterile laminaria tents;

(c) Sterile absorbable surgical or dental haemostatics; sterile surgical or dental adhesion barriers, whether or not absorbable;

(d) Opacifying preparations for X-ray examinations and diagnostic reagents designed to be administered to the patient, being unmixed products put up in measured doses or products consisting of two or more ingredients which have been mixed together for such uses;

(e) Placebos and blinded (or double-blinded) clinical trial kits for use in recognised clinical trials, put up in measured doses, even if they might contain active medicaments;

(f) Dental cements and other dental fillings; bone reconstruction cements;

(g) First-aid boxes and kits;

(h) Chemical contraceptive preparations based on hormones, on other products of heading 29.37 or on spermicides;

(ij) Gel preparations designed to be used in human or veterinary medicine as a lubricant for parts of the body for surgical operations or physical examinations or as a coupling agent between the body and medical instruments;

(k) Waste pharmaceuticals, that is, pharmaceutical products which are unfit for their originalintended purpose due to, for example, expiry of shelf life; and

(l) Appliances identifiable for ostomy use, that is, colostomy, ileostomy and urostomy pouches cut to shape and their adhesive wafers or faceplates.

Subheading Notes.

1.- For the purposes of subheadings 3002.13 and 3002.14, the following are to be treated :

(a) As unmixed products, pure products, whether or not containing impurities;

(b) As products which have been mixed :

(1) The products mentioned in (a) above dissolved in water or in other solvents;

(2) The products mentioned in (a) and (b) (1) above with an added stabiliser necessary for their preservation or transport; and

(3) The products mentioned in (a), (b) (1) and (b) (2) above with any other additive.

2.- Subheadings 3003.60 and 3004.60 cover medicaments containing artemisinin (INN) for oral ingestion combined with other pharmaceutical active ingredients, or containing any of the following active principles, whether or not combined with other pharmaceutical active ingredients : amodiaquine (INN); artelinic acid or its salts; artenimol (INN); artemotil (INN); artemether (INN); artesunate (INN); chloroquine (INN); dihydroartemisinin (INN); lumefantrine (INN); mefloquine (INN); piperaquine (INN); pyrimethamine (INN) or sulfadoxine (INN).

GENERAL

This Chapter includes pegylated products which consist of polyethylene glycol (or PEGs) polymers bonded to pharmaceuticals of Chapter 30 (e.g., functional proteins and peptides, antibody fragments) in order to improve their efficacy as drugs. Pegylated products of headings of this Chapter remain classified in the same heading as their non-pegylated forms (e.g., Peginterferon (INN) of heading 30.02).

Heading 3001

Glands and other organs for organo-therapeutic uses, dried, whether or not powdered; extracts of glands or other organs or of their secretions for organo-therapeutic uses; heparin and its salts; other

human or animal substances prepared for therapeutic or prophylactic uses, not elsewhere specified or included.

EXPLANATORY NOTES

30.01 - Glands and other organs for organo-therapeutic uses, dried, whether or not powdered; extracts of glands or other organs or of their secretions for organo-therapeutic uses; heparin and its salts; other human or animal substances prepared for therapeutic or prophylactic uses, not elsewhere specified or included.

3001.20 - Extracts of glands or other organs or of their secretions

3001.90 - Other

This heading covers :

(A) **Glands and other organs of animal origin for organo-therapeutic uses** (e.g., the brain, spinal cord, liver, kidneys, spleen, pancreas, mammary glands, testes, ovaries), dried, whether or not powdered.

(B) **Extracts of glands or other organs or of their secretions for organo-therapeutic uses**, obtained by solvent extraction, precipitation, coagulation or by any other process. These extracts may be in solid, semi-solid or liquid form, or in solution or suspension in any media necessary for their preservation.

The organo-therapeutic extracts of secretions of glands or organs include bile extract.

(C) **Heparin and its salts**. Heparin consists of a mixture of complex organic acids (muco-polysaccharides) obtained from mammalian tissues. Its composition varies according to the origin of the tissues. Heparin and its salts are used chiefly in medicine, especially as blood anti-coagulants. They remain classified here whatever their degree of activity.

(D) **Other human or animal substances prepared for therapeutic or prophylactic uses and which are not specified or included in more specific headings of the Nomenclature**, including :

(1) **Red bone marrow** preserved in glycerol.

(2) **Snake or bee venom** put up in dried flakes and the non-microbial crypto-toxins formed from such venom.

These products ((1) and (2) above), when put up as medicaments in measured doses or in forms or packings for retail sale, fall in **heading 30.04**.

(3) **Bone, organs and other human or animal tissue**, whether living or preserved, suitable for permanent grafting or implantation, put up in sterile packings which may bear indications as to method of use, etc.

The heading **excludes** :

(a) Glands and other animal organs, fresh, chilled, frozen or otherwise provisionally preserved (**Chapter 2** or **5**).

(b) Bile, whether or not dried (**heading 05.10**).

(c) Separate chemically defined compounds and other products of **Chapter 29** obtained by the treatment of extracts of glands or other organs, e.g., amino-acids (**heading 29.22**), vitamins (**heading 29.36**), hormones (**heading 29.37**).

(d) Human blood, animal blood prepared for therapeutic, prophylactic or diagnostic uses, and antisera (including specific immunoglobulins) and other blood fractions (e.g., "normal" sera, human normal immunoglobulin, plasma, fibrinogen, fibrin) (**heading 30.02**).

(e) Cell cultures (heading **30.02**).

(f) Products having the character of medicaments of **heading 30.03** or **30.04** (see corresponding Explanatory Notes).

(g) Globulins and globulin fractions (other than those of blood or serum) not prepared for therapeutic or prophylactic use (**heading 35.04**).

(h) Enzymes (**heading 35.07**).

3001.20

- Extracts of glands or other organs or of their secretions

3001.90

- Other

Heading 3002

Human blood; animal blood prepared for therapeutic, prophylactic or diagnostic uses; antisera, other blood fractions and immunological products, whether or not modified or obtained by means of biotechnological processes; vaccines, toxins, cultures of micro-organisms (excluding yeasts) and similar products; cell cultures, whether or not modified.

EXPLANATORY NOTES

30.02 - Human blood; animal blood prepared for therapeutic, prophylactic or diagnostic uses; antisera, other blood fractions and immunological products, whether or not modified or obtained by means of biotechnological processes; vaccines, toxins, cultures of micro-organisms (excluding yeasts) and similar products; cell cultures, whether or not modified. (+).

- Antisera, other blood fractions and immunological products, whether or not modified or obtained by means of biotechnological processes :

3002.12 - - Antisera and other blood fractions

3002.13 - - Immunological products, unmixed, not put up in measured doses or in forms or packings for retail sale

3002.14 - - Immunological products, mixed, not put up in measured doses or in forms or packings for retail sale

3002.15 - - Immunological products, put up in measured doses or in forms or packings for retail sale

- Vaccines, toxins, cultures of micro-organisms (excluding yeasts) and similar products :

3002.41 - - Vaccines for human medicine

3002.42 - - Vaccines for veterinary medicine

3002.49 - - Other

- Cell cultures, whether or not modified :

3002.51 - - Cell therapy products

3002.59 - - Other

3002.90 - Other

This heading covers :

(A) **Human blood** (e.g., human blood in sealed ampoules).

(B) **Animal blood prepared for therapeutic, prophylactic or diagnostic uses**.

Animal blood not prepared for such uses falls in **heading 05.11**.

(C) **Antisera, other blood fractions and immunological products, whether or not modified or obtained by means of biotechnological processes.**

These products include :

(1) **Antisera and other blood fractions, whether or not modified or obtained by means of biotechnological processes.**

Sera are the fluid fractions separated from blood after clotting.

The heading covers, *inter alia*, the following products derived from blood (including vascular endothelial cells) : “normal” sera, human normal immunoglobulin, blood fractions and truncated variants (parts) thereof with enzymatic properties/activity, plasma, thrombin, fibrinogen, fibrin and other blood coagulation factors, thrombomodulin, blood globulins, serum globulins, and haemoglobin. This group also includes modified thrombomodulins and

modified haemoglobins obtained by means of biotechnological processes, e.g., sothrombomodulin alfa (INN) and thrombomodulin alfa (INN), as well as cross-linked haemoglobins such as hemoglobin crosfumaril (INN), hemoglobin glutamer (INN) and hemoglobin raffimer (INN).

The heading further includes blood albumin (e.g., human albumin obtained by fractionating the plasma of whole human blood), prepared for therapeutic or prophylactic uses.

Antisera are obtained from the blood of humans or of animals which are immune or have been immunised against diseases or ailments, whether these are caused by pathogenic bacteria and viruses, toxins or allergic phenomena, etc. Antisera are used against diphtheria, dysentery, gangrene, meningitis, pneumonia, tetanus, staphylococcal or streptococcal infections, snake bite, vegetable poisoning, allergic diseases, etc. Antisera are also used for diagnostic purposes, including in vitro tests. Specific immunoglobulins are purified preparations of antisera.

The heading **does not cover** blood albumin not prepared for therapeutic or prophylactic uses (**heading 35.02**) or globulins (other than blood globulins and serum globulins) (**heading 35.04**). The heading also **excludes** medicaments which are not separated from the blood but which in some countries are described as “sera” or “artificial sera”; they include isotonic solutions based on sodium chloride or other chemicals and suspensions of pollen which are used against allergic diseases.

(2) **Immunological products, whether or not modified or obtained by means of biotechnological processes.**

Products used for diagnostic or therapeutic purposes and for immunological tests are to be regarded as falling within this product group. They can be defined as follows :

(a) **Monoclonal antibodies (MAB)** - specific immunoglobulins from selected and cloned hybridoma cells cultured in a culture medium or ascites.

(b) **Antibody fragments** – active parts of an antibody protein obtained by means of e. g., specific enzymatic splitting. This group includes inter alia single-chain (scFv) antibodies.

(c) **Antibody conjugates and antibody fragment conjugates** – conjugates which contain at least one antibody or an antibody fragment. The simplest types are a combination of the following :

(i) antibody – antibody;

(ii) antibody fragment – antibody fragment;

(iii) antibody – antibody fragment;

(iv) antibody – other substance;

(v) antibody fragment – other substance.

Conjugates of types (iv) and (v) include, for example, enzymes (e.g., alkaline phosphatase, peroxidase or betagalactosidase) or dyes (fluorescin) covalently bound to the protein structure, which are used for straightforward detection reactions.

This heading also covers interleukins, interferons (IFN), chemokines and certain tumor necrosis factors (TNF), growth factors (GF), hematopoietins and colony stimulating factors (CSF).

(D) **Vaccines, toxins, cultures of micro-organisms (excluding yeasts) and similar products**.

These products include :

(1) **Vaccines.**

The most typical vaccines are prophylactic preparations of microbial origin containing either viruses or bacteria suspended in saline solutions, oil (lipovaccines) or other media. These preparations have usually been treated to reduce their toxicity without destroying their immunizing properties.

Other vaccines include recombinant vaccines, peptide vaccines and carbohydrate vaccines. These vaccines generally contain an antigen, a recognised part of an antigen or a gene coding for a recognised part of an antigen (peptides, recombinants or conjugates of protein and others). The "recognised part of an antigen" is the part of an antigen which triggers the immunological response in the organism. Many of these vaccines target a specific virus or bacterium. These vaccines are used for prophylactic or therapeutic purposes.

In addition, the heading covers nucleic acid vaccines. Some examples include DNA plasmid vaccines and messenger RNA (mRNA) vaccines. DNA plasmid vaccines carry protein encoding genes from the pathogen of interest while the mRNA encodes for a specific protein of the pathogen. Both DNA plasmid and mRNA either replicate within the body or signal the body to replicate the desired antigens which results in an immune response.

The heading also covers mixtures consisting of vaccines or toxoids (such as Diphtheria, Tetanus and Pertussis (DPT) vaccine).

The heading **excludes** vaccines put up in kits for recognized clinical trials (heading 30.06), whether as the vaccine to be tested or as the control substance (sometimes called "placebos") against which another vaccine is being tested in the trial.

(2) **Toxins** (poisons), toxoids, crypto-toxins, protoxins (e.g., topsalysin (INN)) and antitoxins. Toxins of this heading are peptides or proteins. These toxins do not include alkaloids (**heading 29.39**).

(3) **Cultures of micro-organisms (excluding yeasts)**. These include ferments such as lactic ferments used in the preparation of milk derivatives (kephir, yogurt, lactic acid) and acetic ferments for making vinegar; moulds for the manufacture of penicillin and other antibiotics; and cultures of micro-organisms for technical purposes (e.g., for aiding plant growth).

Milk or whey containing small quantities of lactic ferments is classifiable in **Chapter 4**.

(4) **Virus, human, animal and vegetable and anti-virus**.

(5) **Bacteriophage**.

The heading also includes diagnostic reagents of microbial origin, **other than** those provided for in Note 4 (d) to this Chapter - see **heading 30.06**. It **does not cover** enzymes (rennet, amylase, etc.) even if of microbial origin (streptokinase, streptodornase, etc.) (**heading 35.07**) **nor dead** single-cell micro-organisms (other than vaccines) (**heading 21.02**).

(E) **Cell cultures, whether or not modified**

Cell cultures are cells which have been grown under controlled conditions, generally outside their natural environment. In this context, cell cultures refer to cell cultures derived from multicellular organisms, especially human or animal cells. Cultures of micro-organisms (excluding yeasts) are classified in **subheading 3002.49**.

Cell therapy products are cellular material which has been modified by manipulation of the cells and intended for injection, grafting or implanting into a patient.

Cell therapy has applications in a large number of disorders. The most important are diseases of the nervous system and cancer. Other applications include *inter alia* : cardiac disorders (myocardial infarction and heart failure), diabetes mellitus, diseases of bones and joints, genetic disorders, and wounds of the skin and soft tissues.

Cell therapy products include stem cells and stem cell derived products, such as those from hematopoietic, mesenchymal, embryonic, and umbilical cord blood, cancer vaccines and immunotherapies, such as dendritic cell vaccines, activated T or B lymphocytes, monocytes, and modified or unmodified cancer cells, allogeneic pancreatic islet cells, chondrocytes for cartilage repair, keratinocytes, fibroblasts, and hepatocytes.

The products of this heading remain classified here whether or not in measured doses or put up for retail sale and whether in bulk or in small packings.

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° °

Subheading Explanatory Notes.

Subheading 3002.13

The unmixed immunological products of subheading 3002.13 may contain impurities. The term “impurities” applies exclusively to substances whose presence in the products results solely and directly from the manufacturing process (including purification). These substances may result from any of the factors involved in the process and are principally the following :

(a) Unconverted starting materials.

(b) Impurities present in the starting materials.

(c) Reagents used in the manufacturing process (including purification).

(d) By-products.

Subheading 3002.51

For the purposes of subheading 3002.51, “cell therapy products” are living cells whose biological characteristics have been substantially altered through manipulation (in an ex vivo procedure(s) that selectively removes, enriches, expands, or functionally alters the cells) and are intended for use in the body to achieve a therapeutic or prophylactic result for the recipient. Cellular therapy products can include cells sourced from humans or animals.

Subheading 3002.51 **does not include** cells which have not been manipulated or which have undergone minimal manipulation which does not alter the relevant biological characteristics of the cells.

3002.1

- Antisera, other blood fractions and immunological products, whether or not modified or obtained by means of biotechnological processes :

3002.12

-- Antisera and other blood fractions

CLASSIFICATION OPINIONS

1. Blood fractions in the form of powders, obtained by separating the plasma from edible beef or pig blood. The plasma is then run through a spray dryer at low temperatures to preserve the cell structure and nutritional value of the products. The products, containing about 70 % of protein, are used in small quantities (1-5 % of finished product weight) in foodstuffs, as functional proteins or for their waterbinding capacity, gel strength, etc.

Adoption : 1991

3002.13

-- Immunological products, unmixed, not put up in measured doses or in forms or packings for retail sale

CLASSIFICATION OPINIONS

1. **Interferon**, a protein produced by the body's cells as a defensive response to viruses or other substances and which inhibits cell growth or multiplication of various infectious agents and modulates immune functions. **Application of GIRs 1 and 6 (Subheading Note 1 (a) to Chapter 30).** *Adoption : 1995*

2. **Peginterferon alfa-2a** (INN), mono (N2,N6-dicarboxy-L-lysil)interferon alfa-2a, diesters with polyethylene glycol monomethyl ether. Pegylation occurs at one lysine residue at position 31, 121, 131 or 134. The molecular mass of the pegylated part may be indicated in the product name (INN) by adding a number, for example : peginterferon alfa-2a (40 KD). This product is an immunomodulator used in medicine to treat hepatitis B or hepatitis C. **Application of GIRs 1 and 6 (Subheading Note 1 (a) to Chapter 30).** *Adoption : 2009*

3. **Peginterferon alfa-2b** (INN), monocarboxyinterferon alfa-2b, diesters with polyethylene glycol monomethyl ether. Pegylation occurs at one nitrogen atom of either the cysteine residue at position 1 or at one of the lysine residues at position 31, 121 or 134. The molecular mass of the pegylated part may be indicated in the product name (INN) by adding a number, for example : peginterferon alfa-2b (12 KD). This product is an immunomodulator used in medicine to treat chronic hepatitis C. **AApplication of GIRs 1 and 6 (Subheading Note 1 (a) to Chapter 30).** *Adoption : 2009*

4. **Pegfilgrastim** (INN) (N-(3-hydroxypropyl)methionylcolony-stimulating factor (human), 1-ether with α-methyl-ω-hydroxypoly(oxyethylene)), a form of filgrastim (INN) (a human granulocyte colony-stimulating factor (G-CSF)) of sustained duration, produced by a covalent attachment of a single 20 kDa poly(ethylene glycol) molecule to the amino-terminal methionine residue of the filgrastim polypeptide chain by a reaction called reductive amination. Pegfilgrastim, like filgrastim, belongs to a class of substances which regulates the proliferation and maturation of neutrophils in the bone marrow, helping so to re-establish the body's effective defence system against bacterial infections in cases of neutropenia. **Application of GIRs 1 and 6 (Subheading Note 1 (a) to Chapter 30).** *Adoption : 2008*

3002.14

-- Immunological products, mixed, not put up in measured doses or in forms or packings for retail sale

3002.15

-- Immunological products, put up in measured doses or in forms or packings for retail sale

3002.4

- Vaccines, toxins, cultures of micro-organisms (excluding yeasts) and similar products :

3002.41

-- Vaccines for human medicine

3002.42

-- - Vaccines for veterinary medicine

3002.49

-- Other

CLASSIFICATION OPINIONS

1. Products, in bulk, based on cultures of lactic acid bacilli, containing as the excipient or carrier either calcium carbonate and lactose, or starch and lactose, or sucrose and polysaccharides. These products are used as ingredients in medicaments or as animal feed additives for disorders and for improving digestion.

Application of GIRs 1 and 6.

Adoption : 1996

3002.5

- Cell cultures, whether or not modified :

3002.51

-- Cell therapy products

3002.59

-- Other

3002.90

- Other

Heading 3003

Medicaments (excluding goods of heading 30.02, 30.05 or 30.06) consisting of two or more constituents which have been mixed together for therapeutic or prophylactic uses, not put up in measured doses or in forms or packings for retail sale.

EXPLANATORY NOTES

30.03 - Medicaments (excluding goods of heading 30.02, 30.05 or 30.06) consisting of two or more constituents which have been mixed together for therapeutic or prophylactic uses, not put up in measured doses or in forms or packings for retail sale.

3003.10 - Containing penicillins or derivatives thereof, with a penicillanic acid structure, or streptomycins or their derivatives

3003.20 - Other, containing antibiotics

- Other, containing hormones or other products of heading 29.37 :

3003.31 - - Containing insulin

3003.39 - - Other

- Other, containing alkaloids or derivatives thereof :

3003.41 - - Containing ephedrine or its salts

3003.42 - - Containing pseudoephedrine (INN) or its salts

3003.43 - - Containing norephedrine or its salts

3003.49 - - Other

3003.60 - Other, containing antimalarial active principles described in Subheading Note 2 to this Chapter

3003.90 - Other

This heading covers medicinal preparations for use in the internal or external treatment or prevention of human or animal ailments. These preparations are obtained by mixing together two or more substances. However, if put up in measured doses or in forms or packings for retail sale, they fall in **heading 30.04**.

The heading includes :

(1) Mixed medicinal preparations such as those listed in an official pharmacopoeia, proprietary medicines, etc., including those in the form of gargles, eye drops, ointments, liniments, injections, counter-irritant and other preparations **not falling** in **heading 30.02**, **30.05** or **30.06**.

However, this should not be taken to mean that preparations listed in an official pharmacopoeia, proprietary medicines, etc. are always classified in **heading 30.03**. For example, anti-acne preparations which are designed primarily to cleanse the skin and which do not contain sufficiently high levels of active ingredients to be regarded as having a primary therapeutic or prophylactic effect against acne are to be classified in **heading 33.04**.

(2) Preparations containing a single pharmaceutical substance together with an excipient, sweetening agent, agglomerating agent, support, etc.

(3) Nutritional preparations for intravenous administration only, i.e., by injection or drip into a vein.

(4) Colloidal solutions and suspensions (e.g., colloidal selenium) for medicinal purposes, **but not including** colloidal sulphur or single colloidal precious metals. Colloidal sulphur falls in **heading 30.04** when put up in measured doses or in packings for retail sale for therapeutic or prophylactic uses and in **heading 28.02** in all other cases. Single colloidal precious metals fall in **heading 28.43** whether or not put up for medicinal use. Mixtures of colloidal precious metals or mixtures of one or more colloidal precious metals with other substances, for therapeutic or prophylactic purposes, are, however, classified in this heading.

(5) Medicinal compound vegetable extracts **including** those obtained by treating a mixture of plants.

(6) Medicinal mixtures of the plants or parts of plants of heading 12.11.

(7) Medicinal salts obtained by the evaporation of natural mineral waters and similar products artificially prepared.

(8) Concentrated waters from salt sources (such as Kreuznach waters) used in therapeutics; mixed salts prepared for medicinal baths (sulphurous, iodized, etc., baths), whether or not perfumed.

(9) Health salts (e.g., a mixture of sodium hydrogencarbonate, tartaric acid, magnesium sulphate and sugar) and similar mixed effervescing salts used for medicinal purposes.

(10) Camphorated oil, phenolated oil, etc.

(11) Anti-asthmatic products such as anti-asthmatic papers and powders.

(12) “Retarded effect medicaments” such as those consisting of a medicinal component fixed to a polymeric ion-exchanger.

(13) Anaesthetics used in human or veterinary medicine or surgery.

*

* *

The provisions of the heading text do not apply to foodstuffs or beverages such as dietetic, diabetic or fortified foods, tonic beverages or mineral waters (natural or artificial), which fall to be **classified under their own appropriate headings**. This is essentially the case as regards food preparations containing only nutritional substances. The major nutritional substances in food are proteins, carbohydrates and fats. Vitamins and mineral salts also play a part in nutrition.

Similarly foodstuffs and beverages containing medicinal substances are **excluded** from the heading if those substances are added solely to ensure a better dietetic balance, to increase the energy-giving or nutritional value of the product or to improve its flavour, always provided that the product retains its character of a foodstuff or a beverage.

Moreover, products consisting of a mixture of plants or parts of plants or consisting of plants or parts of plants mixed with other substances, used for making herbal infusions or herbal “teas” (e.g., those having laxative, purgative, diuretic or carminative properties), and claimed to offer relief from ailments or contribute to general health and well-being, are also **excluded** from this heading (**heading 21.06**).

Further, this heading **excludes** preparations often referred to as food supplements containing vitamins or minerals which are usually put up for the purpose of maintaining health or well-being, or to improve athletic performance, or to prevent possible nutritional deficiencies or correct sub-optimal levels of nutrients. These products, which may be in liquid, powder or similar forms, are generally classified in **heading 21.06** or **Chapter 22**.

On the other hand, the heading covers preparations in which the foodstuff or the beverage merely serves as a support, vehicle, sweetening agent or a processing or technical aid for the medicinal substances (e.g., in order to facilitate ingestion).

In addition to foodstuffs and beverages, the heading **excludes** :

(a) Goods of **heading 30.02**, **30.05** or **30.06**.

(b) Aqueous distillates or aqueous solutions of essential oils and preparations of headings 33.03 to 33.07, even if they have therapeutic or prophylactic properties (**Chapter 33**).

(c) Medicated soaps (**heading 34.01**).

(d) Insecticides, disinfectants, etc., of **heading 38.08**.

3003.10

- Containing penicillins or derivatives thereof, with a penicillanic acid structure, or streptomycins or their derivatives

3003.20

- Other, containing antibiotics

CLASSIFICATION OPINIONS

1. Preparation for use in animal feeding to prevent coccidiosis in broiler chickens caused by Eimeria spp. The preparation is presented in the form of free-flowing powder composed of maduramicin ammonium (maduramicin as ammonium salt) (0.75 %), nicarbazin (8 %) (active ingredients) and corn cob (carrier). It is packaged in 25 kg bags and must be mixed into feed at a dosage of 500 g

per tonne of feed.
Application of GIRs 1 and 6.
Adoption : 2019

2. Preparation for use in animal feeding for the prevention and control of coccidiosis in broiler chickens caused by Eimeria spp. The preparation is presented in the form of white to off-white powder composed of robenidine hydrochloride (10 %) (active ingredient) and calcium carbonate (carrier). It is packaged in 25 kg bags and must be mixed into feed at a dosage of 350 to 500 g per tonne of feed.
Application of GIRs 1 and 6.
Adoption : 2019

3003.3

- Other, containing hormones or other products of heading 29.37 :

3003.31

-- Containing insulin

3003.39

-- Other

3003.4

- Other, containing alkaloids or derivatives thereof :

3003.41

-- Containing ephedrine or its salts

3003.42

-- Containing pseudoephedrine (INN) or its salts

3003.43

-- Containing norephedrine or its salts

3003.49

-- Other

3003.60

- Other, containing antimalarial active principles described in Subheading Note 2 to this Chapter

3003.90

- Other

CLASSIFICATION OPINIONS

Calcium borogluconate, commercial (mixture of calcium gluconate and boric acid for therapeutic purposes).Adoption :1957

Heading 3004

Medicaments (excluding goods of heading 30.02, 30.05 or 30.06) consisting of mixed or unmixed products for therapeutic or prophylactic uses, put up in measured doses (including those in the form of transdermal administration systems) or in forms or packings for retail sale.

EXPLANATORY NOTES

30.04 - Medicaments (excluding goods of heading 30.02, 30.05 or 30.06) consisting of mixed or unmixed products for therapeutic or prophylactic uses, put up in measured doses (including those in the form of transdermal administration systems) or in forms or packings for retail sale.

3004.10 - Containing penicillins or derivatives thereof, with a penicillanic acid structure, or streptomycins or their derivatives

3004.20 - Other, containing antibiotics

- Other, containing hormones or other products of heading 29.37 :

3004.31 - - Containing insulin

3004.32 - - Containing corticosteroid hormones, their derivatives or structural analogues

3004.39 - - Other

- Other, containing alkaloids or derivatives thereof :

3004.41 - - Containing ephedrine or its salts

3004.42 - - Containing pseudoephedrine (INN) or its salts

3004.43 - - Containing norephedrine or its salts

3004.49 - - Other

3004.50 - Other, containing vitamins or other products of heading 29.36

3004.60 - Other, containing antimalarial active principles described in Subheading Note 2 to this Chapter

3004.90 - Other

This heading covers medicaments consisting of mixed or unmixed products, **provided they are** :

(a) Put up **in measured doses** or in forms such as tablets, ampoules (for example, re-distilled water, in ampoules of 1.25 to 10 cm^3, for use either for the direct treatment of certain diseases, e.g., alcoholism, diabetic coma or as a solvent for the preparation of injectible medicinal solutions), capsules, cachets, drops or pastilles, medicaments in the form of transdermal administration systems, or small quantities of powder, ready for taking as single doses for therapeutic or prophylactic use.

The heading also includes measured doses in the form of transdermal administration systems which are generally put up in the form of self-adhesive patches (usually rectangular or round) and which are applied directly to the skin of patients. The active substance is contained in a reservoir which is closed by a porous membrane on the side entering into contact with the skin. The active substance released from the reservoir is absorbed by passive molecular diffusion through the skin and passes directly into the bloodstream. These systems should not be confused with medical adhesive plasters of heading 30.05.

The heading applies to such single doses whether in bulk, in packings for retail sale, etc.; or

(b) **In packings for retail sale for therapeutic or prophylactic use**. This refers to products (for example, sodium bicarbonate and tamarind powder) which, because of their packing and, in particular, the presence of appropriate indications (statement of disease or condition for which they are to be used, method of use or application, statement of dose, etc.) are clearly intended for sale directly to users (private persons, hospitals, etc.) without repacking, for the above purposes.

These indications (in any language) may be given by label, literature or otherwise. However, the mere indication of pharmaceutical or other degree of purity is not alone sufficient to justify classification in this heading.

On the other hand, even if no indications are given, unmixed products are to be regarded as being put up for retail sale for therapeutic or prophylactic use if they are put up in a form clearly specialised for such use.

Medicaments consisting of mixed products for therapeutic or prophylactic uses and not put up in measured doses or in forms or packings for retail sale are classified in **heading 30.03** (see the corresponding Explanatory Note).

Under the terms of Chapter Note 3, the following are also regarded as unmixed products :

(1) Unmixed products dissolved in water.

(2) All goods of Chapter 28 or 29. Such products include colloidal sulphur and stabilised solutions of hydrogen peroxide.

(3) Single vegetable extracts of heading 13.02, merely standardised or dissolved in any solvent (see the Explanatory Note to heading 13.02).

It should be noted, however, that unmixed products of **headings 28.43 to 28.46 and 28.52** are always **excluded** from heading 30.04, even if they satisfy the requirements of paragraph (a) or (b) above. For example, colloidal silver remains classified in **heading 28.43** even if put up in measured doses or packed and presented as a medicament.

*

* *

This heading includes pastilles, tablets, drops, etc., of a kind suitable **only** for medicinal purposes, such as those based on sulphur, charcoal, sodium tetraborate, sodium benzoate, potassium chlorate or magnesia.

However, preparations put up as throat pastilles or cough drops, consisting essentially of sugars (whether or not with other foodstuffs such as gelatin, starch or flour) and flavouring agents (including substances having medicinal properties, such as benzyl alcohol, menthol, eucalyptol and tolu balsam) fall in**heading 17.04**. Throat pastilles or cough drops containing substances having medicinal properties, other than flavouring agents, remain classified in this heading when put up in measured doses or in forms or packings for retail sale, **provided** that the proportion of those substances in each pastille or drop is such that they are thereby given therapeutic or prophylactic uses.

The heading also covers the following products, provided they are put up as prescribed in paragraph (a) or (b) above :

(1) Organic surface-active products and preparations, with active cation (e.g., quaternary ammonium salts), having antiseptic, disinfectant, bactericidal or germicidal properties.

(2) Poly(vinyl pyrrolidone)-iodine, being a reaction product of iodine and poly(vinyl pyrrolidone).

(3) Bone graft substitutes, such as those made from surgical grade calcium sulfate, which are injected into a cavity of the fractured bone and spontaneously resorbed and replaced by bone tissue; these products provide a crystalline matrix on which new bone can grow as the matrix is resorbed.

However, the heading **excludes** bone reconstruction cements, usually containing a hardener (curing agent) and an activator and used, e.g., for attaching prosthetic implants to existing bone (**heading 30.06**).

*

* *

The provisions of the heading text do not apply to foodstuffs or beverages such as dietetic, diabetic or fortified foods, tonic beverages or mineral waters (natural or artificial), which fall to be classified under **their own appropriate headings**. This is essentially the case as regards food preparations containing only nutritional substances. The major nutritional substances in food are proteins, carbohydrates and fats. Vitamins and mineral salts also play a part in nutrition.

Similarly foodstuffs and beverages containing medicinal substances are **excluded** from the heading if those substances are added solely to ensure a better dietetic balance, to increase the energy-giving or nutritional value of the product or to improve its flavour, always provided that the product retains its character of a foodstuff or a beverage.

Moreover, products consisting of a mixture of plants or parts of plants or consisting of plants or parts of plants mixed with other substances, used for making herbal infusions or herbal “teas” (e.g., those having laxative, purgative, diuretic or carminative properties), and claimed to offer relief from ailments or contribute to general health and well-being, are also **excluded** from this heading (**heading 21.06**).

Further, this heading **excludes** preparations often referred to as food supplements containing vitamins or minerals which are usually put up for the purpose of maintaining health or well-being, or to improve athletic performance, or to prevent possible nutritional deficiencies or correct sub-optimal levels of nutrients. These products, which may be in liquid, powder, capsule, tablet, or similar forms, are generally classified in **heading 21.06** or **Chapter 22**.

On the other hand, the heading covers preparations in which the foodstuff or the beverage merely serves as a support, vehicle, sweetening agent or a processing or technical aid for the medicinal substances (e.g., in order to facilitate ingestion).

The heading also **excludes** :

(a) Products, such as tablets, chewing gum or patches (transdermal systems), containing nicotine and intended to assist tobacco use cessation (**heading 24.04**).

(b) Snake or bee venom, not put up as medicaments (**heading 30.01**).

(c) Goods of **heading 30.02**, **30.05** or **30.06**, however they are put up.

(d) Aqueous distillates or aqueous solutions of essential oils and preparations of headings 33.03 to 33.07, even if they have therapeutic or prophylactic properties (**Chapter 33**).

(e) Medicated soaps however they are put up (**heading 34.01**).

(f) Insecticides, disinfectants, etc., of **heading 38.08**, not put up for internal or external use as medicines.

3004.10

- Containing penicillins or derivatives thereof, with a penicillanic acid structure, or streptomycins or their derivatives

3004.20

- Other, containing antibiotics

CLASSIFICATION OPINIONS

1. Bone graft substitute made from medical grade calcium sulfate containing 4 % tobramycin sulfate. This product is in the form of uniformly shaped cylindrical pellets (4.8 mm in diameter), put up for sale in 5 cc, 10 cc and 20 cc sterile bottles.

Application of GIRs 1 and 6.

Adoption : 2002

3004.3

- Other, containing hormones or other products of heading 29.37 :

3004.31

-- Containing insulin

3004.32

-- Containing corticosteroid hormones, their derivatives or structural analogues

3004.39

-- Other

CLASSIFICATION OPINIONS

1. Transdermal administration system, used for treating hormone deficiency during menopause, comprising (i) a transparent, external protective film of plastics to prevent leakage of the active substance (17ß-estradiol); (ii) a small reservoir from which 17ß-estradiol is released by absorption through the skin into the circulatory system; (iii) a control membrane (permeable to the active substance) to permit a continuous and controlled release of 17ß-estradiol entering the body; (iv) an adhesive contact permeable to the active substance, enabling absorption to start at the moment of application; and (v) a removable protective film which keeps the system closed and intact until the time of application.

Adoption : 1999

3004.4

- Other, containing alkaloids or derivatives thereof :

3004.41

-- Containing ephedrine or its salts

3004.42

-- Containing pseudoephedrine (INN) or its salts

3004.43

-- Containing norephedrine or its salts

3004.49

-- Other

3004.50

- Other, containing vitamins or other products of heading 29.36

CLASSIFICATION OPINIONS

1. Liquid preparation composed of ferric ammonium citrate, vitamine B12, folic acid, sorbitol solution, alcohol (3.61 %), raspberry flavour and adequate proportions of different vitamins, used as a blood builder in the treatment of nutritional or hypochromic anaemia.

Adoption : 1996

3004.60

- Other, containing antimalarial active principles described in Subheading Note 2 to this Chapter

3004.90

- Other

CLASSIFICATION OPINIONS

1. **Calcium borogluconate**, commercial (mixture of calcium gluconate and boric acid for therapeutic purposes).
   Adoption :1957

1. **Transdermal administration system,** used by angina patients for regulating the heartbeat, comprising (i) a transparent, external protective film of plastics to prevent leakage of the active substance (nitroglycerol); (ii) a small reservoir from which nitroglycerol is released by absorption through the skin into the circulatory system; (iii) a control membrane (permeable to the active substance) to permit a continuous and controlled release of nitroglycerol entering the body; (iv) an adhesive contact permeable to the active substance, enabling absorption to start at the moment of application; and (v) a removable protective film which keeps the system closed and intact until the time of application.
   Adoption : 1999

2. **Medicament** in the form of pills, consisting of plant extracts (of valerian root and hop cones), maltodextrin, colourings and excipients. According to the label, the product is recommended to be used as a remedy against agitation (two to four pills daily) or sleep disorders (one pill daily). The product contains a sufficient quantity of active ingredients to provide curative or prophylactic effect against disorders such as insomnia or sleeplessness. It is put up for retail sale in packages of, e.g., 60 pills.
   Application of GIRs 1 and 6.
   Adoption : 2012

3. **Medicament** used for treating obesity, in the form of capsules, containing orlistat (INN) (120 mg per capsule), gelatine, indigo carmine (E132) and titanium dioxide (E171). The capsule shell contains the following inactive ingredients : microcrystalline cellulose, sodium starch glycollate, povidone, sodium lauryl sulphate and talc.
This product should be administered in combination with a reduced-calorie diet for the treatment of obese or overweight patients who are at risk from, e.g., type 2 diabetes, hypertension and hyperlipidemia. The product contains a sufficient quantity of active ingredients to provide a curative or prophylactic effect against obesity.
The product is put up for retail sale in a container of plastics holding 90 capsules.
Application of GIRs 1 and 6.
Adoption : 2013

4. **Medicament** in the form of pre-filled syringes of 20 mg/2 ml, in a sterile pack, consisting of a viscoelastic solution of sodium hyaluronate. One millilitre isotonic solution (pH 7.3) contains 10 mg of sodium hyaluronate obtained by fermentation (1 %), sodium chloride, disodium phosphate, sodium dihydrogen phosphate and water for injections into the joint cavity.
Its indications for use are to relieve pain and improve mobility in cases of degenerative and traumatic changes of the knee joint and other synovial joints. The product improves the viscoelastic properties of synovial fluid with intra-articular injections of highly purified hyaluronic acid.
Application of GIRs 1 and 6.
Adoption : 2015

5. **Medicament** in the form of pre-filled syringes of 40 mg/2 ml, in a sterile pack, consisting of a viscoelastic solution of sodium hyaluronate. One millilitre isotonic solution (pH 7.3) contains 20 mg of sodium hyaluronate obtained by fermentation (2 %), sodium chloride, disodium phosphate, sodium dihydrogen phosphate, mannitol and water for injections into the joint cavity.
Its indications for use are to relieve pain and improve mobility in cases of degenerative and traumatic changes of the knee joint and other synovial joints. The product improves the viscoelastic properties of synovial fluid with intra-articular injections of highly purified hyaluronic acid.
Application of GIRs 1 and 6.
Adoption : 2015

6. **Bone graft substitute**, in granular form, recommended for filling bone defects and bone augmentation in, for example, regenerative dentistry, such as for implantology, periodontology, and for reconstitution of the alveolar ridge of the jaw.
The product only consists of hydroxyapatite which is a composite of an inorganic nature from the group of calcium orthophosphates. The product is put up in packings for retail sale.
Application of GIRs 1 and 6.
Adoption : 2017

7. **White sodium bicarbonate powder**, chemical formula NaHCO3, packaged in a cartridge or in a plastic bag with a content of 550 to 900 g. This product is only to be used in combination with an acid concentrate for bicarbonate dialysis in the given dilution according to a physician prescription. The packaging of the product is specially designed to be directly connected to a dialysis machine for the purpose of removing urea and other wastes from the blood. Each cartridge or bag is used for a single dialysis session.
Application of GIRs 1 and 6.
Adoption : 2018





Heading 3005

Wadding, gauze, bandages and similar articles (for example, dressings, adhesive plasters, poultices), impregnated or coated with pharmaceutical substances or put up in forms or packings for retail sale for medical, surgical, dental or veterinary purposes.

EXPLANATORY NOTES

30.05 - Wadding, gauze, bandages and similar articles (for example, dressings, adhesive plasters, poultices), impregnated or coated with pharmaceutical substances or put up in forms or packings for retail sale for medical, surgical, dental or veterinary purposes.

3005.10 - Adhesive dressings and other articles having an adhesive layer

3005.90 - Other

This heading covers articles such as wadding, gauze, bandages and the like, of textile, paper, plastic, etc., impregnated or coated with pharmaceutical substances (counter-irritant, antiseptic, etc.) for medical, surgical, dental or veterinary purposes.

These articles include wadding impregnated with iodine or methyl salicylate, etc., various prepared dressings, prepared poultices (e.g., linseed or mustard poultices), medicated adhesive plasters, etc. They may be in the piece, in discs or in any other form.

Wadding and gauze for dressings (usually of absorbent cotton) and bandages, etc., not impregnated or coated with pharmaceutical substances, are also classified in this heading, provided they are put up in forms or packings for retail sale directly to private persons, clinics, hospitals, etc., without repacking, and they are recognizable by their characteristics (presented in rolls or folded, protective packaging, labelling, etc.) as exclusively intended for medical, surgical, dental or veterinary uses.

This heading also covers the following types of dressings :

(1) **Cutaneous dressings** consisting of prepared frozen or lyophilised (dried) strips of animal skin tissue, usually porcine, used as temporary biological dressings for direct application to areas of

skin loss, open tissue wounds, surgical infections, etc. They are available in various sizes and are packed in sterile containers (retail packings) labelled with information concerning their use.

(2) **Liquid dressings** put up in a spray can (retail packing) and used to cover wounds with a protective transparent film. They may consist of a sterile solution of a plastic (e.g., a modified vinyl copolymer or a methacrylic plastic) in a volatile organic solvent (e.g., ethyl acetate) and a propellant, whether or not with added pharmaceutical substances (antiseptics in particular).

The heading **excludes** bandages, adhesive plasters, etc., containing zinc oxide, and plaster-coated fracture bandages, not put up in forms or packings for retail sale for medical, surgical, dental or veterinary purposes.

The heading also **excludes** :

(a) Plasters specially calcined or finely ground for use in dentistry and preparations with a basis of plaster for use in dentistry (**headings 25.20** and **34.07** respectively).

(b) Medicaments put up in the form of transdermal administration systems (**heading 30.04**).

(c) Goods specified in Note 4 to this Chapter (**heading 30.06**).

(d) Sanitary towels (pads) and tampons, napkins (diapers) and napkin liners and similar articles of **heading 96.19**.

3005.10

- Adhesive dressings and other articles having an adhesive layer

3005.90

- Other

CLASSIFICATION OPINIONS

1. Gauze for medical use, made from 100 % cotton plain woven fabric, white, smooth-textured, weighing 15 g/m2. The fabric (90 m x 90 cm), folded in half lengthwise (apparent width 45 cm) is put up for retail sale in rolls weighing approximately 1,200 g. The rolls are wrapped in two layers of paper (one blue, one white). According to the label, the gauze is intended for hospital use and is not sterilized.

Application of GIRs 1 (Note 2 to Section VI and Note 1 (e) to Section XI) and 6.

Adoption : 2015

Heading 3006

Pharmaceutical goods specified in Note 4 to this Chapter.

EXPLANATORY NOTES

30.06 - Pharmaceutical goods specified in Note 4 to this Chapter.(+)

3006.10 - Sterile surgical catgut, similar sterile suture materials (including sterile absorbable surgical or dental yarns) and sterile tissue adhesives for surgical wound closure; sterile laminaria and sterile laminaria tents; sterile absorbable surgical or dental

haemostatics; sterile surgical or dental adhesion barriers, whether or not absorbable

3006.30 - Opacifying preparations for X-ray examinations; diagnostic reagents designed to be administered to the patient

3006.40 - Dental cements and other dental fillings; bone reconstruction cements

3006.50 - First-aid boxes and kits

3006.60 - Chemical contraceptive preparations based on hormones, on other products of heading 29.37 or on spermicides

3006.70 - Gel preparations designed to be used in human or veterinary medicine as a lubricant for parts of the body for surgical operations or physical examinations or as a coupling agent between the body and medical instruments

- Other :

3006.91 - - Appliances identifiable for ostomy use

3006.92 - - Waste pharmaceuticals

3006.93 - - Placebos and blinded (or double-blinded) clinical trial kits for a recognised clinical trial, put up in measured doses

This heading covers **only** the following goods :

(1) **Sterile surgical catgut, similar sterile suture materials and sterile tissue adhesives for surgical wound closure.**

This item covers all kinds of ligatures for surgical sutures, provided they are sterile. These ligatures are usually put up in antiseptic solutions or in sealed sterile containers.

The materials used for such ligatures include :

(a) catgut (processed collagen from the intestines of cattle, sheep or other animals);

(b) natural fibres (cotton, silk, linen);

(c) synthetic polymer fibres, such as polyamides (nylons), polyesters;

(d) metals (stainless steel, tantalum, silver, bronze).

The item also covers tissue adhesives such as those consisting of butyl cyanoacrylate and a dye; after application, the monomer polymerises and the product is therefore used in place of conventional suture materials for closing internal or external wounds of the human body.

The heading **excludes** non-sterile suture materials. These are classified according to their nature, e.g., catgut (**heading 42.06**), silkworm gut, textile yarns, etc. (**Section XI**), metal wire (**Chapter 71** or **Section XV**).

(2) **Sterile laminaria and sterile laminaria tents**.

This item is restricted to **sterile** laminaria and **sterile** laminaria tents (small lengths of algae, sometimes brown and with a rough grooved surface). They swell considerably on contact with moist substances and become smooth and flexible.

They are therefore used in surgery as a means of dilation.

Non-sterile products are **excluded** (**heading 12.12**).

(3) **Sterile absorbable surgical or dental haemostatics**.

This item covers sterile products used in surgery or dentistry to stop bleeding and having the property of being absorbed by the body fluids. It includes oxidised cellulose, generally in the form of gauze or fibres ("wool"), in pads, pledgets or strip; gelatin sponge or foam; calcium alginate gauze, "wool" or "film".

(4) **Sterile surgical or dental adhesion barriers, whether or not absorbable**.

(5) **Opacifying preparations for X-ray examinations and diagnostic reagents designed to be administered to the patient, being unmixed products put up in measured doses or products consisting of two or more ingredients which have been mixed together for such uses**.

The opacifying preparations are used in X-ray examination of internal organs, arteries, veins, urinary passages, bile duct, etc. They are based on barium sulphate or other substances opaque to X-rays and may be put up for injection or for oral administration (e.g., barium meal).

The diagnostic reagents (including microbial diagnostic reagents) covered by the heading are those administered by ingestion, injection, etc.

Diagnostic reagents **not** designed to be administered to the patient (e.g., those for carrying out tests on blood, urine, etc., samples taken from a patient or for use as laboratory reagents) are **excluded**; they fall in the headings appropriate to the materials of which they are made (e.g., **Chapter 28**, **Chapter 29** or **heading 30.02** or **38.22**).

(6) **Dental cements and fillings and bone reconstruction cements**.

Dental cements and fillings are generally based on metallic salts (zinc chloride, zinc phosphate, etc.), metallic oxides, gutta-percha or plastic materials. They may also consist of metallic alloys (including precious metal alloys) specially prepared for dental fillings. Such alloys are sometimes called "amalgams" even though they do not contain mercury. The heading covers both temporary and permanent fillings and includes cements and fillings containing added medicinal substances and having prophylactic properties.

They are usually in the form of powders or tablets, sometimes accompanied by the liquid required for their preparation, and the packings normally indicate dental use.

Points (e.g., of silver, gutta-percha, paper) for filling dental root canals are also covered by this heading.

The heading also covers bone reconstruction cements, usually containing a hardener (curing agent) and activator and used, e.g., for attaching prosthetic implants to existing bone; these cements usually cure at body temperature.

Plasters specially calcined or finely ground for use in dentistry and preparations with a basis of plaster for use in dentistry are **excluded** (**headings 25.20** and **34.07** respectively).

Bone graft substitutes, such as those made from surgical grade calcium sulfate, which provide a crystalline matrix on which new bone can grow as the matrix is resorbed are also **excluded** (**heading 30.04**).

(7) **First-aid boxes and kits**.

These contain small quantities of a few common medicaments (hydrogen peroxide, tincture of iodine, mercurochrome, tincture of arnica, etc.), a few dressings, bandages, plasters, etc., and, optionally, a few instruments such as scissors, tweezers, etc.

The heading **does not cover** the more elaborate medical kits as used by doctors.

(8) **Chemical contraceptive preparations based on hormones, on other products of heading 29.37 or on spermicides**, whether or not put up in packings for retail sale.

(9) **Gel preparations designed to be used in human or veterinary medicine as a lubricant for parts of the body for surgical operations or physical examinations or as a coupling agent between the body and medical instruments**.

These preparations usually contain polyhydric alcohols (glycerol, propylene glycol, etc.), water and a thickener. They are generally used as a lubricant between parts of the body during physical examination (e.g., vaginal lubrication) or between the parts of the body and the surgeon's hands, gloves or medical instruments, for medical or veterinary purposes. They are also used as a coupling agent between the body and medical instruments (e.g., electrocardiograph, ultrasound scanner).

(10) **Appliances identifiable for ostomy use**, that is, colostomy, ileostomy and urostomy pouches cut to shape and their adhesive wafers or faceplates.

(11) **Waste pharmaceuticals**.

The heading also covers pharmaceutical products which are unfit for their original intended purpose due to, for example, expiry of shelf life.

(12) **Placebos**.

The placebos under this heading are designed to mimic a medicament in appearance, and are for use in recognized clinical trials. A placebo is generally a pharmaceutically inert product that typically consists of the ingredients employed in the drug product under study minus the active ingredient. The placebos of this heading also include vaccines which are used as control

substances and that have been licensed for use in recognized clinical trials. Placebos would come in a variety of forms including, but not limited to, tablets, liquids, injections and patches. The ingredients (excipients) employed in a drug product must be generally regarded as safe for use in humans, otherwise they could not be employed.

(13) **Blinded (or double-blinded) clinical trial kits**.

Blinded (or double-blinded) clinical trial kits are for the sole purpose of blinded medical trials and contain either the trial medicaments, the corresponding placebos or both and are designed to anonymize the medicament. For new pharmaceutical trials, a randomized double-blind design is normally used. Information regarding the exact content of any given double-blinded kit i.e., whether it contains the active drug product or placebo or both, does not accompany the kit, and is not available for Customs purposes.

The kits may contain any item or packaging which is necessary solely for the safe transport or storage of the goods, for example, temperature recorders, tamper detectors or coolant pads and any associated and necessary documentation and forms whether in hard copy or electronic form.

Placebos or blinded (or double-blinded) clinical trial kits of this heading are put up in measured doses for use in recognised clinical trials.

Clinical trials are intended for human or animal drug trials, where the investigative products are the pharmaceutical forms of an active ingredient being tested or placebos used as a reference in the clinical trial. Active ingredients to be trialled can include herbal medicinal productsfor therapeutic or prophylactic uses.

Clinical trials kits are taken as recognised when they have fulfilled all relevant regulatory requirements in the country of import for the lawful import of such investigative products for use in the clinical trial.

Those “placebos” and “blinded (or double-blinded) clinical trial kits” products which are not for a clinical trial that has fulfilled the relevant regulatory requirements for the import of substances, should be classified respectively in other headings (e.g., **headings 17.04**, **21.06**, etc.) based on their different composition and forms.

3006.10

- Sterile surgical catgut, similar sterile suture materials (including sterile absorbable surgical or dental yarns) and sterile tissue adhesives for surgical wound closure; sterile laminaria and sterile laminaria tents; sterile absorbable surgical or dental haemostatics; sterile surgical or dental adhesion barriers, whether or not absorbable

3006.30

- Opacifying preparations for X-ray examinations; diagnostic reagents designed to be administered to the patient

3006.40

- Dental cements and other dental fillings; bone reconstruction cements

3006.50

- First-aid boxes and kits

3006.60

- Chemical contraceptive preparations based on hormones, on other products of heading 29.37 or on spermicides

3006.70

- Gel preparations designed to be used in human or veterinary medicine as a lubricant for parts of the body for surgical operations or physical examinations or as a coupling agent between the body and medical instruments

CLASSIFICATION OPINIONS

1. Gel preparations consisting of propylene glycol, hydroxyethylcellulose, paraben and water, used for gynaecological and surgical lubrication or for electrocardiography (ECG), cystoscopic work or diagnostic ultrasound scanning.

Adoption : 1997

3006.9

- Other :

3006.91

-- Appliances identifiable for ostomy use

3006.92

-- Waste pharmaceuticals

3006.93

-- Placebos and blinded (or double-blinded) clinical trial kits for a recognised clinical trial, put up in measured doses

Chapter 31

Fertilisers

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Animal blood of heading 05.11;

(b) Separate chemically defined compounds (other than those answering to the descriptions in Note 2 (a), 3 (a), 4 (a) or 5 below); or

(c) Cultured potassium chloride crystals (other than optical elements) weighing not less than 2.5 g each, of heading 38.24; optical elements of potassium chloride (heading 90.01).

2.- Heading 31.02 applies only to the following goods, provided that they are not put up in the forms or packages described in heading 31.05 :

(a) Goods which answer to one or other of the descriptions given below :

(i) Sodium nitrate, whether or not pure;

(ii) Ammonium nitrate, whether or not pure;

(iii) Double salts, whether or not pure, of ammonium sulphate and ammonium nitrate;

(iv) Ammonium sulphate, whether or not pure;

(v) Double salts (whether or not pure) or mixtures of calcium nitrate and ammonium nitrate;

(vi) Double salts (whether or not pure) or mixtures of calcium nitrate and magnesium nitrate;

(vii) Calcium cyanamide, whether or not pure or treated with oil;

(viii) Urea, whether or not pure.

(b) Fertilisers consisting of any of the goods described in (a) above mixed together.

(c) Fertilisers consisting of ammonium chloride or of any of the goods described in (a) or (b) above mixed with chalk, gypsum or other inorganic non-fertilising substances.

(d) Liquid fertilisers consisting of the goods of subparagraph (a) (ii) or (viii) above, or of mixtures of those goods, in an aqueous or ammoniacal solution.

3.- Heading 31.03 applies only to the following goods, provided that they are not put up in the forms or packages described in heading 31.05 :

(a) Goods which answer to one or other of the descriptions given below :

(i) Basic slag;

(ii) Natural phosphates of heading 25.10, calcined or further heat-treated than for the removal of impurities;

(iii) Superphosphates (single, double or triple);

(iv) Calcium hydrogenorthophosphate containing not less than 0.2 % by weight of fluorine calculated on the dry anhydrous product.

(b) Fertilisers consisting of any of the goods described in (a) above mixed together, but with no account being taken of the fluorine content limit.

(c) Fertilisers consisting of any of the goods described in (a) or (b) above, but with no account being taken of the fluorine content limit, mixed with chalk, gypsum or other inorganic non-fertilising substances.

4.- Heading 31.04 applies only to the following goods, provided that they are not put up in the forms or packages described in heading 31.05 :

(a) Goods which answer to one or other of the descriptions given below :

(i) Crude natural potassium salts (for example, carnallite, kainite and sylvite);

(ii) Potassium chloride, whether or not pure, except as provided in Note 1 (c) above;

(iii) Potassium sulphate, whether or not pure;

(iv) Magnesium potassium sulphate, whether or not pure.

(b) Fertilisers consisting of any of the goods described in (a) above mixed together.

5.- Ammonium dihydrogenorthophosphate (monoammonium phosphate) and diammonium hydrogen-orthophosphate (diammonium phosphate), whether or not pure, and intermixtures thereof, are to be classified in heading 31.05.

6.- For the purposes of heading 31.05, the term “other fertilisers” applies only to products of a kind used as fertilisers and containing, as an essential constituent, at least one of the fertilising elements nitrogen, phosphorus or potassium.

EXPLANATORY NOTES

Chapter 31

Fertilisers

Notes.

1.- This Chapter does not cover :

(a) Animal blood of heading 05.11;

(b) Separate chemically defined compounds (other than those answering to the descriptions in Note 2 (a), 3 (a), 4 (a) or 5 below); or

(c) Cultured potassium chloride crystals (other than optical elements) weighing not less than 2.5 g each, of heading 38.24; optical elements of potassium chloride (heading 90.01).

2.- Heading 31.02 applies only to the following goods, provided that they are not put up in the forms or packages described in heading 31.05 :

(a) Goods which answer to one or other of the descriptions given below :

(i) Sodium nitrate, whether or not pure;

(ii) Ammonium nitrate, whether or not pure;

(iii) Double salts, whether or not pure, of ammonium sulphate and ammonium nitrate;

(iv) Ammonium sulphate, whether or not pure;

(v) Double salts (whether or not pure) or mixtures of calcium nitrate and ammonium nitrate;

(vi) Double salts (whether or not pure) or mixtures of calcium nitrate and magnesium nitrate;

(vii) Calcium cyanamide, whether or not pure or treated with oil;

(viii) Urea, whether or not pure.

(b) Fertilisers consisting of any of the goods described in (a) above mixed together.

(c) Fertilisers consisting of ammonium chloride or of any of the goods described in (a) or (b) above mixed with chalk, gypsum or other inorganic non-fertilising substances.

(d) Liquid fertilisers consisting of the goods of subparagraph (a) (ii) or (viii) above, or of mixtures of those goods, in an aqueous or ammoniacal solution.

3.- Heading 31.03 applies only to the following goods, provided that they are not put up in the forms or packages described in heading 31.05 :

(a) Goods which answer to one or other of the descriptions given below :

(i) Basic slag;

(ii) Natural phosphates of heading 25.10, calcined or further heat-treated than for the removal of impurities;

(iii) Superphosphates (single, double or triple);

(iv) Calcium hydrogenorthophosphate containing not less than 0.2 % by weight of fluorine calculated on the dry anhydrous product.

(b) Fertilisers consisting of any of the goods described in (a) above mixed together, but with no account being taken of the fluorine content limit.

(c) Fertilisers consisting of any of the goods described in (a) or (b) above, but with no account being taken of the fluorine content limit, mixed with chalk, gypsum or other inorganic non-fertilising substances.

4.- Heading 31.04 applies only to the following goods, provided that they are not put up in the forms or packages described in heading 31.05 :

(a) Goods which answer to one or other of the descriptions given below :

(i) Crude natural potassium salts (for example, carnallite, kainite and sylvite);

(ii) Potassium chloride, whether or not pure, except as provided in Note 1 (c) above;

(iii) Potassium sulphate, whether or not pure;

(iv) Magnesium potassium sulphate, whether or not pure.

(b) Fertilisers consisting of any of the goods described in (a) above mixed together.

5.- Ammonium dihydrogenorthophosphate (monoammonium phosphate) and diammonium hydrogen-orthophosphate (diammonium phosphate), whether or not pure, and intermixtures thereof, are to be classified in heading 31.05.

6.- For the purposes of heading 31.05, the term “other fertilisers” applies only to products of a kind used as fertilisers and containing, as an essential constituent, at least one of the fertilising elements nitrogen, phosphorus or potassium.

GENERAL

This Chapter covers most products in general use as natural or artificial fertilisers.

On the other hand, the Chapter **does not cover** products which improve rather than fertilise the soil, such as :

(a) Lime (**heading 25.22**).

(b) Marl and leaf mould (whether or not naturally containing small quantities of the fertilising elements nitrogen, phosphorus or potassium) (**heading 25.30**).

(c) Peat (**heading 27.03**).

This Chapter also **excludes** micronutrient preparations which are applied to seeds, to foliage or to soil to assist in seed germination and plant growth. They may contain small amounts of the fertilising elements nitrogen, phosphorus and potassium, but not as essential constituents (e.g., **heading 38.24**).

It also **excludes** prepared plant growing media such as potting soils, based on peat or mixtures of peat and sand or of peat and clay (**heading 27.03**) and mixtures of earth, sand, clay, etc. (**heading 38.24**). All these products may contain small quantities of the fertilising elements nitrogen, phosphorus or potassium.

Heading 3101

Animal or vegetable fertilisers, whether or not mixed together or chemically treated; fertilisers produced by the mixing or chemical treatment of animal or vegetable products.

EXPLANATORY NOTES

31.01 - Animal or vegetable fertilisers, whether or not mixed together or chemically treated; fertilisers produced by the mixing or chemical treatment of animal or vegetable products.

This heading covers :

(a) Animal or vegetable fertilisers, whether or not mixed together or chemically treated;

(b) Animal or vegetable products converted into fertilisers by mixing together or chemical treatment (**other than** bone superphosphates of **heading 31.03**).

However, these products fall in **heading 31.05** when put up in the forms or packages described in that heading.

The heading includes, *inter alia* :

(1) Guano, which is an accumulation of the excreta and remains of sea birds, found in large quantities on certain islands and coasts. It is both nitrogenous and phosphatic, and is usually a yellowish powder with a strong ammoniacal odour.

(2) Excreta, dung, soiled fleece waste and manure, unsuitable for use other than as fertilisers.

(3) Rotted vegetable products, unsuitable for use other than as fertilisers.

(4) Disintegrated guano.

(5) Products resulting from the treatment of leather with sulphuric acid.

(6) Compost consisting of rotted waste vegetable and other matter where decay has been accelerated or controlled by treatment with lime, etc.

(7) Wool scouring residues.

(8) Mixtures of dried blood and bone meal.

(9) Stabilised sewage sludge from urban effluent treatment plants. Stabilised sewage sludge is obtained by screening the sewage effluent to remove large objects and settling out grit and heavy non-biological constituents; the remaining sludge is then allowed to air dry or is filtered. The stabilised sludge so obtained contains a high proportion of organic matter and also contains some fertilising elements (e.g., phosphorus and nitrogen). However, such sludge containing other materials (e.g., heavy metals) at a high concentration, which make the stabilised sludge unfit for use as fertilisers, is **excluded** (**heading 38.25**).

The heading also **excludes** :

(a) Animal blood, whether liquid or dried (**heading 05.11**).

(b) Powdered bone, horn or hoof, or fish waste (**Chapter 5**).

(c) Flours, meals and pellets of meat or meat offal, of fish or of crustaceans, molluscs or other aquatic invertebrates, unfit for human consumption (**heading 23.01**), and other products covered by **Chapter 23** (oil cakes, brewing or distilling dregs, etc.).

(d) Ash from bone, wood, peat or coal (**heading 26.21**).

(e) Mixtures of the natural fertilisers of this heading with chemical fertilising substances (**heading 31.05**).

(f) Mixtures of stabilised sewage sludge with potassium or ammonium nitrate (**heading 31.05**).

(g) Parings and other waste of leather; leather dust, powder and flour (**heading 41.15**).

3101.00

Animal or vegetable fertilisers, whether or not mixed together or chemically treated; fertilisers produced by the mixing or chemical treatment of animal or vegetable products.

Heading 3102

Mineral or chemical fertilisers, nitrogenous.

EXPLANATORY NOTES

31.02 - Mineral or chemical fertilisers, nitrogenous.

3102.10 - Urea, whether or not in aqueous solution

- Ammonium sulphate; double salts and mixtures of ammonium sulphate and ammonium nitrate :

3102.21 - - Ammonium sulphate

3102.29 - - Other

3102.30 - Ammonium nitrate, whether or not in aqueous solution

3102.40 - Mixtures of ammonium nitrate with calcium carbonate or other inorganic non-fertilising substances

3102.50 - Sodium nitrate

3102.60 - Double salts and mixtures of calcium nitrate and ammonium nitrate

3102.80 - Mixtures of urea and ammonium nitrate in aqueous or ammoniacal solution

3102.90 - Other, including mixtures not specified in the foregoing subheadings

This heading **applies only** to the following goods, provided they are **not** put up in the forms or packages described in heading 31.05 :

(A) **Goods which answer to one or other of the descriptions given below** :

(1) **Sodium nitrate, whether or not pure**.

(2) **Ammonium nitrate, whether or not pure**.

(3) **Double salts (whether or not pure) of ammonium sulphate and ammonium nitrate**.

(4) **Ammonium sulphate, whether or not pure**.

(5) **Double salts (whether or not pure) or mixtures of calcium nitrate and ammonium nitrate**. Some mixtures of calcium nitrate and ammonium nitrate may be sold as “calcium nitrate fertiliser”.

(6) **Double salts (whether or not pure) or mixtures of calcium nitrate and magnesium nitrate**. This product is obtained by treating dolomite with nitric acid.

(7) **Calcium cyanamide, whether or not pure or treated with oil**.

(8) **Urea (diamide of carbonic acid), whether or not pure**. Used mainly as fertiliser but also as animal food, in the manufacture of urea-formaldehyde resins, in organic synthesis, etc.

It should be noted that the mineral or chemical products described in the limitative list above are classified in this heading **even when they are clearly not to be used as fertilisers**.

On the other hand, the heading **does not include** nitrogenous products, whether chemically defined (such as ammonium chloride, **heading 28.27**) or not, which are not described above, even if used as fertilisers.

(B) **Fertilisers consisting of any of the goods referred to in paragraph (A) above mixed together** (e.g., a fertiliser consisting of a mixture of ammonium sulphate and ammonium nitrate).

(C) **Fertilisers consisting of ammonium chloride or of any of the goods referred to in paragraph (A) or (B) above mixed** with chalk, gypsum or other inorganic non-fertilising substances (e.g., fertilisers obtained by adding to ammonium nitrate, **by mixing or by support on**, the above-mentioned inorganic non-fertilising substances).

(D) **Liquid fertilisers** consisting of ammonium nitrate (whether or not pure), or of urea (whether or not pure), or of mixtures of those products, in an aqueous or ammoniacal solution.

It should be noted that, contrary to the case of paragraph (A) above, mixtures falling in paragraph (B), (C) or (D) are classified in the heading **only if of a kind used as fertilisers**.

3102.10

- Urea, whether or not in aqueous solution

3102.2

- Ammonium sulphate; double salts and mixtures of ammonium sulphate and ammonium nitrate :

3102.21

-- Ammonium sulphate

3102.29

-- Other

3102.30

- Ammonium nitrate, whether or not in aqueous solution

3102.40

- Mixtures of ammonium nitrate with calcium carbonate or other inorganic non-fertilising substances

CLASSIFICATION OPINIONS

1. Nitrogenous fertiliser, in the form of granules, consisting mainly of ammonium nitrate mixed with small amounts of calcium magnesium carbonate (having the function of a stabiliser and an anti-caking agent), magnesium nitrate (stabiliser) and water, presented in 50 kg bags.

Adoption : 1998

3102.50

- Sodium nitrate

3102.60

- Double salts and mixtures of calcium nitrate and ammonium nitrate

3102.80

- Mixtures of urea and ammonium nitrate in aqueous or ammoniacal solution

3102.90

- Other, including mixtures not specified in the foregoing subheadings

Heading 3103

Mineral or chemical fertilisers, phosphatic.

EXPLANATORY NOTES

31.03 - Mineral or chemical fertilisers, phosphatic.

- Superphosphates :

3103.11 - - Containing by weight 35 % or more of diphosphorus pentaoxide (P_2O_5)

3103.19 - - Other

3103.90 - Other

This heading **applies only** to the following goods, provided they are **not** put up in the forms or packages described in heading 31.05 :

(A) Goods which answer to one or other of the descriptions given below :

(1) **Superphosphates** (**single**, **double** or **triple**) (soluble phosphates). Single superphosphate is obtained by the action of sulphuric acid on natural phosphates or powdered bone. Double and triple superphosphates are obtained by the action of phosphoric acid on these materials.

(2) **Basic slag** (also known as "Thomas slag", "Thomas phosphates", "phosphatic slag" or "metallurgical phosphates"). It is a by-product of the manufacture of steel from phosphatic iron in basic furnaces or converters.

(3) **Natural phosphates** of heading 25.10, calcined or further heat-treated than for the removal of impurities.

(4) **Calcium hydrogenorthophosphate containing not less than 0.2 % by weight of fluorine calculated on the dry anhydrous product**. Calcium hydrogen-orthophosphate containing less than 0.2 % by weight of fluorine calculated on the dry anhydrous product is classified in **heading 28.35**.

It should be noted that the mineral or chemical products described in the limitative list above are classified in this heading **even when they are clearly not to be used as fertilisers**.

On the other hand, the heading **does not include** phosphatic products, whether chemically defined (such as sodium phosphate, **heading 28.35**) or not, which are not described above, even if used as fertilisers.

(B) **Fertilisers consisting of any of the goods referred to in paragraph (A) above**, but with no account being taken of the fluorine content limit as indicated in paragraph (A) (4) above, mixed together (e.g., a fertiliser consisting of superphosphates mixed with calcium hydrogenorthophosphate).

(C) **Fertilisers consisting of any of the products described in paragraph (A) or (B) above**, but with no account being taken of the fluorine content limit as indicated in paragraph (A) (4) above, mixed with chalk, gypsum or other inorganic non-fertilising substances (e.g., fertilisers consisting of superphosphates mixed with dolomite, or of superphosphates mixed with borax).

It should be noted that, contrary to the case of paragraph (A) above, mixtures falling in paragraph (B) or (C) are classified in the heading **only if of a kind used as fertilisers**. Subject to this condition, the mixtures may be in any proportions and without regard for the fluorine content limit prescribed in paragraph (A) (4) above.

3103.1

- Superphosphates :

3103.11

-- Containing by weight 35 % or more of diphosphorus pentaoxide (P2O5)

3103.19

-- Other

3103.90

- Other

Heading 3104

Mineral or chemical fertilisers, potassic.

EXPLANATORY NOTES

31.04 - Mineral or chemical fertilisers, potassic.

3104.20 - Potassium chloride

3104.30 - Potassium sulphate

3104.90 - Other

This heading **applies only** to the following goods, provided they are **not** put up in the forms or packages described in heading 31.05 :

(A) Goods which answer to one or other of the descriptions given below :

(1) **Potassium chloride, whether or not pure, but not including** cultured crystals (other than optical elements) weighing not less than 2.5 g each, of **heading 38.24**, nor optical elements of potassium chloride (**heading 90.01**).

(2) **Potassium sulphate, whether or not pure**.

(3) **Crude natural potassium salts** (carnallite, kainite, sylvite, etc.).

(4) **Magnesium potassium sulphate, whether or not pure**.

It should be noted that the mineral or chemical products described in the limitative list above are classified in this heading **even when they are clearly not to be used as fertilisers**.

On the other hand, the heading **does not include** potassic products, whether chemically defined (such as potassium carbonate of **heading 28.36**) or not, which are not described above, even if used as fertilisers.

(B) **Fertilisers consisting of any of the goods referred to in paragraph (A) above mixed together** (e.g., a fertiliser consisting of a mixture of potassium chloride and potassium sulphate).

It should be noted that, contrary to the case of paragraph (A) above, mixtures falling in paragraph (B) are classified in the heading **only if of a kind used as fertilisers**.

3104.20

- Potassium chloride

3104.30

- Potassium sulphate

3104.90

- Other

Heading 3105

Mineral or chemical fertilisers containing two or three of the fertilising elements nitrogen, phosphorus and potassium; other fertilisers; goods of this Chapter in tablets or similar forms or in packages of a gross weight not exceeding 10 kg.

EXPLANATORY NOTES

31.05 - Mineral or chemical fertilisers containing two or three of the fertilising elements nitrogen, phosphorus and potassium; other fertilisers; goods of this Chapter in tablets or similar forms or in packages of a gross weight not exceeding 10 kg.

3105.10 - Goods of this Chapter in tablets or similar forms or in packages of a gross weight not exceeding 10 kg

3105.20 - Mineral or chemical fertilisers containing the three fertilising elements nitrogen, phosphorus and potassium

3105.30 - Diammonium hydrogenorthophosphate (diammonium phosphate)

3105.40 - Ammonium dihydrogenorthophosphate (monoammonium phosphate) and mixtures thereof with diammonium hydrogenorthophosphate (diammonium phosphate)

- Other mineral or chemical fertilisers containing the two fertilising elements nitrogen and phosphorus :

3105.51 - - Containing nitrates and phosphates

3105.59 - - Other

3105.60 - Mineral or chemical fertilisers containing the two fertilising elements phosphorus and potassium

3105.90 - Other

This heading covers :

(A) **Ammonium dihydrogenorthophosphate (monoammonium phosphate) and diammonium hydrogenorthophosphate (diammonium phosphate), whether or not pure, and intermixtures thereof, whether or not for use as fertilisers**.

It should be noted that the heading **does not include** other chemically defined compounds not specified in headings 31.02 to 31.04 **even if they could be used as fertilisers** (e.g., potassium nitrate (**heading 28.34**), potassium phosphate (**heading 28.35**)).

(B) **Composite and complex fertilisers (other than separate chemically defined compounds)**, i.e., mineral or chemical fertilisers containing two or three of the fertilising elements nitrogen, phosphorus and potassium. They are obtained by :

(1) **Mixing** together two or more fertilising products (even if those products, taken alone, are not classified in headings 31.02 to 31.04). Such mixtures include :

(a) Calcined natural phosphates and potassium chloride.

(b) Superphosphates and potassium sulphate.

(c) Calcium cyanamide and basic slag.

(d) Ammonium sulphate, superphosphates and potassium phosphate.

(e) Ammonium nitrate, superphosphates and potassium sulphate or chloride.

(2) **Chemical processes**, e.g., fertilisers obtained by treating natural calcium phosphates with nitric acid, removing the resulting calcium nitrate by cooling and centrifugation and, after separation, neutralising the solution with ammonia, adding potassium salts and finally evaporating to dryness. (This fertiliser is sometimes improperly referred to as potassium nitrophosphate, but is not in fact a separate chemically defined compound.)

(3) **Both mixing and chemical processes**.

It should be noted that headings 31.02, 31.03 and 31.04 include fertilisers containing as **impurities** very small quantities of a fertilising element other than that specified in the respective heading (nitrogen, phosphorus or potassium); such goods should **not** therefore be regarded as composite or complex fertilisers classifiable in this heading.

(C) **All other fertilisers (other than separate chemically defined compounds)**, for example :

(1) Mixtures of fertilising substances (i.e., those containing nitrogen, phosphorus or potassium) with non-fertilising substances, e.g., sulphur. Many of those containing nitrogen or phosphorus are classified in **heading 31.02** or **31.03** (see the Explanatory Notes to those headings) but the others are classified in this heading.

(2) Natural potassic sodium nitrate fertiliser, a natural mixture of sodium nitrate and potassium nitrate.

(3) Mixtures of animal or vegetable fertilisers with chemical or mineral fertilisers.

The heading **excludes** :

(a) Separate chemically defined compounds not specified in Notes 2 to 5 to this Chapter but which might be used as fertilisers, e.g., ammonium chloride which falls in **heading 28.27**.

(b) Spent oxide (**heading 38.25**).

The heading also covers the goods of this Chapter if put up in tablets or similar forms or in packages of a gross weight not exceeding 10 kg.

- Goods of this Chapter in tablets or similar forms or in packages of a gross weight not exceeding 10 kg

3105.20

- Mineral or chemical fertilisers containing the three fertilising elements nitrogen, phosphorus and potassium

3105.30

- Diammonium hydrogenorthophosphate (diammonium phosphate)

3105.40

- Ammonium dihydrogenorthophosphate (monoammonium phosphate) and mixtures thereof with diammonium hydrogenorthophosphate (diammonium phosphate)

3105.5

- Other mineral or chemical fertilisers containing the two fertilising elements nitrogen and phosphorus :

3105.51

-- Containing nitrates and phosphates

3105.59

-- Other

3105.60

- Mineral or chemical fertilisers containing the two fertilising elements phosphorus and potassium

3105.90

- Other

Chapter 32

Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics; inks

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Separate chemically defined elements or compounds (except those of heading 32.03 or 32.04, inorganic products of a kind used as luminophores (heading 32.06), glass obtained from fused quartz or other fused silica in the forms provided for in heading 32.07, and also dyes and other colouring matter put up in forms or packings for retail sale, of heading 32.12);

(b) Tannates or other tannin derivatives of products of headings 29.36 to 29.39, 29.41 or 35.01 to 35.04; or

(c) Mastics of asphalt or other bituminous mastics (heading 27.15).

2.- Heading 32.04 includes mixtures of stabilised diazonium salts and couplers for the production of azo dyes.

3.- Headings 32.03, 32.04, 32.05 and 32.06 apply also to preparations based on colouring matter (including, in the case of heading 32.06, colouring pigments of heading 25.30 or Chapter 28, metal flakes and metal powders), of a kind used for colouring any material or used as ingredients in the manufacture of colouring preparations. The headings do not apply, however, to pigments dispersed in non-aqueous media, in liquid or paste form, of a kind used in the manufacture of paints, including enamels (heading 32.12), or to other preparations of heading 32.07, 32.08, 32.09, 32.10, 32.12, 32.13 or 32.15.

4.- Heading 32.08 includes solutions (other than collodions) consisting of any of the products specified in headings 39.01 to 39.13 in volatile organic solvents when the weight of the solvent exceeds 50 % of the weight of the solution.

5.- The expression “colouring matter” in this Chapter does not include products of a kind used as extenders in oil paints, whether or not they are also suitable for colouring distempers.

6.- The expression “stamping foils” in heading 32.12 applies only to thin sheets of a kind used for printing, for example, book covers or hat bands, and consisting of :

(a) Metallic powder (including powder of precious metal) or pigment, agglomerated with glue, gelatin or other binder; or

(b) Metal (including precious metal) or pigment, deposited on a supporting sheet of any material.

EXPLANATORY NOTES

Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics; inks

Notes.

1.- This Chapter does not cover :

(a) Separate chemically defined elements or compounds (except those of heading 32.03 or 32.04, inorganic products of a kind used as luminophores (heading 32.06), glass obtained from fused quartz or other fused silica in the forms provided for in heading 32.07, and also dyes and other colouring matter put up in forms or packings for retail sale, of heading 32.12);

(b) Tannates or other tannin derivatives of products of headings 29.36 to 29.39, 29.41 or 35.01 to 35.04; or

(c) Mastics of asphalt or other bituminous mastics (heading 27.15).

2.- Heading 32.04 includes mixtures of stabilised diazonium salts and couplers for the production of azo dyes.

3.- Headings 32.03, 32.04, 32.05 and 32.06 apply also to preparations based on colouring matter (including, in the case of heading 32.06, colouring pigments of heading 25.30 or Chapter 28, metal flakes and metal powders), of a kind used for colouring any material or used as ingredients in the manufacture of colouring preparations. The headings do not apply, however, to pigments dispersed in non-aqueous media, in liquid or paste form, of a kind used in the manufacture of paints, including enamels (heading 32.12), or to other preparations of heading 32.07, 32.08, 32.09, 32.10, 32.12, 32.13 or 32.15.

4.- Heading 32.08 includes solutions (other than collodions) consisting of any of the products specified in headings 39.01 to 39.13 in volatile organic solvents when the weight of the solvent exceeds 50 % of the weight of the solution.

5.- The expression “colouring matter” in this Chapter does not include products of a kind used as extenders in oil paints, whether or not they are also suitable for colouring distempers.

6.- The expression “stamping foils” in heading 32.12 applies only to thin sheets of a kind used for printing, for example, book covers or hat bands, and consisting of :

(a) Metallic powder (including powder of precious metal) or pigment, agglomerated with glue, gelatin or other binder; or

(b) Metal (including precious metal) or pigment, deposited on a supporting sheet of any material.

GENERAL

This Chapter covers preparations used in the tanning and bating of hides and skins (tanning extracts of vegetable origin, synthetic tanning substances, whether or not mixed with natural tanning materials, and artificial bates).

It also includes colouring matter of vegetable, animal or mineral origin and synthetic organic colouring matter and most of the preparations obtained from these colouring matters (paints, ceramic colours, inks, etc.). Various other preparations such as varnishes, driers and putty are also included.

Except as regards the goods covered by headings 32.03 or 32.04, inorganic products of a kind used as luminophores (heading 32.06), glass obtained from fused quartz or other fused silica in the forms provided for in heading 32.07 and also the dyes or other colouring matter put up in forms or packings for retail sale (heading 32.12), products consisting of chemically defined elements or compounds are **excluded** from this Chapter, and in general fall in **Chapter 28** or **29**.

In the case of certain paints and varnishes of headings 32.08 to 32.10 or mastics of heading 32.14, the intermixture of the various constituents, or the addition of certain constituents (e.g., hardeners) must be carried out at the time of use. Such products remain classified in these headings **provided** the constituents are :

(i) having regard to the method in which they are put up, clearly identifiable as being intended to be used together without first being repacked;

(ii) presented together; and

(iii) identifiable, whether by their nature or by the relative proportions in which they are present, as being complementary one to another.

However, in the case of products to which a hardener has to be added at the time of use, the absence of the hardener does not exclude these products from these headings, **provided** they are, by their composition or packing, clearly identifiable as intended to be used in the preparation of paints, varnishes or mastics.

Heading 3201

Tanning extracts of vegetable origin; tannins and their salts, ethers, esters and other derivatives.

EXPLANATORY NOTES

32.01 - Tanning extracts of vegetable origin; tannins and their salts, ethers, esters and other derivatives.

3201.10 - Quebracho extract

3201.20 - Wattle extract

3201.90 - Other

(A) **Tanning extracts of vegetable origin**.

These are vegetable extracts used mainly for the tanning of hides or skins. They are generally prepared by extraction with warm water (sometimes acidulated) from the vegetable material

(wood, barks, leaves, fruits, roots, etc.) previously ground or shredded. The liquid obtained is filtered or centrifuged and then concentrated and sometimes treated with sulphites, etc. The extracts thus obtained are liquid but may be further concentrated to paste or solid forms. All these extracts contain varying proportions of tannin as well as other substances such as sugar, mineral salts, organic acids, etc. They are generally brown, yellow or reddish in colour.

The principal tanning extracts are those from oak, chestnut, quebracho, pines, wattle (mimosa), sumach, myrobalans, vallonia, gambier, mangrove or divi-divi.

The heading **does not include** :

(a) Raw vegetable materials, whether dried, shredded, powdered or not, of a kind used primarily in the production of tanning extracts (**heading 14.04**).

(b) Tanning extracts mixed with synthetic tanning substances (**heading 32.02**).

(c) Residual lyes from the manufacture of wood pulp, whether or not concentrated (**heading 38.04**).

(B) **Tannins and their salts, ethers, esters and other derivatives**.

Tannins (tannic acids) are the main active constituents of vegetable tanning materials. They are obtained by extraction with ether or alcohol from the raw vegetable materials of heading 14.04 or from the extracts covered by Part (A) above. The heading also covers gall-nut extracts (water-extracted gall-nut tannins) which are of lesser strength than those extracted with organic solvents.

The heading covers tannins (pyrogallol and catechol tannins) whether or not containing impurities from the extraction process.

The most common variety is gall-nut tannin (gallotannic acid).

Other tannins include oak bark tannin (quercitannic acid), chestnut wood tannin (castaneotannic acid), quebracho tannin, mimosa tannin, etc.

All these tannins are generally in the form of white or yellowish amorphous powders which turn brown on exposure to air. They may sometimes be in the form of scales or needle-like crystals, etc. They are used principally as mordants in dyeing, in the manufacture of inks, for the clarification of wines or beers, in pharmacy and photography.

The tannates classified in this heading include those of aluminium, bismuth, calcium, iron, manganese, zinc, hexamethylenetetramine, phenazone or orexine. Other derivatives of tannins include acetyltannin and methyleneditannin. These derivatives are usually employed in medicine.

The heading **does not include** :

(a) Precious metal tannates or other precious metal compounds (**heading 28.43**) or tannin derivatives of **headings 28.44 to 28.46** and **28.52**.

(b) Gallic acid (**heading 29.18**).

(c) Tannates and other tannin derivatives of products of **headings 29.36 to 29.39** or **29.41**.

(d) Synthetic tanning substances, whether or not mixed with natural tanning materials (**heading 32.02**).

(e) Tannates and other tannin derivatives of proteins of **headings 35.01 to 35.04**, for example, casein tannate (**heading 35.01**), albumin tannate (**heading 35.02**), gelatine tannate (**heading 35.03**).

3201.10

- Quebracho extract

3201.20

- Wattle extract

3201.90

- Other

Heading 3202

Synthetic organic tanning substances; inorganic tanning substances; tanning preparations, whether or not containing natural tanning substances; enzymatic preparations for pre-tanning.

EXPLANATORY NOTES

32.02 - Synthetic organic tanning substances; inorganic tanning substances; tanning preparations, whether or not containing natural tanning substances; enzymatic preparations for pre-tanning.

3202.10 - Synthetic organic tanning substances

3202.90 - Other

This heading includes :

(I) **Tanning products**.

Provided they do **not** constitute separate chemically defined compounds of **Chapter 28** or **29**, the tanning products of this heading include :

(A) **Synthetic organic tanning substances (sometimes known as "syntans")**.

These are products which, though they can be used alone to tan leather to a pale colour, are more frequently mixed or used in conjunction with natural tanning materials to assist their penetration into the skins. They include :

(1) Aromatic syntans such as condensation products of formaldehyde with phenol-, cresol- or naphthalenesulphonic acids; sulphonated aromatic hydrocarbons of high molecular weight; polysulphonamides and polyhydroxy-polyarylsulphone-sulphonic acids.

(2) Alkylsulphonylchlorides (sometimes known as "oilbased synthetic tanning substances").

(3) Resinic tanning products, wholly or almost wholly water-soluble. These products include certain condensation products of formaldehyde with dicyandiamide, with urea or with melamine.

(B) **Inorganic tanning products or "mineral tannings"** (e.g., based on chromium, aluminium, iron or zirconium salts).

The tanning products described in paragraphs (A) and (B) above remain classified in this heading even if intermixed (e.g., organic syntans mixed with chromium or aluminium salts) or if mixed with natural tanning substances.

The heading further includes products which, in addition to their principal use as synthetic tanning substances, also serve subsidiary purposes (e.g., dye levelling or bleaching).

(II) **Artificial bates**.

These are complex preparations used to facilitate the removal of the interfibrillary protein and generally also the lime in the scraped skins, softening them and rendering them more susceptible to the subsequent action of the tanning substances. They are usually based on selected enzymes, on pancreatin, etc., and may be mixed with certain deliming products, or with an extender such as bran or wood flour.

The heading **excludes** :

(a) Residual lyes from the manufacture of wood pulp, whether or not concentrated (**heading 38.04**).

(b) Finishing agents, dye carriers to accelerate the dyeing or fixing of dyestuffs and other products and preparations (for example, dressings and mordants) of a kind used in the leather industry, **provided** they are not principally used as tanning materials (**heading 38.09**).

3202.10

- Synthetic organic tanning substances

3202.90

- Other

Heading 3203

Colouring matter of vegetable or animal origin (including dyeing extracts but excluding animal black), whether or not chemically defined; preparations as specified in Note 3 to this Chapter based on colouring matter of vegetable or animal origin.

EXPLANATORY NOTES

32.03 - Colouring matter of vegetable or animal origin (including dyeing extracts but excluding animal black), whether or not chemically defined; preparations as specified in Note 3 to this Chapter based on colouring matter of vegetable or animal origin.

This heading covers the greater part of the products of vegetable or animal origin used **mainly** as colouring substances. These products are generally extracted from materials of vegetable origin (wood, barks, roots, seeds, flowers, lichens, etc.) or of animal origin, by steeping them in water or in weak acid or ammonia solution or, in the case of certain vegetable materials, by fermentation. They are relatively complex materials and generally contain one or more colouring principles with small

quantities of other substances (sugars, tannins, etc.) originating either from the raw materials or resulting from the extraction process. They are included in this heading whether or not they are chemically defined compounds.

The heading includes :

(1) **Colouring matter and dyeing extracts of vegetable origin** obtained from logwood (haematein, haematoxylin, etc.), yellow woods (fustic, Cuba and Tampico woods, etc.), red woods (Pernambuco, Lima, Brazil wood, etc.), sandalwood, quercitron wood, black cutch (acacia catechu), annatto, madder, alkenna, henna, turmeric, Persian berries, safflower, saffron, etc. The heading also includes orchil and litmus, prepared from certain lichens; oenin from the skins of various kinds of grapes; chlorophyll extracted from nettles and from various other plants, as well as sodium-chlorophyll, copper-chlorophyll and xanthophyll; an imitation Vandyke brown prepared by the partial decomposition of vegetable material such as beechwood bark or cork; and natural indigo obtained from plants of the genus *Indigofera* (mainly *Indigofera tinctoria*). It is generally in the form of dark blue powder, paste, cakes, lumps, etc.

(2) **Colouring matter of animal origin**, e.g., cochineal extract obtained by extraction generally with acidified water or ammonia solution, from cochineal insects; kermes, a red colouring extract from kermes insects; sepia, a brown colour obtained from the ink sac of a species of cuttle fish; colouring extracts prepared from shellac, the main one being known as lac-dye; natural nacreous (pearl) pigment obtained from fish scales and consisting essentially of guanine and hypoxanthine, in crystal form.

The heading also covers preparations based on colouring matter of vegetable or animal origin, of a kind used for colouring any material or used as ingredients in the manufacture of colouring preparations. These include :

(i) Solutions of annatto in vegetable oil used in some countries for colouring butter.

(ii) Natural nacreous (pearl) pigment dispersed in a medium consisting of water or a mixture of water and a water-soluble solvent. This product is sometimes called “pearl essence” and is used in the manufacture of aqueous coatings or cosmetic preparations.

However, the preparations referred to in the last sentence of Note 3 to this Chapter are **excluded**.

This heading also **excludes** :

(a) Carbon black (**heading 28.03**).

(b) Substances which in practice are not used for their dyeing properties such as morin, haematin and haemin (**Chapter 29**).

(c) Synthetic organic colouring matter (**heading 32.04**).

(d) Colour lakes obtained by fixation of a natural colour of animal or vegetable origin on to a base (e.g., carmine lake, logwood lake, yellow wood, redwood lakes) (**heading 32.05**).

(e) Dyes and other colouring matter put up in forms or packings for retail sale (**heading 32.12**).

(f) Ivory black and other animal black (**heading 38.02**).

3203.00

Colouring matter of vegetable or animal origin (including dyeing extracts but excluding animal black), whether or not chemically defined; preparations as specified in Note 3 to this Chapter based on colouring matter of vegetable or animal origin.

Heading 3204

Synthetic organic colouring matter, whether or not chemically defined; preparations as specified in Note 3 to this Chapter based on synthetic organic colouring matter; synthetic organic products of a kind used as fluorescent brightening agents or as luminophores, whether or not chemically defined.

EXPLANATORY NOTES

32.04 - Synthetic organic colouring matter, whether or not chemically defined; preparations as specified in Note 3 to this Chapter based on synthetic organic colouring matter; synthetic organic products of a kind used as fluorescent brightening agents or as luminophores, whether or not chemically defined (+).

- Synthetic organic colouring matter and preparations based thereon as specified in Note 3 to this Chapter :

3204.11 - - Disperse dyes and preparations based thereon

3204.12 - - Acid dyes, whether or not premetallised, and preparations based thereon; mordant dyes and preparations based thereon

3204.13 - - Basic dyes and preparations based thereon

3204.14 - - Direct dyes and preparations based thereon

3204.15 - - Vat dyes (including those usable in that state as pigments) and preparations based thereon

3204.16 - - Reactive dyes and preparations based thereon

3204.17 - - Pigments and preparations based thereon

3204.18 - - Carotenoid colouring matters and preparations based thereon

3204.19 - - Other, including mixtures of colouring matter of two or more of the subheadings 3204.11 to 3204.19

3204.20 - Synthetic organic products of a kind used as fluorescent brightening agents

3204.90 - Other

(I) SYNTHETIC ORGANIC COLOURING MATTER, WHETHER OR NOT CHEMICALLY DEFINED; PREPARATIONS AS SPECIFIED IN NOTE 3 TO THIS CHAPTER BASED ON SYNTHETIC ORGANIC COLOURING MATTER

Synthetic organic colouring matter is generally obtained from oils or other products of the distillation of coal tar.

This heading applies, *inter alia*, to :

(A) Unmixed synthetic organic colouring matter (whether or not chemically defined compounds) and synthetic organic colouring matter diluted with substances which have no dyeing properties (e.g., anhydrous sodium sulphate, sodium chloride, dextrin, starch) to decrease or standardise their colouring power. The addition of small quantities of surface-active products to encourage penetration and fixation of the dye does not affect the classification of colouring matter. Colouring matter of these descriptions is usually in the form of powder, crystals, pastes, etc.

Synthetic organic colouring matter put up in forms or packings for retail sale is classified in **heading 32.12** (see Part (C) of the Explanatory Note to that heading).

(B) Different types of synthetic organic colouring matter mixed together.

(C) Concentrated dispersions of synthetic organic colouring matter in plastics, natural rubber, synthetic rubbers, plasticisers or other media. These dispersions are usually in the form of small plates or lumps and are used as raw materials for colouring rubber, plastics, etc., in the mass.

(D) Mixtures of synthetic organic colouring matter with relatively large quantities of surface-active products, or with organic binders, which are used for colouring in the mass plastics, etc., or as ingredients in preparations for printing textiles. They are normally in the form of pastes.

(E) Other preparations based on synthetic organic colouring matter of a kind used for colouring any material or used as ingredients in the manufacture of colouring preparations. However, the preparations referred to in the last sentence of Note 3 to this Chapter are **excluded**.

The various types of synthetic organic colouring matter classified here (whether as dyes or pigments) include :

(1) Nitroso or nitro compounds.

(2) Mono- or polyazo compounds.

(3) Stilbenes.

(4) Thiazoles (e.g., thioflavine).

(5) Carbazoles.

(6) Quinoneimines, e.g., azines (indulines, nigrosines, eurhodines, safranines, etc.), oxazines (gallocyanines, etc.) and thiazines (methylene blue, etc.); also indophenols or indamines.

(7) Xanthenes (pyronine, fluorescein, eosins, rhodamines, etc.).

(8) Acridines, quinolines (e.g., cyanines, isocyanines, cryptocyanines).

(9) Di- or triphenylmethanes, e.g., auramine and fuchsine.

(10) Hydroxyquinones and anthraquinones, e.g., alizarin.

(11) Sulphonated indigoids.

(12) Other vat dyes or pigments (e.g., synthetic indigo), other sulphur dyes or pigments, indigosols, etc.

(13) Phosphotungstic greens, etc. (see third paragraph of the Explanatory Note to heading 32.05).

(14) Phthalocyanines (even if crude) and their metallic compounds, including their sulphonated derivatives.

(15) Carotenoids obtained by synthesis (e.g., *β*-carotene, 8'-apo-*β*-carotenal, 8'-apo-*β*-carotenic acid, ethyl 8'-apo-*β*-carotenate, methyl 8'-apo-*β*-carotenate and canthaxanthin).

Certain azo colouring matters are often put up in the form of mixtures of stabilised diazonium salts and couplers which produce an insoluble azo dye on the fibre itself. These mixtures are also classified in this heading.

The heading **excludes**, however, separate diazonium salts (whether or not stabilised or diluted to standard strengths) which may be applied to the fibre separately from the coupler in the course of dyeing to produce the same colouring matter (**Chapter 29**).

This heading also **excludes** the intermediate products, which are not themselves dyes, obtained at different stages in the production of colouring matter. These intermediate products (e.g., monochloroacetic acid, benzenesulphonic or naphthol- sulphonic acids, resorcinol, chloronitrobenzenes, nitro- or nitrosophenols, nitrosoamines, aniline, nitrated or sulphonated amine derivatives, benzidine, aminonaphtholsulphonic acids, anthraquinone, methylanilines) are classified in **Chapter 29**. They are quite different from certain crude products classified here, such as phthalocyanines which are chemically "finished" and require only simple physical processing to obtain their optimum tinting power.

Synthetic organic colouring matter may be soluble or insoluble in water. It has almost completely replaced natural organic colouring matter, particularly for dyeing or printing textiles, dyeing hides or skins, paper or wood. It is also used to prepare colour lakes (heading 32.05), colours of headings 32.08 to 32.10, 32.12 and 32.13, inks of heading 32.15, and for colouring plastics, rubber, waxes, oils, photographic emulsions, etc.

Certain of these substances are also used as laboratory reagents or for medical purposes.

Substances which in practice are not used for their dyeing properties are **excluded**, e.g., azulenes (**heading 29.02**); trinitrophenol (picric acid) and dinitro-ortho-cresol (**heading 29.08**); hexanitrodiphenylamine (**heading 29.21**); methyl orange (**heading 29.27**); bilirubin, biliverdin and porphyrins (**heading 29.33**); acriflavine (**heading 38.24**).

(II) SYNTHETIC ORGANIC PRODUCTS OF A KIND USED AS FLUORESCENT BRIGHTENING AGENTS OR AS LUMINOPHORES, WHETHER OR NOT CHEMICALLY DEFINED

(1) **Organic products of a kind used as fluorescent brightening agents** are synthetic organic products which absorb ultraviolet rays and give off visible blue radiations, thus intensifying the apparent whiteness of white articles. They generally consist of stilbene derivatives.

(2) **Organic products of a kind used as luminophores** are synthetic products which, under the action of light rays, produce a luminescent or fluorescent effect.

Some of these products also have the character of colouring matter. An example of these luminophores is rhodamine B in plastics, which produces a red fluorescence. It is generally in the form of powder.

Most organic products of a kind used as luminophores (e.g., diethyl dihydroxyterephthalate and salicylaldazine) are not colouring matter. They are added to colouring pigments to increase their brilliance. These products remain in this heading even when chemically defined but the same chemicals in a non-luminescent form (e.g., less pure, different crystalline structure) are **excluded** (**Chapter 29**). Thus salicylaldazine of the kind used as a blowing agent for rubber falls in **heading 29.28**.

Organic products of a kind used as luminophores mixed together or with synthetic organic colouring matter fall in this heading. When mixed with inorganic pigments they are **excluded** (**heading 32.06**).

°

° °

Subheading Explanatory Note.

Subheadings 3204.11 to 3204.19

Synthetic organic colouring matter and preparations based thereon as specified in Note 3 to this Chapter are subdivided on the basis of their application or use. The products of these subheadings are described below.

Disperse dyes are substantially water-insoluble, non-ionic dyes which are applied to hydrophobic fibres from aqueous dispersion. They are used on polyester, nylon or other polyamides, cellulose acetate or acrylic fibres and for surface-dyeing of certain thermoplastics.

Acid dyes are water-soluble anionic dyes which are applied to nylon, wool, silk, modacrylic fibres or leather.

Mordant dyes are water-soluble dyes which require the use of a mordant (for example, chromium salts) to bind them to textile fibres.

Basic dyes are water-soluble cationic dyes which are applied to modacrylic, modified nylon or modified polyester fibres or to unbleached paper. Their original use was for dyeing silk, wool or tannin-

mordanted cotton, where brightness of shade was more important than colour-fastness. Some basic dyes show biological activity and are used in medicine as antiseptics.

Direct dyes are water-soluble anionic dyes which, in aqueous solution in the presence of electrolytes, are substantive to cellulosic fibres. They are used for dyeing cotton, regenerated cellulose, paper, leather and, to a lesser extent, nylon. In order to improve their colour-fastness, direct-dyed fabrics are often subjected to an after treatment, such as diazotisation and coupling *in situ*, chelation with metal salts or treatment with formaldehyde.

Vat dyes are water-insoluble dyes which are reduced in an alkaline bath to the water-soluble leuco form and in that form are applied, mainly to cellulosic fibres, after which they are reoxidised to the insoluble coloured keto form.

Reactive dyes are dyes that attach themselves to the fibres, usually cotton, wool or nylon, by reacting with functional groups on the fibre molecules to form a covalent bond.

Pigments are synthetic organic colours which retain their crystalline or particulate form throughout the application process (in contrast to dyes, which lose their crystalline structure by dissolution or vaporisation, although they may regain it during a later stage of the dyeing process). They include insoluble metal salts of some of the above-mentioned dyes.

Subheading 3204.19 covers*inter alia* :

- mixtures described in Note 2 to this Chapter;

- **solvent dyes**, which are dissolved in organic solvents and applied to synthetic fibres, for example, nylon, polyester or acrylic fibres, or used in gasoline, varnishes, stains, inks, waxes, etc.

Some of these synthetic organic colouring matters belong to two or more application classes falling in different subheadings. They are classified as follows :

- Those which, in the state in which they are presented, are usable both as vat dyes and as pigments are to be classified as vat dyes in subheading 3204.15.

- Others which are potentially classifiable in two or more of the specific subheadings 3204.11 to 3204.18 are to be classified in that one of those subheadings which occurs last in numerical order.

- Those which are potentially classifiable in one of the specific subheadings 3204.11 to 3204.18 and in the residual subheading 3204.19 are to be classified in the specific subheading.

Mixtures of synthetic organic colouring matter and preparations based on such mixtures are classified as follows :

- Mixtures of two or more products of the same subheading are to be classified in that subheading.

- Mixtures of two or more products of different subheadings (3204.11 to 3204.19) are to be classified in the residual subheading 3204.19.

Fluorescent brightening agents, sometimes called “white dyes”, are excluded from subheadings 3204.11 to 3204.19, being more specifically provided for in subheading 3204.20.

3204.1

- Synthetic organic colouring matter and preparations based thereon as specified in Note 3 to this Chapter :

3204.11

-- Disperse dyes and preparations based thereon

3204.12

-- Acid dyes, whether or not premetallised, and preparations based thereon; mordant dyes and preparations based thereon

3204.13

-- Basic dyes and preparations based thereon

3204.14

-- Direct dyes and preparations based thereon

3204.15

-- Vat dyes (including those usable in that state as pigments) and preparations based thereon

3204.16

-- Reactive dyes and preparations based thereon

3204.17

-- Pigments and preparations based thereon

3204.18

-- Carotenoid colouring matters and preparations based thereon

3204.19

-- Other, including mixtures of colouring matter of two or more of the subheadings 3204.11 to 3204.19

3204.20

- Synthetic organic products of a kind used as fluorescent brightening agents

3204.90

- Other

Heading 3205

Colour lakes; preparations as specified in Note 3 to this Chapter based on colour lakes.

EXPLANATORY NOTES

32.05 - Colour lakes; preparations as specified in Note 3 to this Chapter based on colour lakes.

Colour lakes are preparations insoluble in water, obtained by **fixation** of natural colouring matter (animal or vegetable) or synthetic organic colouring matter (whether or not soluble in water), on a base, generally mineral (barium sulphate, calcium sulphate, aluminium oxide, China clay, talc, silica, siliceous fossil earth, calcium carbonate, etc.).

The **fixation** of the colouring matter on the base is usually obtained by :

(1) Precipitating the colouring matter on the base with precipitating agents (tannin, barium chloride, etc.), or by co-precipitation of the colouring matter and the base.

(2) Dyeing the base with a solution of the colouring matter.

(3) Intimate mechanical mixing of an insoluble colouring matter with the inert base.

Colour lakes should not be confused with certain other products such as synthetic organic colouring matter, insoluble in water, in which the mineral elements are a constituent part of the molecule, for instance synthetic organic colouring matter rendered insoluble in the form of their metal salts (e.g., the calcium salts of sulphonated dyes, and the salts of basic dyes with complex acids of phosphorus, molybdenum and tungsten) (**heading 32.04**).

Colour lakes are mostly prepared from synthetic organic colouring matter (heading 32.04) with a high resistance to oxidation, such as azo dyes, vat dyes derived from anthraquinone, or alizarin dyes. These lakes are used mainly for manufacturing printing inks, wallpaper and oil paints.

Colour lakes may also be prepared from organic colouring matter of animal or vegetable origin (i.e., those of heading 32.03). They include, *inter alia*, cochineal carmine lake, generally obtained by treating an aqueous solution of cochineal extract with alum, and used mostly in the manufacture of water colours, and for colouring syrups, confectionery or liqueurs; logwood, yellow wood and redwood lakes, etc.

These products are often in the form of powders.

The heading includes concentrated dispersions of colour lakes in plastics, rubber, plasticisers or other media. These dispersions are usually in the form of small plates or lumps and are used as raw materials for dyeing rubber, plastics, etc., in the mass.

The heading also includes certain other preparations based on colour lakes of a kind used for colouring any material or used as ingredients in the manufacture of colouring preparations. However, the preparations referred to in the last sentence of Note 3 to this Chapter are **excluded**.

The heading **does not cover** Japan (or Chinese) lacquer (**heading 13.02**).

3205.00

Colour lakes; preparations as specified in Note 3 to this Chapter based on colour lakes.

Heading 3206

Other colouring matter; preparations as specified in Note 3 to this Chapter, other than those of heading 32.03, 32.04 or 32.05; inorganic products of a kind used as luminophores, whether or not chemically defined.

EXPLANATORY NOTES

32.06 - Other colouring matter; preparations as specified in Note 3 to this Chapter, other than those of heading 32.03, 32.04 or 32.05; inorganic products of a kind used as luminophores, whether or not chemically defined (+).

- Pigments and preparations based on titanium dioxide :

3206.11 - - Containing 80 % or more by weight of titanium dioxide calculated on the dry matter

3206.19 - - Other

3206.20 - Pigments and preparations based on chromium compounds

- Other colouring matter and other preparations :

3206.41 - - Ultramarine and preparations based thereon

3206.42 - - Lithopone and other pigments and preparations based on zinc sulphide

3206.49 - - Other

3206.50 - Inorganic products of a kind used as luminophores

(A) OTHER COLOURING MATTER; PREPARATIONS AS SPECIFIED IN NOTE 3 TO THIS CHAPTER, OTHER THAN THOSE OF HEADING 32.03, 32.04 OR 32.05

This heading covers inorganic colouring matter or colouring matter of mineral origin.

The heading **excludes**, however :

(a) Natural micaceous iron oxides; earth colours, whether or not calcined or mixed together (see Explanatory Note to **heading 25.30**).

(b) Separate chemically defined inorganic colouring matters (e.g., basic lead carbonate; oxides of iron, lead, chromium or zinc; sulphides of zinc or mercury; lead chromate (**Chapter 28**)); Schweinfurt green (copper acetoarsenite) (**heading 29.42**).

(c) Metallic flakes and powders (**Section XIV** or **XV**).

The colouring matter of this heading includes :

(1) **Pigments based on titanium dioxide.** These include titanium dioxide which is surface-treated or mixed with calcium or barium sulphate or other substances. These also include titanium dioxide to which compounds have been intentionally added during the production process in order to obtain certain physical properties rendering it suitable for use as a pigment. Other specially produced titanium dioxide which is not suitable for use as a pigment because of its particular properties falls under other headings (e.g.,**headings 38.15, 38.24**). Titanium dioxide which is unmixed and not surface-treated is classified in **heading 28.23**.

(2) **Pigments based on chromium compounds**. These include yellows consisting of mixtures of lead chromate and other inorganic products such as lead sulphate, and green pigments consisting of chromium oxide mixed with other substances.

(3) **Ultramarine**. Ultramarine blue is a complex compound formerly obtained from lapis lazuli, but now prepared artificially by treating mixtures of various silicates, aluminates, sodium carbonate, sulphur, etc. Green, pink and violet ultramarines are also covered by this heading, but certain unmixed chromates, sometimes known as yellow ultramarine, are **excluded** (**heading 28.41**).

(4) **Lithopone and other pigments based on zinc sulphide**, such as white pigments consisting of mixtures in varying proportions of zinc sulphide and barium sulphate.

(5) **Pigments based on cadmium compounds**, e.g., yellow pigments consisting of mixtures of cadmium sulphide and barium sulphate, and cadmium red consisting of a mixture of cadmium sulphide and cadmium selenide.

(6) **Prussian blue (Berlin blue) and other pigments based on hexacyanoferrates (ferrocyanides and ferricyanides). Prussian blue** consists of a ferric ferrocyanide, not chemically defined. It is obtained by precipitating an alkali ferrocyanide with a ferrous salt and then oxidising with a hypochlorite. It is an amorphous blue solid, used in the preparation of numerous pigments which are also classified in this heading. These include mineral blue (with barium sulphate and kaolin), milori green or English green (with chrome yellow and sometimes also barium sulphate) and zinc green (with zinc chromate), and compounds for coloured inks (with oxalic acid). **Turnbull's blue** consists of a ferrous ferricyanide, not chemically defined, alone or in mixtures.

(7) **Mineral blacks** (**other than** the blacks included in **heading 25.30** or **28.03**), for example :

(a) **Shale black**, a mixture of various silicates and carbon obtained by partial calcination of bituminous shales.

(b) **Silica black** obtained by calcination of mixtures of coal and kieselguhr.

(c) The product known as "**alu black**", a mixture of aluminium oxide and carbon obtained by the calcination of a mixture of bauxite and coal tar pitch or grease.

(8) **Coloured earths** brightened with very small quantities of synthetic organic dyestuffs. (Coloured earths, whether or not mixed together, but not brightened, generally fall in **heading 25.30** - see relative Explanatory Note.)

(9) **Soluble Vandyke brown** and similar products generally obtained by treatment of the earth colours of heading 25.30 (Vandyke brown, Cologne earth or Cassel earth, etc.) with ammonia or potassium hydroxide solutions.

(10) **Pigments based on cobalt compounds**, e.g., cerulean blue.

(11) **Pigments consisting of finely ground ores**, e.g., ilmenite.

(12) **Zinc grey** (very impure zinc oxide).

(13) **Synthetic nacreous (pearl) pigments**, i.e., inorganic pearlescent pigments, such as :

(a) bismuth chloride oxide, with the addition of a small quantity of an organic surface-active agent;

(b) mica coated with bismuth chloride oxide, titanium dioxide or titanium dioxide and ferric oxide.

These products are used in the manufacture of various cosmetic preparations.

Inorganic pigments with added organic colouring matter are also classified in this heading.

These products are primary materials used principally for the manufacture of the colours or pigments for the ceramic industries (see the Explanatory Note to heading 32.07), the colours, paints, enamels and lacquers of headings 32.08 to 32.10 and 32.12, artists', students' or amusement colours of heading 32.13 and printing inks (classified in heading 32.15).

This heading further includes preparations based on the colouring matters referred to above, and also the colouring pigments of heading 25.30 or of Chapter 28 and metallic flakes and powders, of a kind used for colouring any material or used as ingredients in the manufacture of colouring preparations in the form of :

(I) Concentrated dispersions in plastics, natural rubber, synthetic rubbers, plasticisers or other media. These dispersions are used as raw materials for colouring plastics, rubber, etc., in the mass.

or (II) Mixtures with relatively large quantities of surface-active products or with organic binders. These are used for colouring in the mass plastics, etc., or as ingredients in preparations for printing textiles. They are normally in the form of pastes.

However, the preparations referred to in the last sentence of Note 3 to this Chapter are **excluded**.

The heading also **excludes** :

Products of a kind used as extenders in oil paints, whether or not also suitable for colouring distempers, for example :

(a) Kaolin (**heading 25.07**).

(b) Calcium carbonate (**heading 25.09** or **28.36**).

(c) Barium sulphate (**heading 25.11** or **28.33**).

(d) Diatomaceous earth (**heading 25.12**).

(e) Slate (**heading 25.14**).

(f) Dolomite (**heading 25.18**).

(g) Magnesium carbonate (**heading 25.19** or **28.36**).

(h) Gypsum (**heading 25.20**).

(ij) Asbestos (**heading 25.24**).

(k) Mica (**heading 25.25**).

(l) Talc (**heading 25.26**).

(m) Calcite (Iceland spar) (**heading 25.30**).

(n) Aluminium hydroxide (**heading 28.18**).

(o) Mixtures of two or more of the products mentioned in (a) to (n) above (usually **heading 38.24**).

(B) INORGANIC PRODUCTS OF A KIND USED AS LUMINOPHORES, WHETHER OR NOT CHEMICALLY DEFINED

Inorganic products of a kind used as luminophores are products which, under the action of visible or invisible radiations (solar rays, ultra-violet rays, cathode rays, X-rays, etc.), produce a luminescent effect (fluorescent or phosphorescent).

Most of these products consist of metal salts activated by the presence in very small quantities of "activating" products such as silver, copper or manganese. For example, zinc sulphide activated by silver or copper, zinc sulphate activated by copper, and zinc-beryllium silicate activated by manganese.

Others are metal salts which owe their luminescent properties not to the presence of activating agents but to a treatment giving them a very special crystalline structure. These products, which are chemically defined compounds and contain no other substances, include calcium tungstate and magnesium tungstate. The same chemicals in a non-luminescent form (e.g., less pure, different crystalline structure) are **excluded** (**Chapter 28**). Thus "amorphous" calcium tungstate used as a reagent falls in **heading 28.41**.

Inorganic products of a kind used as luminophores sometimes contain traces of added radioactive salts which render them self-luminescent. They must be considered as mixtures containing radioactive substances and classified in **heading 28.44** if the level of radioactivity exceeds 74 Bq/g (0.002 µCi/g).

Inorganic products of a kind used as luminophores mixed together (e.g., zinc sulphide activated by copper mixed with zinc-cadmium sulphide activated by copper) or with inorganic colouring pigments (of Chapter 28 or Part (A) above) remain classified in this heading.

Luminophores are used in the preparation of luminous paints and for coating screens for television, oscillograph, radiography, radioscopy or radar apparatus, or fluorescent lighting tubes.

The heading **does not cover** products answering to descriptions in **headings 28.43 to 28.46 and 28.52** (e.g., a mixture of yttrium oxide and europium oxide), however put up and whatever their intended use.

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Subheading Explanatory Note.

Subheading 3206.19

Preparations containing less than 80 % titanium dioxide include concentrated dispersions in plastics, natural rubber, synthetic rubbers or plasticisers, generally known as master-batches, used for colouring plastics, rubber, etc., in the mass.

- Pigments and preparations based on titanium dioxide :

3206.11

-- Containing 80 % or more by weight of titanium dioxide calculated on the dry matter

CLASSIFICATION OPINIONS

1. Titanium dioxide of the anatase type, not surface treated, manufactured by the sulphate process, with the addition of a small amount of compounds of phosphorus, potassium and antimony before calcination in order to obtain a white powdered end product with desired physical properties (stable crystal structure, desired crystal modification, specific size and shape of particles) which is particularly suitable for specific use as a pigment.

Application of GIRs 1 (Note 1 (a) to Chapter 28) and 6.

Adoption : 2005

3206.19

-- Other

3206.20

- Pigments and preparations based on chromium compounds

3206.4

- Other colouring matter and other preparations :

3206.41

-- Ultramarine and preparations based thereon

3206.42

-- Lithopone and other pigments and preparations based on zinc sulphide

3206.49

-- Other

3206.50

- Inorganic products of a kind used as luminophores

Heading 3207

Prepared pigments, prepared opacifiers and prepared colours, vitrifiable enamels and glazes, engobes (slips), liquid lustres and similar preparations, of a kind used in the ceramic, enamelling or glass industry; glass frit and other glass, in the form of powder, granules or flakes.

EXPLANATORY NOTES

32.07 - Prepared pigments, prepared opacifiers and prepared colours, vitrifiable enamels and glazes, engobes (slips), liquid lustres and similar preparations, of a kind used in the ceramic, enamelling or glass industry; glass frit and other glass, in the form of powder, granules or flakes.

3207.10 - Prepared pigments, prepared opacifiers, prepared colours and similar preparations

3207.20 - Vitrifiable enamels and glazes, engobes (slips) and similar preparations

3207.30 - Liquid lustres and similar preparations

3207.40 - Glass frit and other glass, in the form of powder, granules or flakes

This heading covers a range of preparations used in the ceramic industry (china, earthenware, etc.), in the glass industry or for colouring or finishing metal articles.

(1) **Prepared pigments, prepared opacifiers and prepared colours** are dry mixtures formed by the heat treatment of oxides (of antimony, silver, arsenic, copper, chromium, cobalt, etc.) or salts (fluorides, phosphates, etc.) with or without fluxes or other substances, and are fired at high temperatures, generally above 300 °C, after application. The goods are used to produce a coloured or opaque surface in the course of ceramic firing. They may be incorporated in the glaze or enamel, or be applied as a coating before glazing.

(2) **Vitrifiable enamels and glazes** are mixtures of silica with other products (feldspar, kaolin, alkalies, sodium carbonate, alkaline-earth metal compounds, lead oxide, boric acid, etc.) giving a smooth surface, either matt or glossy, by vitrification under heat. In most cases some of the constituents have been fused together in a preliminary process and are present in the mixture in the form of powdered frit (see below).

They may be transparent (whether or not coloured) or rendered opaque by the addition of opacifiers or pigments; sometimes substances (e.g., titanium or zinc oxides) are added which produce decorative crystalline effects on cooling after the firing. These vitrifiable enamels and glazes are generally in the form of powders or granules.

(3) **Engobes (slips)** are semi-fluid pastes with a basis of clay, whether or not coloured, used to coat ceramic ware, either completely or in the form of a pattern. They are applied either before firing or after a preliminary first firing.

(4) **Liquid lustres** are solutions or suspensions of metal compounds in spirits of turpentine or other organic solvents, used for decorating ceramics or glassware. The most widely used are gold, silver, aluminium or chromium lustres.

(5) **Glass frit** and all other varieties of glass (including vitrite and glass obtained from fused quartz or other fused silica) in the form of powder, granules or flakes, whether or not coloured or silvered.

These products are used in the preparation of coatings for ceramic, glass or metal articles as well as for other purposes. For example, frit is used in the preparation of the vitrifiable products referred to in paragraph (2) above. Glass powder and granules are sometimes sintered to form discs, plates, tubes, etc. for laboratory use.

Vitrite is generally used for insulating electrical parts (e.g., contact terminals for electric lamp caps).

Other varieties of powdered glass are used as abrasives, for decorating postcards, Christmas tree decorations, for obtaining coloured glass articles, etc.

When the products referred to in paragraph (5) above are in forms other than powder, granules or flakes, they are **excluded**, and generally fall in **Chapter 70**. This applies in particular to “vitrite” and “enamel” glass in the mass (**heading 70.01**), to “enamel” glass put up in the form of bars, rods or tubes (**heading 70.02**) and to small regular spherical grains (microspheres) used for coating cinematograph screens, road signs, etc. (**heading 70.18**).

3207.10

- Prepared pigments, prepared opacifiers, prepared colours and similar preparations

CLASSIFICATION OPINIONS

1. Ceramic inks for inkjet devices, consisting of a suspension of 25 to 50 % by weight of inorganic pigments (e.g., cobalt aluminate, zinc iron chromite, nickel-titanium antimony) in organic solvents (40 to 70 % by weight). The product is used by the ceramics industry in digital applications with inkjet devices to produce a coloured or opaque surface in the course of ceramic firing.

Application of GIRs 1 and 6.

Adoption : 2017

3207.20

- Vitrifiable enamels and glazes, engobes (slips) and similar preparations

3207.30

- Liquid lustres and similar preparations

CLASSIFICATION OPINIONS

1. Preparations consisting of fine dispersions of silver metal obtained by reduction, in collodion or in terpineol, for use on mica or on glass, by spray or through a silk screen, at about 580 °C, in the ceramic and electrical industries (e.g., for printed circuits).

Adoption : 1960

3207.40

- Glass frit and other glass, in the form of powder, granules or flakes

Heading 3208

Paints and varnishes (including enamels and lacquers) based on synthetic polymers or chemically modified natural polymers, dispersed or dissolved in a non-aqueous medium; solutions as defined in Note 4 to this Chapter.

EXPLANATORY NOTES

32.08 - Paints and varnishes (including enamels and lacquers) based on synthetic polymers or chemically modified natural polymers, dispersed or dissolved in a non-aqueous medium; solutions as defined in Note 4 to this Chapter.

3208.10 - Based on polyesters

3208.20 - Based on acrylic or vinyl polymers

3208.90 - Other

(A) PAINTS (INCLUDING ENAMELS)

Paints of this heading are dispersions of insoluble colouring matter (chiefly mineral or organic pigments, or colour lakes), or metallic flakes or powders, in a vehicle consisting of a binder dispersed or dissolved in a non-aqueous medium. The binder, which is the film-producing agent, consists of synthetic polymers (such as phenolic resins, amino-resins, thermosetting or other acrylic polymers, alkyds and other polyesters, vinyl polymers, silicones, epoxide resins and synthetic rubber) or of chemically modified natural polymers (such as chemical derivatives of cellulose or natural rubber).

Varying quantities of other products, such as driers (mainly based on cobalt, manganese, lead or zinc compounds), thickening agents (aluminium soaps and zinc soaps), surface-active agents, diluents or fillers (barium sulphate, calcium carbonate, talc, etc.) and anti-skinning agents (e.g., butanone oxime) may be added to the vehicle for specific purposes.

In **solvent-thinned paints** the solvent and the thinner are volatile liquids (such as white spirit, toluene, gum, wood or sulphate turpentine, mixtures of synthetic solvents, etc.) added to dissolve a solid binder and to give the paint the proper flowing consistency for ease of application.

When the vehicle consists of a varnish, the paint is known as an enamel; on drying it gives a particularly smooth hard film, which may be glossy or matt.

The formulation of solvent-thinned paints and enamels depends on the specific use for which they are made and such products normally contain several pigments and several binders. They form, after drying, a non-sticky, opaque, coloured film, glossy or matt, on the surfaces to which they are applied.

(B) VARNISHES (INCLUDING LACQUERS)

Varnishes and lacquers of this heading are **liquid** preparations for protecting or decorating surfaces. They are based on synthetic polymers (including synthetic rubber) or chemically modified natural polymers (such as cellulose nitrate or other cellulose derivatives, novolacs or other phenolic resins, amino-resins, silicones, etc.) with added solvents and thinners. They form a dry, water-insoluble, relatively hard, more or less transparent or translucent, smooth, continuous film which may be glossy, matt or satiny.

They may be coloured by the addition of colouring matter of a kind soluble in the composition. (In paints and enamels the colouring matter is called the “pigment” and is insoluble in the media - see Part (A) above.)

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The more common methods of applying paints, varnishes and lacquers are by use of a brush or roller. The main industrial methods used include spraying, dipping and machine-coating.

This heading also includes :

(1) **Varnishes intended to be diluted** at the time of their application. They consist of resin dissolved in a small quantity of solvent and of ingredients such as anti-skinning agents and certain third thixotropic or drying agents which make them suitable for use solely as varnishes. Varnishes of this description, in which the secondary ingredients are also in solution, can be distinguished from the solutions defined in Note 4 to the Chapter on the basis of the difference in the chemical nature of their respective secondary ingredients and the consequent differences in the functions performed by those ingredients in the two types of solutions.

(2) **Radiation-curable varnishes**, which consist of oligomers (i.e., polymers comprising 2, 3 or 4 monomer units) and cross-linking monomers, in volatile solvents, with or without photo-initiators. These varnishes are cured by the action of ultra-violet light, infra-red light, X-rays, electron beams or other radiation to form cross-linked, solvent-insoluble network structures (a hard, dry film).

Products of this type do not fall in this heading unless they are clearly identifiable as being intended for use solely as varnishes. Similar products of a kind used as photographic emulsions fall in **heading 37.07**.

(3) **Varnishes being solutions of the polymers described in (C) below**, i.e., those of headings 39.01 to 39.13, whatever the weight of the solvent, containing added substances **other than** those necessary for the manufacture of products specified in headings 39.01 to 39.13, such as anti-skinning agents and certain thixotropic or drying agents, which make them suitable for use solely as varnishes.

This part **excludes** solutions covered by Note 4 to the present Chapter (see Part (C) below).

(C) SOLUTIONS AS DEFINED IN NOTE 4 TO CHAPTER 32

By virtue of Note 4 to this Chapter, solutions (other than collodions) of the following compositions are classified in this heading :

- one or more of the products specified in headings 39.01 to 39.13 and any dissolved ingredients necessary for the manufacture of these products, such as accelerators, retarders, cross-linking agents (excluding, therefore, soluble ingredients such as colourants and insoluble ingredients such as fillers or pigments, as well as all products which might be included in these headings by the effect of other Nomenclature provisions) in volatile organic solvents, if the weight of the solvent exceeds 50 % of the weight of the solution;

- one or more of the above products and a plasticiser in volatile organic solvents if the weight of the solvent exceeds 50 % of the weight of the solution.

Such solutions fall in **Chapter 39** if the weight of the volatile organic solvent does not exceed 50 % of the weight of the solution.

The expression “volatile organic solvents” also includes solvents having a relatively high boiling point, e.g., turpentine.

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Glues of similar composition to the preparations described in the penultimate paragraph of Part (B) above, or glues put up for retail sale and not exceeding a net weight of 1 kg are **excluded** (**heading 35.06**).

The heading also **excludes** :

(a) Surfacing preparations for walls, floors, etc., based on plastics with the addition of a high proportion of fillers and which, like conventional mastics, are applied with a spatula, trowel, etc. (**heading 32.14**).

(b) Printing inks which though having a similar qualitative composition to paint, are not suitable for painting applications (**heading 32.15**).

(c) Varnishes, of the nail varnish type, put up in the forms described in Explanatory Note to **heading 33.04**.

(d) Correcting fluids consisting essentially of pigments, binders and solvents, put up in packings for retail sale for use for masking errors or other unwanted marks in typescripts, manuscripts, photocopies, offset printing masters or the like and cellulose varnishes put up in packings for retail sale as stencil correcting preparations (**heading 38.24**).

(e) Collodions, irrespective of the proportion of solvent (**heading 39.12**).

3208.10

- Based on polyesters

CLASSIFICATION OPINIONS

1. Solution of a modified alkyd resin, containing white spirit (93.95 % by weight) and alkyd resins (6.05 % by weight). This solution is presented in metal drums of 200 litres or in bulk. It is used in varnishing and painting products (e.g., as a binder in compositions for wood impregnation and decoration or to modify the composition of paints and varnishes). **Application of GIRs 1 (Note 4 to Chapter 32) and 6.** *Adoption : 2016*

2. Solution of a modified alkyd resin, containing white spirit (98.88 % by weight) and alkyd resins (1.12 % by weight). This solution is presented in metal drums of 200 litres or in bulk. It is used in varnishing and painting products (e.g., as a binder in compositions for wood impregnation and decoration or to modify the composition of paints and varnishes). **Application of GIRs 1 (Note 4 to Chapter 32) and 6.** *Adoption : 2016*

3208.20

- Based on acrylic or vinyl polymers

CLASSIFICATION OPINIONS

1. Alcoholic solution of a copolymer resin, containing ethyl alcohol (93.5 – 97.5 % by weight), isopropyl alcohol (0.5 – 1 % by weight), diethyl phthalate (0.1 – 0.2 % by weight) and a copolymer solution (4 - 4.5 % by weight). The copolymer solution is composed of ethyl alcohol (50 – 70 % by weight) and polyvinylpyrrolidone-vinyl acetate copolymer (30:70).

The product is a transparent liquid presented in metal drums with a nominal volume of 200 litres or in plastic containers with a nominal volume of 1000 litres. It is used as raw material in the production of hair sprays

Application of GIRs 1 (Note 4 to Chapter 32) and 6.

Adoption : 2019

3208.90

- Other

CLASSIFICATION OPINIONS

1. One-component wet process polyurethane resin containing polyol (15 % by weight), isocyanate (7 % by weight), glycol (8 % by weight) and dimethylformamide (70 % by weight), used in

the production of artificial leather.

Application of GIRs 1 (Note 4 to Chapter 32 and Note 2 (e) to Chapter 39) and 6.

Adoption : 2003

Heading 3209

Paints and varnishes (including enamels and lacquers) based on synthetic polymers or chemically modified natural polymers, dispersed or dissolved in an aqueous medium.

EXPLANATORY NOTES

32.09 - Paints and varnishes (including enamels and lacquers) based on synthetic polymers or chemically modified natural polymers, dispersed or dissolved in an aqueous medium.

3209.10 - Based on acrylic or vinyl polymers

3209.90 - Other

Paints of this heading are composed of dispersions or solutions of a binder based on synthetic polymers or chemically modified natural polymers, in an aqueous medium, blended with dispersions of insoluble colouring matter (chiefly mineral or organic pigments, or colour lakes) and fillers. Surfactants and protective colloids are added to stabilise the products. Varnishes of this heading are similar to paints except that they do not contain a pigment; however, they may contain colouring matter which is soluble in the binder.

The binder, which is the film-producing agent, consists of polymers, such as polyacrylic esters, poly(vinyl acetate) and poly(vinyl chloride), or copolymerisation products of butadiene and styrene.

The expression “aqueous medium” means any medium consisting of water or a mixture of water and a water-soluble solvent.

This heading **does not cover** :

(a) Surfacing preparations for walls, floors, etc., based on plastics with the addition of a high proportion of fillers and which, like conventional mastics, are applied with a spatula, trowel, etc. (**heading 32.14**).

(b) Printing inks which though having a similar qualitative composition to paint, are not suitable for painting applications (**heading 32.15**).

3209.10

- Based on acrylic or vinyl polymers

3209.90

- Other

Heading 3210

Other paints and varnishes (including enamels, lacquers and distempers); prepared water pigments of a kind used for finishing leather.

EXPLANATORY NOTES

32.10 - Other paints and varnishes (including enamels, lacquers and distempers); prepared water pigments of a kind used for finishing leather.

(A) PAINTS (INCLUDING ENAMELS)

The paints (including enamels) of this heading include :

(1) Drying oils (e.g., linseed oil), whether or not modified, or natural resins, dispersed or dissolved in an aqueous or non-aqueous medium, with added pigment.

(2) Any liquid binder (including synthetic or chemically modified natural polymers) containing a hardener and pigments but not containing any solvent or other medium.

(3) Rubber (other than synthetic rubber) based paints whether dispersed or dissolved in non-aqueous media, or dispersed in aqueous media, with added pigment. Paints of this type are to be applied in thin layers to give flexible coatings.

(B) VARNISHES (INCLUDING LACQUERS)

Varnishes of this heading include :

(1) **Oil varnishes** in which the film-producing agent is a drying oil (e.g., linseed oil) or a mixture of drying oil with lac, natural gums or resins.

(2) **Varnishes and lacquers based on lac, natural gums or resins**, consisting mainly of solutions or dispersions of lac, natural gums or resins (shellac, copal, rosin, damar, etc.) in alcohol (spirit varnishes), gum, wood or sulphate turpentine, white spirit, acetone, etc.

(3) **Varnishes based on bitumen, pitch or similar products** (sometimes known as black japans, black varnishes, etc.). (As regards the distinction between varnishes based on bitumen, etc., and certain mixtures of heading 27.15, see exclusion (e) in the Explanatory Note to that heading.)

(4) **Liquid varnishes containing no solvent**, which may consist of :

(a) liquid plastics (usually epoxide resins or polyurethanes) and a film-producing agent called in this instance a “hardener”. For certain varnishes the hardener must be added at the time of use in which case the two components are packed in separate containers. These containers may be put up together in one package;

(b) a single resin, the formation of a film at the time of use depending not on the addition of a hardener but on the effect of heat or atmospheric moisture; or

(c) oligomers (i.e., polymers comprising 2, 3 or 4 monomer units) and cross-linking monomers, with or without photo-initiators. These varnishes are cured by the action of ultra-violet light, infra-red light, X-rays, electron beams or other radiation to form cross-linked, solvent-insoluble network structures (a hard, dry film).

Products of the types described in this item do not fall in this heading unless they are clearly identifiable as being intended for use solely as varnishes. When this condition is not met the types described in (a) and (b) fall in **Chapter 39**. Products similar to the type described in (c) and of a kind used as photographic emulsions fall in **heading 37.07**.

(5) **Varnishes and lacquers based on rubber** (other than synthetic rubber) dispersed or dissolved in non-aqueous media or dispersed in aqueous media, possibly with added colouring material soluble in the binder material. Varnishes of this description must contain other ingredients which make them suitable for use solely as varnishes. When this condition is not met, these products generally fall in **Chapter 40**.

(C) DISTEMPERS (INCLUDING WHITENING FOR CLEANING

FOOTWEAR) AND PREPARED WATER PIGMENTS OF A KIND USED FOR FINISHING LEATHER

(1) **Distempers** are essentially composed of colouring pigment or of mineral substances (e.g., whiting) with certain quantities, usually very small, of binders such as skin glue or casein. Fillers, insecticides or antiseptics are incorporated in some types.

Distempers include gelatinous white, casein distempers and silicate distempers. They are usually in powder form, but may be presented as pastes or emulsions.

(2) **Whitening for cleaning footwear** consists of whiting agglomerated in tablets by means of a binder (e.g., dextrin or skin glue). They are varieties of distempers. They may also be in the form of paste or dispersion.

(3) **Prepared water pigments of a kind used for finishing leather** are preparations similar to ordinary distempers, consisting of mixtures of mineral or organic pigments and certain quantities of binders (e.g., caseinates). They are in the form of powders or pastes or dispersions in water, and sometimes incorporate products designed to give a brilliance to leather.

The heading also **excludes** :

(a) Surfacing preparations for walls, floors, etc., based on plastics or rubber with the addition of a high proportion of fillers and which, like conventional mastics, are applied with a spatula, trowel, etc. (**heading 32.14**).

(b) Printing inks which though having a similar qualitative composition to paint, are not suitable for painting applications (**heading 32.15**).

(c) Powder paints consisting principally of plastics and containing additives and pigments, used for application to objects by the effect of heat with or without application of static electricity (**Chapter 39**).

3210.00

Other paints and varnishes (including enamels, lacquers and distempers); prepared water pigments of a kind used for finishing leather.

Heading 3211

Prepared driers.

EXPLANATORY NOTES

32.11 - Prepared driers.

Prepared driers are mixtures used to accelerate the drying of certain paints or varnishes by facilitating the oxidation of the drying oil. These products usually consist of a chemical drier (lead borate, zinc naphthenate, zinc oleate, manganese dioxide, cobalt resinate, etc.) with a filler, e.g., gypsum (solid driers), or of the concentrated solutions of these substances in gum, wood or sulphate turpentine, white spirit, etc., (e.g., calcium naphthenate or cobalt naphthenate in white spirit) with or without drying oil (liquid or paste driers).

This heading **does not cover** :

(a) Boiled or otherwise chemically modified oils of **heading 15.18**.

(b) Separate chemically defined compounds (generally **Chapter 28** or **29**).

(c) Resinates (**heading 38.06**).

3211.00

Prepared driers.

Heading 3212

Pigments (including metallic powders and flakes) dispersed in non-aqueous media, in liquid or paste form, of a kind used in the manufacture of paints (including enamels); stamping foils; dyes and other colouring matter put up in forms or packings for retail sale.

EXPLANATORY NOTES

32.12 - Pigments (including metallic powders and flakes) dispersed in non-aqueous media, in liquid or paste form, of a kind used in the manufacture of paints (including enamels); stamping foils; dyes and other colouring matter put up in forms or packings for retail sale.

3212.10 - Stamping foils

3212.90 - Other

(A) PIGMENTS (INCLUDING METALLIC POWDERS AND FLAKES) DISPERSED IN NON-AQUEOUS MEDIA, IN LIQUID OR PASTE FORM OF A KIND USED IN THE MANUFACTURE OF PAINTS (INCLUDING ENAMELS)

These are concentrated dispersions of pigments (including aluminium or other metal powders and flakes) in a non-aqueous medium (e.g., drying oils, white spirit, gum, wood or sulphate turpentine or varnish), in liquid or paste form, of a kind used in the manufacture of paints or enamels.

This group also includes concentrated dispersions, sometimes called “pearl essence”, of :

(a) natural nacreous (pearl) pigment containing guanine and hypoxanthine and obtained from the scales of certain fish, or

(b) a synthetic nacreous (pearl) pigment (e.g., mica coated with bismuth chloride oxide or titanium dioxide),

in a varnish or lacquer (e.g., nitrocellulose lacquer) or in a solution of synthetic polymers.

These products are used in the manufacture of imitation pearls, nail enamels or other paints and enamels.

(B) STAMPING FOILS

These products (also known as blocking foils) consist of thin sheets of either :

(1) Metallic powder (including powder of precious metal), or pigment, agglomerated with glue, gelatin or other binder, or

(2) Metal (including precious metal) or pigment, deposited by vaporisation, cathodic sputtering, etc., on a supporting sheet of any material (e.g., paper, plastics).

They are used, with the application of pressure (and generally of heat), for printing book covers, hat bands, etc., by hand or machine.

Metallic foils produced by rolling or hammering are classified according to the constituent metal (e.g., gold foil in **heading 71.08**, copper foil in **heading 74.10**, aluminium foil in **heading 76.07**).

(C) DYES AND OTHER COLOURING MATTER PUT UP IN FORMS OR PACKINGS FOR RETAIL SALE

These are non-film forming products which normally consist of mixtures of colouring matter with other substances (e.g., inert diluents, surface-active products which encourage the penetration and fixation of the colouring matter). Mordants are also sometimes added.

They fall here **only** if :

(1) In packings for retail sale (e.g., sachets of powder, bottles of liquid) put up for use as dyes, or

(2) In forms (e.g., balls, tablets or the like) clearly designed for retail sale.

The dyes covered by this heading are mainly those used for domestic purposes and usually sold as “household dyes” (e.g., dyes for clothes, for shoes, for furniture). The heading also includes special dyes used in laboratories, e.g., to colour microscopic preparations.

The heading **does not cover** :

(a) Artists’, students’ or signboard painters’ colours, modifying tints, amusement colours and the like, in tablets, tubes, jars, bottles, pans or in similar forms or packings (**heading 32.13**).

(b) Printing inks (**heading 32.15**).

(c) Theatrical grease paints and other make-up (**heading 33.04**).

(d) The hair “dyes” of **heading 33.05**.

(e) Coloured crayons and pastels (**heading 96.09**).

3212.10

- Stamping foils

3212.90

- Other

Heading 3213

Artists', students' or signboard painters' colours, modifying tints, amusement colours and the like, in tablets, tubes, jars, bottles, pans or in similar forms or packings.

EXPLANATORY NOTES

32.13 - Artists', students' or signboard painters' colours, modifying tints, amusement colours and the like, in tablets, tubes, jars, bottles, pans or in similar forms or packings.

3213.10 - Colours in sets

3213.90 - Other

This heading covers prepared colours and paints of a kind used by artists, students or signboard painters, modifying tints, amusement colours and the like (water colours, gouache colours, oil paints, etc.), **provided** they are in the form of tablets or put up in tubes, small jars or bottles, pans or in similar forms or packings.

The heading also includes those sold in sets or outfits, with or without brushes, palettes, palette knives, stumps, pans, etc.

The heading **does not include** printing inks (or colours), Indian ink, whether liquid or solid, or other products classified under **heading 32.15**, nor crayons, pastels or similar articles (**heading 96.09**).

3213.10

- Colours in sets

3213.90

- Other

Heading 3214

Glaziers' putty, grafting putty, resin cements, caulking compounds and other mastics; painters' fillings; non-refractory surfacing preparations for façades, indoor walls, floors, ceilings or the like.

EXPLANATORY NOTES

32.14 - Glaziers' putty, grafting putty, resin cements, caulking compounds and other mastics; painters' fillings; non-refractory surfacing preparations for façades, indoor walls, floors, ceilings or the like.

3214.10 - Glaziers' putty, grafting putty, resin cements, caulking compounds and other mastics; painters' fillings

3214.90 - Other

The products of this heading are preparations of widely differing composition which are essentially characterised by the uses to which they are put.

These preparations are usually put up in a more or less pasty form and in general they harden or cure after application. However, some are in solid or powder forms which are made pasty at the time of use by heating (e.g., by melting) or by addition of a liquid (e.g., water).

The products of this heading are usually applied with a caulking gun, a spatula, a trowel, a plasterer's float or similar tools.

(I) GLAZIERS' PUTTY, GRAFTING PUTTY, RESIN CEMENTS, CAULKING COMPOUNDS AND OTHER MASTICS

These preparations are mainly used to stop, seal or caulk cracks and, in certain cases, to bond or firmly join components together. They are distinguished from glues and other adhesives by the fact that they are applied in thick coatings or layers. It should be noted, however, that this group of products also covers mastics used on the skin of patients around stomas and fistulas.

This group includes :

(1) **Mastics based on oil**. These are composed essentially of drying oils, fillers (whether they react with the oils or are inert) and hardeners. The best known product of this type is glaziers' putty.

(2) **Mastics based on wax (luting wax)**. These consist of waxes (of all kinds) to which resins, shellac, rubber, resin esters, etc., are often added to increase the adhesive effect. Mastics in which wax is wholly or partly replaced by products such as cetyl alcohol or stearyl alcohol are also considered as mastics based on wax. Mastics of this paragraph include grafting putties and sealants for coating barrels, casks, etc.

(3) **Resin mastics and cements**. These consist of natural resins (shellac, damar, rosin) or plastics (alkyd resins, polyesters, coumarone-indene resins, etc.), intermixed and usually with the addition of other materials (e.g., waxes, oils, bitumens, rubber, brick powder, lime, cements or any other mineral fillers). It should be noted that certain of these mastics are also covered by the types described below (e.g., those based on plastics or on rubber). The mastics and cements of this group serve many purposes, for example, as fillers in the electrotechnical industry or for sealing glass, metal or porcelain objects. They are generally applied after they have been made fluid by melting.

(4) **Mastics based on water-glass**. These are generally prepared at the time of application by mixing together two components. One of these consists of an aqueous solution of sodium silicate and potassium-sodium silicate and the other of fillers (quartz powder, sand, asbestos fibres, etc.). They are mainly used to seal sparking plugs, engine blocks and sumps, exhaust pipes, radiators, etc., and to fill or stop certain joints.

(5) **Mastics based on zinc oxychloride**. These are obtained from zinc oxide and zinc chloride to which retarding agents and, in certain cases, fillers are added. They are used for filling holes or cracks in wood, ceramics, etc.

(6) **Mastics based on magnesium oxychloride**. These are obtained from magnesium chloride and magnesium oxide, to which fillers (e.g., wood flour) are added. They are mainly used to stop or seal cracks in wooden articles.

(7) **Mastics based on sulphur**. These are composed of sulphur mixed with inert fillers. They are put up as solids, and are used to produce hard, waterproof, acid-resistant stoppings, and also to bond or fix pieces in place.

(8) **Mastics based on plaster**. These are put up as fibrous and flocculent powders, composed of a mixture of about 50 % plaster with other materials such as asbestos fibres, wood cellulose, glass fibres or sand. They are made pasty by the addition of water, and used to secure screws, gudgeon pins, dowels, hooks, etc.

(9) **Mastics based on plastics** (e.g., polyesters, polyurethanes, silicones and epoxide resins) whether or not containing a high added proportion (up to 80 %) of various fillers (e.g., clay, sand and other silicates, titanium dioxide, metallic powders). Some of these mastics are used after the addition of hardeners. Some mastics do not harden and remain tacky after application (e.g., acoustic sealants). Others harden by the evaporation of solvents, by solidification (hot-melt mastics), by curing after exposure to the atmosphere or by the reaction of different components mixed together (multi-component mastics).

Products of this nature are to be classified in this heading only if they are fully formulated for use as mastics. Mastics may be used to seal certain joints in construction or home repair, for sealing or repairing glass, metal or porcelain articles, as fillers or sealants for coachwork or, in the case of adhesive sealants, to bond various surfaces together.

(10) **Mastics based on zinc oxide and glycerol**. These are used to make acid-resistant coatings, to bond iron pieces to porcelain ware, and for joining tubes.

(11) **Mastics based on rubber**. These may be composed, for example, of a thioplast with the addition of fillers (graphite, silicates, carbonates, etc.) and in certain cases of an organic solvent. They are used, sometimes after the addition of a hardener, to give flexible protective coatings (resistant to chemical agents and to solvents), and also for caulking. These mastics may also be composed of aqueous dispersions of rubber, containing added colouring matter, plasticisers, fillers, binders or anti-oxidants, used for hermetically sealing metal cans.

(12) **Mastics of a kind used on the skin**. These may be composed, e.g., of sodium carboxymethylcellulose, pectin, gelatin and polyisobutylene in an organic solvent such as isopropyl alcohol. They are used, for example, on the skin of patients around stomas and fistulas as sealants to form a leakproof contact between the skin and waste collection bags. They have neither therapeutic nor prophylactic properties.

(13) **Sealing waxes**. They consist essentially of a mixture of resinous materials (e.g., shellac, rosin), together with a (usually high) proportion of mineral fillers and colouring matters. They are used to fill holes, for the watertight sealing of glass apparatus, for sealing documents, etc.

(II) PAINTERS' FILLINGS; NON-REFRACTORY SURFACING PREPARATIONS FOR FAÇADES, INDOOR WALLS, FLOORS, CEILINGS OR THE LIKE

These products differ from the mastics, etc., described above in that they are generally applied to larger surfaces. They are distinguished from paints, varnishes and similar products by their high content of fillers and (if present) of pigments; this content is generally much higher than that of the binders and solvents or dispersing liquids.

(A) **PAINTERS' FILLINGS.**

Painters' fillings are used to prepare surfaces (e.g., indoor walls) for painting by levelling out irregularities and, if necessary, filling in cracks, holes or porous surfaces. Paint is applied on them after they have hardened and been sanded.

This category also includes fillings based on oil, rubber, glue, etc. Fillings based on plastics with a composition similar to that of certain mastics of the same kind are also used for coachwork, etc.

(B) **NON-REFRACTORY SURFACING PREPARATIONS.**

Non-refractory surfacing preparations are used on façades, indoor walls, floors and ceilings, swimming pool walls and floors, etc., to make them waterproof and improve their appearance. Generally they remain visible as the final surfacing.

This group includes :

(1) Powdered preparations consisting of equal parts of plaster and sand with plasticisers.

(2) Preparations in powder form based on quartz and cement with small quantities of added plasticisers, used for instance, after adding water, for setting wall or floor tiles.

(3) Pasty preparations made by coating mineral fillers (ground marble, quartz, or a mixture of quartz and silicate, for instance) with a binder (plastics or resins), with added pigments and, where appropriate, water or solvent.

(4) Liquid preparations consisting, for instance, of synthetic rubber or acrylic polymers, asbestos fibres mixed with a pigment, and water. These are applied on façades with a paint brush or spray gun and form a much thicker layer than paint.

*

* *

In the case of certain of the products described above, the intermixture of the various constituents, or the addition of certain constituents, must be carried out at the time of use. Such products remain classified in this heading **provided** the constituents are :

(i) having regard to the method in which they are put up, clearly identifiable as being intended to be used together without first being repacked;

(ii) presented together; **and**

(iii) identifiable, whether by their nature or by the relative proportions in which they are present, as being complementary one to another.

However, in the case of products to which a hardener has to be added at the time of use, the absence of the hardener does not exclude these products from this heading, **provided** they are, by their composition or packing, clearly identifiable as intended to be used in the preparation of putties, mastics, fillings or surfacing preparations.

The heading **excludes** :

(a) Natural resins known in certain countries as “mastics” (**heading 13.01**).

(b) Plasters, lime and cements covered by **heading 25.20**, **25.22** or **25.23**.

(c) Mastics of asphalt and other bituminous mastics (**heading 27.15**).

(d) Dental cements and other dental fillings (**heading 30.06**).

(e) Brewers’ pitch, and other products of **heading 38.07**.

(f) Refractory cements and mortars (**heading 38.16**).

(g) Prepared binders for foundry moulds or cores (**heading 38.24**).

3214.10

- Glaziers' putty, grafting putty, resin cements, caulking compounds and other mastics; painters' fillings

CLASSIFICATION OPINIONS

1. **Preparations for hermetically sealing metal cans**, consisting of an aqueous dispersion with the following composition : styrene-butadiene rubber, colouring matter, plasticizer, fillers, binders and an antioxidant.
Adoption : 1996

2. **Polyurethane foam (sealing foam)** based on plastics containing, among other additives, fire retardants and propellant gases, in the form of a dark brown liquid, presented for retail sale in a pressurised can (750/1000 ml). The pressurised can is emptied by applying pressure on the valve, during which the self-expanding foam is released, becoming white under atmospheric conditions. Once released, the foam hardens after 10 minutes. It is used for mounting window and door frames, filling cavities, sealing openings in roof construction and insulation materials, creating soundproof screens, filling cavities around pipes, fixing and insulating wall panels, roof tiles, etc. **Application of GIRs 1 and 6.**
Adoption : 2009

3214.90

- Other

CLASSIFICATION OPINIONS

1. "**Cement paint**"**,** consisting of a mixture of white Portland cement (70 to 95 % by weight), colouring matter, a setting accelerator, a water-repellent agent and sometimes mineral powders (e.g., hydrated lime and washed chalk), and used, after mixing with water, as an outdoor or indoor paint for brickwork, concrete, etc.
Adoption : 1963

Heading 3215

Printing ink, writing or drawing ink and other inks, whether or not concentrated or solid.

EXPLANATORY NOTES

32.15 - Printing ink, writing or drawing ink and other inks, whether or not concentrated or solid.

- Printing ink :

3215.11 - - Black

3215.19 - - Other

3215.90 - Other

(A) **Printing inks (or colours)** are pastes of varying consistency, obtained by mixing a finely divided black or coloured pigment with a vehicle. The pigment is usually carbon black for black inks and may be organic or inorganic for coloured inks. The vehicle consists of either natural resins or synthetic polymers, dispersed in oils or dissolved in solvents, and contains a small quantity of additives to impart desired functional properties.

(B) **Ordinary writing or drawing inks** are solutions or suspensions of a black or coloured material in water, usually with the addition of gum and other products (e.g., preservatives). These include inks based on iron salts, inks based on logwood extracts or on synthetic organic colours. Indian ink, used mainly for drawing, consists usually of carbon black in suspension in water (with the addition of gum Arabic, shellac, etc.), or in certain animal glues.

(C) **Other inks in this heading include** :

(1) Copying and hectographic inks (ordinary inks thickened with glycerol, sugar, etc.).

(2) Inks for ball point pens.

(3) Inks for duplicating machines or for impregnating ink-pads or typewriter ribbons.

(4) Marking inks (e.g., based on silver nitrate).

(5) Metallic inks (finely divided metals or alloys in suspension in a solution of gum, e.g., gold, silver or bronze inks).

(6) Prepared sympathetic or invisible inks (e.g., based on cobalt chloride).

These products are generally in the form of liquids or pastes, but they are also included in this heading when concentrated or solid (i.e., powders, tablets, sticks, etc.) to be used as inks after simple dilution or dispersion.

This heading does not include :

(a) Developers consisting of a toner (a mixture of carbon black and thermoplastic resins) compounded with a carrier (grains of sand coated with ethylcellulose), used in photocopying machines (heading 37.07).

(b) Refills for ball point fountain pens comprising the ball point and ink-reservoir (heading 96.08). On the other hand, mere ink-filled cartridges for ordinary fountain pens remain in this heading.

(c) Inked ribbons for typewriters or ink-pads (heading 96.12).

3215.1

- Printing ink :

3215.11

-- Black

CLASSIFICATION OPINIONS

1. Preparation consisting of synthetic wax with added colours and, in some cases, calcium carbonate (filler), used after melting for printing transfer paper by means of a roller printing machine of conventional type; the negative printed characters or designs thus obtained are subsequently applied to the textile articles by hot pressing. *Adoption :1965*

3215.19

-- Other

CLASSIFICATION OPINIONS

1. Preparation consisting of synthetic wax with added colours and, in some cases, calcium carbonate (filler), used after melting for printing transfer paper by means of a roller printing machine of conventional type; the negative printed characters or designs thus obtained are subsequently applied to the textile articles by hot pressing. *Adoption :1965*

3215.90

- Other

Chapter 33

Essential oils and resinoids; perfumery, cosmetic or toilet preparations

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Natural oleoresins or vegetable extracts of heading 13.01 or 13.02;

(b) Soap or other products of heading 34.01; or

(c) Gum, wood or sulphate turpentine or other products of heading 38.05.

2.- The expression “odoriferous substances” in heading 33.02 refers only to the substances of heading 33.01, to odoriferous constituents isolated from those substances or to synthetic aromatics.

3.- Headings 33.03 to 33.07 apply, *inter alia*, to products, whether or not mixed (other than aqueous distillates and aqueous solutions of essential oils), suitable for use as goods of these headings and put up in packings of a kind sold by retail for such use.

4.- The expression “perfumery, cosmetic or toilet preparations” in heading 33.07 applies, *inter alia*, to the following products : scented sachets; odoriferous preparations which operate by burning; perfumed papers and papers impregnated or coated with cosmetics; contact lens or artificial eye solutions; wadding, felt and nonwovens, impregnated, coated or covered with perfume or cosmetics; animal toilet preparations.

EXPLANATORY NOTES

Chapter 33

Essential oils and resinoids; perfumery, cosmetic or toilet preparations

Notes.

1.- This Chapter does not cover :

(a) Natural oleoresins or vegetable extracts of heading 13.01 or 13.02;

(b) Soap or other products of heading 34.01; or

(c) Gum, wood or sulphate turpentine or other products of heading 38.05.

2.- The expression “odoriferous substances” in heading 33.02 refers only to the substances of heading 33.01, to odoriferous constituents isolated from those substances or to synthetic aromatics.

3.- Headings 33.03 to 33.07 apply, *inter alia*, to products, whether or not mixed (other than aqueous distillates and aqueous solutions of essential oils), suitable for use as goods of these headings and put up in packings of a kind sold by retail for such use.

4.- The expression “perfumery, cosmetic or toilet preparations” in heading 33.07 applies, *inter alia*, to the following products : scented sachets; odoriferous preparations which operate by burning; perfumed papers and papers impregnated or coated with cosmetics; contact lens or artificial eye solutions; wadding, felt and nonwovens, impregnated, coated or covered with perfume or cosmetics; animal toilet preparations.

GENERAL

The **essential oils** and **extracted oleoresins** of heading 33.01 are all extracted from plant materials. The method of extraction used determines the type of product obtained. For example, according to whether the steam distillation or an organic solvent process is employed, certain plants (e.g., cinnamon) can give either an essential oil or an extracted oleoresin.

Headings 33.03 to 33.07 include products, whether or not mixed (other than aqueous distillates and aqueous solutions of essential oils), suitable for use as goods of these headings and put up in packings of a kind sold by retail for such use (see Note 3 to this Chapter).

The products of headings 33.03 to 33.07 remain in these headings whether or not they contain subsidiary pharmaceutical or disinfectant constituents, or are held out as having subsidiary therapeutic or prophylactic value (see Note 1 (e) to Chapter 30). However, prepared room deodorisers remain classified in heading 33.07 even if they have disinfectant properties of more than a subsidiary nature.

Preparations (e.g., varnish) and **unmixed products** (e.g., unperfumed powdered talc, fuller’s earth, acetone, alum) which are suitable for other uses in addition to those described above are classified in these headings **only** when they are :

(a) In packings of a kind sold to the consumer and put up with labels, literature or other indications that they are for use as perfumery, cosmetic or toilet preparations, or as room deodorisers; or

(b) Put up in a form clearly specialised to such use (e.g., nail varnish put up in small bottles furnished with the brush required for applying the varnish).

This Chapter **does not cover** :

(a) Petroleum jelly, **other than** that suitable for use for the care of the skin put up in packings of a kind sold by retail for such use (**heading 27.12**).

(b) Medicinal preparations having a subsidiary use as perfumery, cosmetic or toilet preparations (**heading 30.03** or **30.04**).

(c) Gel preparations designed to be used in human or veterinary medicine as a lubricant for parts of the body for surgical operations or physical examinations or as a coupling agent between the body and medical instruments (**heading 30.06**).

(d) Soaps and paper, wadding, felt and nonwovens, impregnated, coated or covered with soap or detergent (**heading 34.01**).

Heading 3301

Essential oils (terpeneless or not), including concretes and absolutes; resinoids; extracted oleoresins; concentrates of essential oils in fats, in fixed oils, in waxes or the like, obtained by enfleurage or maceration; terpenic by-products of the deterpenation of essential oils; aqueous distillates and aqueous solutions of essential oils.

EXPLANATORY NOTES

33.01 - Essential oils (terpeneless or not), including concretes and absolutes; resinoids; extracted oleoresins; concentrates of essential oils in fats, in fixed oils, in waxes or the like, obtained by enfleurage or maceration; terpenic by-products of the deterpenation of essential oils; aqueous distillates and aqueous solutions of essential oils (+).

- Essential oils of citrus fruit :

3301.12 - - Of orange

3301.13 - - Of lemon

3301.19 - - Other

- Essential oils other than those of citrus fruit :

3301.24 - - Of peppermint (*Mentha piperita*)

3301.25 - - Of other mints

3301.29 - - Other

3301.30 - Resinoids

3301.90 - Other

(A) **Essential oils, including concretes and absolutes; resinoids; extracted oleoresins.**

Essential oils, which serve as raw materials in the perfumery, food and other industries, are of vegetable origin. They are generally of complex composition and contain alcohols, aldehydes, ketones, phenols, esters, ethers and terpenes in varying proportions. These oils remain in the heading whether or not their fragrance has been modified by removal of their terpenes. Most of these oils are volatile, and the stain which they leave on paper usually disappears rapidly.

They are obtained by various processes, such as :

(1) Expression (e.g., lemon oil from lemon peel).

(2) Steam distillation.

(3) Extraction from fresh materials of vegetable origin by means of organic solvents (such as petroleum ether, benzene, acetone or toluene) or super-critical fluids (such as carbon dioxide gas under pressure).

(4) Extraction from the concentrates obtained by *enfleurage* or maceration (see Part (B) below).

The heading also covers **concretes** obtained by the processes referred to in subparagraph (3) above. Concretes are solid or semi-solid due to the presence of plant waxes. By removal of these waxes, **absolutes** are obtained; these are also classified in this heading.

Resinoidsare products used mainly as fixatives in the perfume, cosmetic, soap or surfactant industries. They are composed essentially of non-volatile materials and are obtained by the organic solvent or super-critical fluid extraction of the following exudates :

(i) dried natural non-cellular vegetable resinous materials (e.g., natural oleoresins or oleo-gum resins);

(ii) dried natural animal resinous materials (e.g., castoreum, civet or musk).

Extracted oleoresins, also known in trade as “prepared oleoresins” or “spice oleoresins”, are obtained from natural cellular raw plant materials (usually spices or aromatic plants), either by organic solvent extraction or by super-critical fluid extraction. These extracts contain volatile odoriferous principles (e.g., essential oils) and non-volatile flavouring principles (e.g., resins, fatty oils, pungency constituents), which define the characteristic odour or flavour of the spice or aromatic plant. The essential oil content of these extracted oleoresins varies considerably depending on the spice or aromatic plant. These products are used principally as flavouring agents in the food industry.

The heading **excludes** :

(a) Natural oleoresins (**heading 13.01**).

(b) Vegetable extracts, not elsewhere specified or included (e.g., water-extracted oleoresins), which contain volatile ingredients and generally (apart from odoriferous substances) a far higher proportion of other plant substances (**heading 13.02**).

(c) Colouring matter of vegetable or animal origin (**heading 32.03**).

Essential oils, resinoids and extracted oleoresins sometimes contain small quantities of solvent used in their extraction (e.g., ethyl alcohol), but this does not remove them from the scope of the heading.

Essential oils, resinoids and extracted oleoresins which have been merely standardised by the removal or addition of a portion of the principal ingredients remain classified in this heading **provided** the composition of the standardised product remains within the normal range found in that kind of product in its natural state. However, an essential oil, resinoid or extracted oleoresin which has been fractionated or otherwise modified (other than by the removal of terpenic hydrocarbons), so that the composition of the resulting product is significantly different from that of the original product, is **excluded** (generally **heading 33.02**). The heading further **excludes** products put up with added diluents or carriers such as vegetable oil, dextrose or starch (generally **heading 33.02**).

The principal essential oils, resinoids and extracted oleoresins are listed in the Annex to the Explanatory Notes to this Chapter.

(B) **Concentrates of essential oils in fats, in fixed oils, or in waxes or the like.**

These concentrates are obtained when essential oils are extracted from plants or flowers by means of fats, fixed oils, petroleum jelly, paraffin wax, etc., either in the cold or with the application of heat (*enfleurage*, maceration or digestion). They therefore take the form of concentrates of essential oils in fats, fixed oils, etc. The concentrates in fats are known in trade as "flower pomades". Preparations for use on the hair, which are also known as "pomades", are **excluded** (**heading 33.05**).

(C) **Terpenic by-products.**

This heading applies to terpenic by-products separated from essential oils by fractional distillation or other processes. These by-products are often used for the perfuming of certain toilet soaps or for the flavouring of certain foodstuffs.

(D) **Aqueous distillates and aqueous solutions of essential oils.**

Aqueous distillates are obtained as the aqueous portions of the distillates resulting when essential oils are extracted from plants by steam distillation. After the essential oils have been decanted, the aqueous distillates still retain a fragrance due to the presence of small quantities of essential oils. Certain distillates obtained by the distillation of vegetable products which have been preserved in alcohol still contain small quantities of alcohol; others may contain the quantity of alcohol necessary to ensure their preservation (e.g., witch hazel distillate).

The heading also covers solutions of essential oils in water.

These products remain in this heading even when mixed among themselves without the addition of other materials, or when, as is usually the case, they are put up as perfumery or as medicaments.

The more common aqueous distillates and solutions are those of orange flowers, rose, melissa, mint, fennel, cherry-laurel, lime-blossom, witch hazel, etc.

In addition to the exclusions referred to above this heading also **excludes** :

(a) Vanilla oleoresin (sometimes erroneously known as "vanilla resinoid" or "vanilla extract") (**heading 13.02**).

(b) Separate chemically defined compounds isolated from essential oils (e.g., isolated terpenes) or from resinoids (natural isolates), or prepared synthetically (**Chapter 29**).

(c) Mixtures of essential oils, mixtures of resinoids, mixtures of extracted oleoresins, mixtures of essential oils with resinoids or extracted oleoresins or any combination thereof, and mixtures with a basis of essential oils, resinoids or extracted oleoresins (see the Explanatory Note to **heading 33.02**).

(d) Gum, wood or sulphate turpentine and other terpenic oils produced by the distillation or other treatment of coniferous woods (**heading 38.05**).

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Subheading Explanatory Note.

Subheading 3301.12

For the purposes of subheading 3301.12 the term “orange” does not apply to mandarins (including tangerines and satsumas) clementines, wilkings or similar citrus hybrids.

3301.1

- Essential oils of citrus fruit :

3301.12

-- Of orange

3301.13

-- Of lemon

3301.19

-- Other

3301.2

- Essential oils other than those of citrus fruit :

3301.24

-- Of peppermint (Mentha piperita)

3301.25

-- Of other mints

3301.29

-- Other

CLASSIFICATION OPINIONS

1. Lavender (*Lavandula angustifolia*) essential oil, put up for retail sale.

Uses: orally (sedative, carminative, digestive), topically (antiseptic, massage) or for inhalation by diluting a few drops in water.



Application of GIRs 1 and 6.
Adoption : 2021

3301.30

- Resinoids

3301.90

- Other

Heading 3302

Mixtures of odoriferous substances and mixtures (including alcoholic solutions) with a basis of one or more of these substances, of a kind used as raw materials in industry; other preparations based on odoriferous substances, of a kind used for the manufacture of beverages.

EXPLANATORY NOTES

33.02 - Mixtures of odoriferous substances and mixtures (including alcoholic solutions) with a basis of one or more of these substances, of a kind used as raw materials in industry; other preparations based on odoriferous substances, of a kind used for the manufacture of beverages.

3302.10 - Of a kind used in the food or drink industries

3302.90 - Other

This heading covers the following mixtures **provided** they are of a kind used as raw materials in the perfumery, food or drink industries (e.g., in confectionery, food or drink flavourings) or in other industries (e.g., soap-making) :

(1) Mixtures of essential oils.

(2) Mixtures of resinoids.

(3) Mixtures of extracted oleoresins.

(4) Mixtures of synthetic aromatics.

(5) Mixtures consisting of two or more odoriferous substances (essential oils, resinoids, extracted oleoresins or synthetic aromatics).

(6) Mixtures of one or more odoriferous substances (essential oils, resinoids, extracted oleoresins or synthetic aromatics) combined with added diluents or carriers such as vegetable oil, dextrose or starch.

(7) Mixtures, whether or not combined with a diluent or carrier or containing alcohol, of products of other Chapters (e.g., spices) with one or more odoriferous substances (essential oils, resinoids, extracted oleoresins or synthetic aromatics), **provided** these substances form the basis of the mixture.

Products obtained by the removal of one or more of the ingredients of an essential oil, resinoid or extracted oleoresin so that the composition of the resulting product is significantly different from that of the original product are also mixtures of this heading. Examples of such products are menthone oil (obtained by freezing peppermint oil, followed by treatment with boric acid, to remove most of the menthol and containing, *inter alia*, 63 % menthone and 16 % menthol), white camphor oil (obtained from camphor oil by freezing and distilling to remove camphor and safrole and containing 30 to 40 % cineole plus dipentene, pinene, camphene, etc.) and geraniol (obtained by fractional distillation of citronella oil and containing 50 to 77 % geraniol together with varying amounts of citronellol and nerol).

In particular, the heading covers **perfume bases** consisting of mixtures of essential oils and fixatives, not ready for use until after the addition of alcohol. The heading also includes solutions in alcohol (e.g., ethyl alcohol, isopropyl alcohol) of one or more odoriferous substances **provided** these solutions are of a kind used as raw materials in the perfumery, food, drink or other industries.

The heading also includes **other preparations based on odoriferous substances, of a kind used for the manufacture of beverages**. These preparations may be either alcoholic or non-alcoholic and may be used to produce either alcoholic or non-alcoholic beverages. They must have a basis of one or more odoriferous substances, as described in Note 2 to this Chapter, which are used primarily to impart a fragrance and secondarily to give a flavour to beverages. Such preparations generally contain a relatively small quantity of odoriferous substances which characterize a particular beverage; they may also contain juices, colouring matter, acidulants, sweeteners, etc., provided that they retain their character of odoriferous substances. As presented, these preparations are not intended for consumption as beverages and thus can be distinguished from the beverages of Chapter 22.

The heading **excludes** compound alcoholic and non-alcoholic preparations of a kind used for the manufacture of beverages, with a basis of substances other than odoriferous substances as described in Note 2 to this Chapter (**heading 21.06**, unless they are more specifically provided for elsewhere in the Nomenclature).

3302.10

- Of a kind used in the food or drink industries

CLASSIFICATION OPINIONS

Preparation consisting of odoriferous substances (approximately 2 %), citrus concentrate (46 %), citric acid (acidulant) (19 %), ascorbic acid (antioxidant) (1 %), other food additives (locust bean gum (stabiliser), sodium benzoate (preservative) and beta-carotene (colour)) (less than 1 %) and water, used in the manufacture of non-alcoholic beverages.
The preparation contains all odoriferous substances necessary for the final product, i.e., an orange-flavoured soft drink.
Application of GIR 1 (Note 2 to Chapter 33 and the second part of the text of heading 33.02) and GIR 6. Adoption : 2003

3302.90

- Other

CLASSIFICATION OPINIONS

1. Preparation with a basis of odoriferous substances in alcoholic solution, consisting of ethyl alcohol with an alcoholic strength by volume of 96.1 % (99.47 % by weight), odoriferous substances (0.5 % by weight), diethyl phthalate (denaturant and fixative for the odoriferous substances) (0.02 % by weight), and brilliant green (Green S, E-142) (dye, antiseptic and disinfectant) (0.003 % by weight).

The odoriferous substances consist mainly of limonene (approximately 80 % by weight), citral, linalool and geraniol isolated from essential oils. The product is used as a raw material in the manufacture of perfumes, eau de Cologne, etc.
Application of GIRs 1 (Note 2 to Chapter 33) and 6.
Adoption : 2016

Heading 3303

Perfumes and toilet waters.

EXPLANATORY NOTES

33.03 - Perfumes and toilet waters.

This heading covers perfumes in liquid, cream or solid form (including sticks), and toilet waters, designed to give fragrance primarily to the human body.

Perfumes and scents generally consist of essential oils, floral concretes, absolutes or mixtures of synthetic odoriferous substances, dissolved in highly concentrated alcohol. They are usually compounded with slightly perfumed adjuvants and a fixative or stabiliser.

Toilet waters, e.g., lavender water, eau de Cologne (not to be confused with the aqueous distillates and solutions of essential oils of **heading 33.01**) contain smaller proportions of essential oils, etc., generally in less concentrated alcohol than the perfumes described above.

The heading **does not cover** :

(a) Toilet vinegars **(heading 33.04)**.

(b) After-shave lotions and personal deodorants **(heading 33.07)**.

3303.00

Perfumes and toilet waters.

Heading 3304

Beauty or make-up preparations and preparations for the care of the skin (other than medicaments), including sunscreen or sun tan preparations; manicure or pedicure preparations.

EXPLANATORY NOTES

33.04 - Beauty or make-up preparations and preparations for the care of the skin (other than medicaments), including sunscreen or sun tan preparations; manicure or pedicure preparations.

3304.10 - Lip make-up preparations

3304.20 - Eye make-up preparations

3304.30 - Manicure or pedicure preparations

- Other :

3304.91 - - Powders, whether or not compressed

3304.99 - - Other

(A) BEAUTY OR MAKE-UP PREPARATIONS AND PREPARATIONS FOR THE CARE OF THE SKIN, INCLUDING SUNSCREEN OR SUN TAN PREPARATIONS

This part covers :

(1) Lipsticks and other lip make-up preparations.

(2) Eye shadow, mascara, eyebrow pencils and other eye make-up preparations.

(3) Other beauty or make-up preparations and preparations for the care of the skin (other than medicaments), such as : face powders (whether or not compressed), baby powders (including talcum powder, not mixed, not perfumed, put up for retail sale), other powders and grease paints; beauty creams, cold creams, make-up creams, cleansing creams, skin foods (including those containing bees' royal jelly) and skin tonics or body lotions; petroleum jelly, put up in packings of a kind sold by retail for the care of the skin; barrier creams to give protection against skin irritants; injectable intracutaneous gels for wrinkle elimination and lip enhancement (including those containing hyaluronic acid); anti-acne preparations (**other than** soaps of **heading 34.01**) which are designed primarily to cleanse the skin and which do not contain sufficiently high levels of active ingredients to be regarded as having a primary therapeutic or prophylactic effect against acne; toilet vinegars which are mixtures of vinegars or acetic acid and perfumed alcohol.

Sunscreen or sun tan preparations are also included.

(B) MANICURE OR PEDICURE PREPARATIONS

This part covers nail polishes, nail varnishes, nail varnish removers, cuticle removers and other preparations for use in manicure or pedicure.

The heading **does not cover** :

(a) Medicinal preparations used to treat certain skin complaints, e.g., creams for the treatment of eczema (**heading 30.03** or **30.04**).

(b) Foot deodorants and preparations for treating nails or claws on animals (**heading 33.07**).

(c) Artificial fingernails (of plastics, **heading 39.26**; of other materials, classification according to the constituent material).

3304.10

- Lip make-up preparations

CLASSIFICATION OPINIONS

1. Lipstick preparation, constituting a pink, unctuous substance, consisting of several ingredients, intended to be used, with or without the addition of perfume, for moulding into lipsticks. *Adoption : 1961*

3304.20

- Eye make-up preparations

3304.30

- Manicure or pedicure preparations

3304.9

- Other :

3304.91

-- Powders, whether or not compressed

3304.99

-- Other

CLASSIFICATION OPINIONS

1. **Natural mineral water,** compressed in spray cans by natural and neutral gases, **for use in skin care** (spraying, hydromassage, etc.).
   Adoption : 1967

2. **Pure petroleum jelly put up in a retail packing** (small jar or tin) with indications on the labelling that it soothes chapped skin and lips, soothes minor burns and scrapes, helps prevent nappy rash and removes eye make-up.
   Adoption : 1994

Heading 3305

Preparations for use on the hair.

EXPLANATORY NOTES

33.05 - Preparations for use on the hair.

3305.10 - Shampoos

3305.20 - Preparations for permanent waving or straightening

3305.30 - Hair lacquers

3305.90 - Other

This heading covers :

(1) **Shampoos**, containing soap or other organic surface-active agents (see Note 1 (c) to Chapter 34), and other shampoos. All these shampoos may contain subsidiary pharmaceutical or disinfectant constituents, even if they have therapeutic or prophylactic properties (see Note 1 (e) to Chapter 30).
Shampoos containing soap or other organic surface-active agents that have additional uses as a liquid soap, skin cleaning preparation or bath foaming preparation are also covered in this heading.

(2) **Preparations for permanent waving or straightening**.

(3) **Hair lacquers** (sometimes known as “hair sprays”).

(4) **Other** hair preparations, such as brilliantines; hair oils, creams (“pomades”) and dressings; hair dyes and bleaches used on the hair; cream-rinses.

Preparations applied to hair on parts of the human body other than the scalp are **excluded** (**heading 33.07**).

3305.10

- Shampoos

CLASSIFICATION OPINIONS

1. "**Medicated shampoos**" in the form of viscous liquids or pastes, consisting of 2.5 % by weight of selenium disulphide in a detergent suspension, whether or not perfumed, intended for the treatment of seborrhea and dandruff.
Adoption : 1976

2. Shampoo containing 1.10 % depallethrin (active ingredient), 4.40 % piperonyl butoxide (synergist for the active ingredient), anionic, non-ionic and amphoteric surface-active agents, sodium benzoate (preservative), citric acid and water. The product is packaged for retail sale in a 125-ml plastics bottle, which itself is packaged in a paperboard box. Both the bottle and box indicate that the product is a "shampoo for treating lice and nits on the scalp (head lice)" and that it is used in the same manner as other shampoos.
Application of GIR 1, Note 1 (e) to Chapter 30 and Note 3 to Chapter 33.
Adoption : 1999

3. Shampoo containing 2 % ketoconazole (a synthetic, broad-spectrum antifungal agent), sodium lauryl sulphate, disodium monolaurylether sulphosuccinate, coconut fatty acid diethanolamide, laurdimonium hydrolysed animal collagen, macrogol 120 methylglucose dioleate, perfume, imidurea, hydrochloric acid, erythrosin and purified water. The product is packaged in (i) a box with 6 sachets (6 ml shampoo per sachet), (ii) a box with 12 sachets (6 ml shampoo per sachet) or (iii) a plastics container (either 100 ml or 60 ml shampoo). The product is indicated for the treatment and prophylaxis of infections in which the yeast Pityrosporum is involved, such as pityriasis versicolor (localized), seborrhoeic dermatitis and pityriasis capitis (dandruff). The frequency and length of application varies according to the fungus infection being treated. The product is applied to the scalp in the same manner as other shampoos.
Application of GIR 1, Note 1 (e) to Chapter 30 and Note 3 to Chapter 33.
Adoption : 1999

4. Shampoo gel for baby’s skin and hair washing containing water, organic surface-active agents, sodium chloride, fragrance, citric acid, butylene glycol, plant extracts and excipients. The product is packaged in a 500 ml bottle for retail sale.
Application of GIRs 1 (Note 1 (c) to Chapter 34) and 6.
Adoption : 2022

5. Shampoo gel for hair and skin washing containing water, organic surface-active agents, glycerin, plant extracts, magnesium sulphate, zinc gluconate, butylene glycol, sodium chloride, citric acid, alcohol, fragrance, aromatic substances and excipients. The product is packaged in a 250 ml bottle for retail sale.
Application of GIRs 1 (Note 1 (c) to Chapter 34) and 6.
Adoption : 2022

6. Bathing product for use as shampoo, gel and bath foam containing water, organic surface-active agents, sodium chloride, propylene glycol, glycerine, plant extracts, citric acid, fragrance, citronellol and excipients.
The product is packaged in a 300 ml bottle for retail sale.
Application of GIRs 1 (Note 1 (c) to Chapter 34) and 6.
Adoption : 2022

3305.20

- Preparations for permanent waving or straightening

3305.30

- Hair lacquers

3305.90

- Other

Heading 3306

Preparations for oral or dental hygiene, including denture fixative pastes and powders; yarn used to clean between the teeth (dental floss), in individual retail packages.

EXPLANATORY NOTES

33.06 - Preparations for oral or dental hygiene, including denture fixative pastes and powders; yarn used to clean between the teeth (dental floss), in individual retail packages.

3306.10 - Dentifrices

3306.20 - Yarn used to clean between the teeth (dental floss)

3306.90 - Other

This heading covers preparations for oral or dental hygiene such as :

(I) **Dentifrices** of all types :

(1) Toothpastes and other preparations for teeth. These are substances or preparations used with a toothbrush, whether for cleaning or polishing the accessible surfaces of teeth or for other purposes such as anticaries prophylactic treatment.

Toothpastes and other preparations for teeth remain classified in this heading, whether or not they contain abrasives and whether or not they are used by dentists.

(2) Denture cleaners, i.e., preparations for cleaning or polishing dentures, whether or not they contain agents with abrasive properties.

(II) Mouth washes and oral perfumes.

(III) Denture fixative pastes, powders and tablets.

The heading also covers yarn used to clean between the teeth, in individual retail packages (dental floss).

3306.10

- Dentifrices

CLASSIFICATION OPINIONS

1. Preparation in the form of paste, consisting of 2.2 % free fluoride ion (from sodium fluoride), 0.1 M phosphate, recrystallised kaolinite, flavouring and excipient, intended to be applied only by a dentist for anti-caries, prophylactic treatment and for cleaning and polishing the teeth. *Adoption : 1978*

2. Preparation in the form of paste; consisting of vegetable essence 1.15 g, silica (SiO_2) 55 g, thymol 0.25 g and excipient up to 100 g, intended to be applied usually by a dentist for removal of tartar and final polishing of fillings. *Adoption : 1978*

3306.20

- Yarn used to clean between the teeth (dental floss)

3306.90

- Other

CLASSIFICATION OPINIONS

1. Antiseptic solution consisting, inter alia, of boric acid, thymol, eucalyptol and benzoic acid, intended to aid dental and oral hygiene, to prevent bad breath and plaque formation, but having only subsidiary therapeutic or prophylactic properties. *Adoption : 1990*

2. Anti-plaque preparation in the form of a liquid, intended to remove plaque and give lustre to the teeth; it is used by rinsing, before the teeth are brushed with a toothbrush and a dentrifrice. *Adoption : 1993*

Heading 3307

Pre-shave, shaving or after-shave preparations, personal deodorants, bath preparations, depilatories and other perfumery, cosmetic or toilet preparations, not elsewhere specified or included; prepared room deodorisers, whether or not perfumed or having disinfectant properties.

EXPLANATORY NOTES

33.07 - Pre-shave, shaving or after-shave preparations, personal deodorants, bath preparations, depilatories and other perfumery, cosmetic or toilet preparations, not elsewhere specified or included; prepared room deodorisers, whether or not perfumed or having disinfectant properties.

3307.10 - Pre-shave, shaving or after-shave preparations

3307.20 - Personal deodorants and antiperspirants

3307.30 - Perfumed bath salts and other bath preparations

- Preparations for perfuming or deodorising rooms, including odoriferous preparations used during religious rites :

3307.41 - - “Agarbatti” and other odoriferous preparations which operate by burning

3307.49 - - Other

3307.90 - Other

This heading covers :

(I) **Pre-shave, shaving or after-shave preparations**, such as shaving creams and foams containing soaps or other organic surface-active agents (see Note 1 (c) to Chapter 34); “after-shave” lotions, alum blocks and styptic pencils.

Shaving soap in blocks is **excluded (heading 34.01)**.

(II) **Personal** (body) **deodorants and antiperspirants**.

(III) Bath preparations, such as **perfumed bath salts and preparations for** foam **baths**, whether or not containing soap or other organic surface-active agents (see Note 1 (c) to Chapter 34).

Preparations for washing the skin, in which the active component consists wholly or partly of synthetic organic-surface active agents (which may contain soap in any proportion), in the form of liquid or cream and put up for retail sale, are classified in **heading 34.01**. Such preparations not put up for retail sale are classified in **heading 34.02.**

(IV) Preparations for perfuming or deodorising rooms, including odoriferous preparations used during religious rites.

(1) **Preparations for perfuming rooms** and **odoriferous preparations used during religious rites**. They usually operate by evaporation or burning, e.g., “*Agarbatti*”, and may be put up as liquids, powders, cones, impregnated papers, etc. Certain of these preparations may be used for masking an odour.

Perfumed candles are **excluded** (**heading 34.06**).

(2) **Prepared room deodorisers, whether or not perfumed or having disinfectant properties**.

Prepared room deodorisers consist essentially of substances (such as lauryl methacrylate) which act chemically on the odours to be overcome or other substances designed to physically absorb odours by, for example, Van der Waal’s bonds. When for retail sale they are generally put up in aerosol cans.

Products, such as activated carbon, put up in packings for retail sale as deodorisers for refrigerators, cars, etc. are also classified in this heading.

(V) **Other products**, such as :

(1) **Depilatories**.

(2) **Scented sachets containing parts of aromatic plants** used for perfuming linen cupboards.

(3) **Perfumed papers and papers impregnated or coated with cosmetics.**

(4) **Contact lens or artificial eye solutions.** These may be for cleaning, disinfecting, soaking or enhancing comfort during wear.

(5) **Wadding, felt and nonwovens** impregnated, coated or covered with perfume or cosmetics.

(6) **Animal toilet preparations,** such as dog shampoos, and plumage-improving washes for birds.

(7) **Sodium chloride solutions** put up for hygiene use in packings for retail sale, other than medical or pharmaceutical, whether or not sterile.

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ANNEX

List of the principal essential oils,

resinoids and extracted oleoresins of heading 33.01

Esential oils

Angelica	Gardenia	Oak Moss
Anise seed	Garlic	Onion
Badian	Geranium	Origanum
Basil	Ginger	Orris
Bay	Grapefruit	Palmarosa
Benzoin	Guaiacwood	Parsley
Bergamot	Ho (Shiu)	Patchouli
Birch	Hop	Pennyroyal
Bitter almond	Hyacinth	Pepper, black

Bitter orange Bois de rose Broom Cajuput Calamus Camphor Cananga Canella Caraway Cassia Cassie Cedar Cedrat Celery Chamomile Chenopodium (Wormseed) Cinnamon Citronella Clove Copaiba Coriander	Hyssop Jasmine Jonquil Juniper Kuromoji Laurel Lavandin Lavender Lemon Lemongrass Lime (Limette) Linaloe Mace Mandarin (Tangerine) Marjoram Mawah (Kenya geranium) Melissa Mimosa Mint Mustard Myrrh	Peppermint Petitgrain Pimento (Allspice) Pine needle (but not pinewood - **heading 38.05**) Rose Rosemary Rue Sage Sandalwood Sassafras Savin Spearmint Spike lavender Sweet orange Tansy Tarragon Thuja Thyme Tolu Valerian

Cumin	Myrtle	Verbena
Cypress	Narcissus	Vetiver
Dill	Neroli	Violet
Eucalyptus	(Orange flower)	Wintergreen
Fennel	Naiouli	Wormwood
Galangal	Nutmeg	Ylang-ylang

Resinoids

Asafoetida	Galbanum	Myrrh
Benzoin	Labdanum	Olibanum
Castoreum	Mastic	Opopanax
Civet	Mecca balsam (Balm of Gilhead)	Peru balsam
Copaiba	Musk	Styrax
Elemi		Tolu

Extracted Oleoresins

Anise seed	Cubeb	Mustard
Badian	Cumin	Nutmeg
Basil	Deertongue	Oregano
Bay	Dill	Origanum
Canella	Fennel	Paprika
Capsicum	Foenugreek	Paradise seed
Caraway	Galangal	Pepper, black

Cardamon	Ginger	Pimento (Allspice)
Carrot	Hop	Rosemary
Cassia	Horseradish	Sage
Celery	Juniper	Savory
Cinnamon	Laurel	Tarragon
Clove	Lovage	Thyme
Copaiba	Mace	Turmeric
Coriander	Marjoram	

3307.10

- Pre-shave, shaving or after-shave preparations

3307.20

- Personal deodorants and antiperspirants

3307.30

- Perfumed bath salts and other bath preparations

3307.4

- Preparations for perfuming or deodorizing rooms, including odoriferous preparations used during religious rites :

3307.41

-- «Agarbatti» and other odoriferous preparations which operate by burning

3307.49

-- Other

3307.90

- Other

CLASSIFICATION OPINIONS

1. **Sterile solution of sodium chloride** (0.9 %) with no preservatives, recommended for babies, children and adults for instillations or cleaning of nasal cavities or eyes and for eye baths. The product is presented in boxes containing twelve plastic vials (5 ml each). **Application of GIRs 1 and 6.** *Adoption : 2007*

2. **Physiological, sterilized and micro-diffused solution of sea water**, which is naturally rich in mineral salts and marine oligo-elements. It is an isotonic solution consisting of 31.82 % sea water and no preservatives, with an inert propellant (nitrogen), put up in a 100 ml metal spray can with a nozzle on the top, packed in a paper box. The product is recommended for babies,

children and adults for the daily cleaning of nasal cavities, to moisten dry nasal cavities, or as a complement to treatments for ear/nose/throat complaints. **Application of GIRs 1 and 6.** *Adoption : 2007*

3. **Sampler for fragrance containing essential oils**, consisting of two layers of transparent polyester film which are glued together. One side of the bottom layer is self-adhesive and backed with a supporting paper. This product contains essential fragrance oils deposited between the two film layers which pull apart and reseal to deliver a multiple sample of olfactory fragrance trials, up to 25 times. The essential fragrance oils are not perfumes and only mimic the scent of the perfume that is the subject of the advertisement. The product may have printed on its surface publicity material and indications about its use (e.g., Eau de Toilette, Tonic Body Lotion, Deodorant). It is intended to be incorporated onto a magazine page or card to form an integral part of an advertisement. **Application of GIRs 1 (Note 2 to Section VI and Note 4 to Chapter 33) and 6.** *Adoption : 2010*



Annexes

List of the principal essential oils, resinoids and extracted oleoresins of heading 33.01

EXPLANATORY NOTES

ANNEX

List of the principal essential oils,

resinoids and extracted oleoresins of heading 33.01

Esential oils

Angelica	Gardenia	Oak Moss
Anise seed	Garlic	Onion
Badian	Geranium	Origanum
Basil	Ginger	Orris
Bay	Grapefruit	Palmarosa

Benzoin	Guaiacwood	Parsley
Bergamot	Ho (Shiu)	Patchouli
Birch	Hop	Pennyroyal
Bitter almond	Hyacinth	Pepper, black
Bitter orange	Hyssop	Peppermint
Bois de rose	Jasmine	Petitgrain
Broom	Jonquil	Pimento
Cajuput	Juniper	(Allspice)
Calamus	Kuromoji	Pine needle (but not pinewood - **heading 38.05**)
Camphor	Laurel	Rose
Cananga	Lavandin	Rosemary
Canella	Lavender	Rue
Caraway	Lemon	Sage
Cassia	Lemongrass	Sandalwood
Cassie	Lime (Limette)	Sassafras
Cedar	Linaloe	Savin
Cedrat	Mace	Spearmint
Celery	Mandarin (Tangerine)	Spike lavender
Chamomile	Marjoram	Sweet orange
Chenopodium (Wormseed)	Mawah (Kenya geranium)	Tansy
Cinnamon	Melissa	Tarragon

Citronella	Mimosa	Thuja
Clove	Mint	Thyme
Copaiba	Mustard	Tolu
Coriander	Myrrh	Valerian
Cumin	Myrtle	Verbena
Cypress	Narcissus	Vetiver
Dill	Neroli	Violet
Eucalyptus	(Orange flower)	Wintergreen
Fennel	Naiouli	Wormwood
Galangal	Nutmeg	Ylang-ylang

Resinoids

Asafoetida	Galbanum	Myrrh
Benzoin	Labdanum	Olibanum
Castoreum	Mastic	Opopanax
Civet	Mecca balsam (Balm of Gilhead)	Peru balsam
Copaiba	Musk	Styrax
Elemi		Tolu

Extracted Oleoresins

Anise seed	Cubeb	Mustard
Badian	Cumin	Nutmeg
Basil	Deertongue	Oregano

Bay	Dill	Origanum
Canella	Fennel	Paprika
Capsicum	Foenugreek	Paradise seed
Caraway	Galangal	Pepper, black
Cardamon	Ginger	Pimento (Allspice)
Carrot	Hop	Rosemary
Cassia	Horseradish	Sage
Celery	Juniper	Savory
Cinnamon	Laurel	Tarragon
Clove	Lovage	Thyme
Copaiba	Mace	Turmeric
Coriander	Marjoram	

Chapter 34

Soap, organic surface-active agents, washing preparations, lubricating preparations, artificial waxes, prepared waxes, polishing or scouring preparations, candles and similar articles, modelling pastes, «dental waxes» and dental preparations with a basis of plaster

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Edible mixtures or preparations of animal, vegetable or microbial fats or oils of a kind used as mould release preparations (heading 15.17);

(b) Separate chemically defined compounds; or

(c) Shampoos, dentifrices, shaving creams and foams, or bath preparations, containing soap or other organic surface-active agents (heading 33.05, 33.06 or 33.07).

2.- For the purposes of heading 34.01, the expression “soap” applies only to soap soluble in water. Soap and the other products of heading 34.01 may contain added substances (for example, disinfectants, abrasive powders, fillers or medicaments). Products containing abrasive powders remain classified in heading 34.01 only if in the form of bars, cakes or moulded pieces or shapes. In other forms they are to be classified in heading 34.05 as scouring powders and similar preparations”.

3.- For the purposes of heading 34.02, organic surface-active agents are products which when mixed with water at a concentration of 0.5 % at 20 °C and left to stand for one hour at the same temperature :

(a) give a transparent or translucent liquid or stable emulsion without separation of insoluble matter; and

(b) reduce the surface tension of water to 4.5×10^{-2} N/m (45 dyne/cm) or less.

4.- In heading 34.03 the expression “petroleum oils and oils obtained from bituminous minerals” applies to the products defined in Note 2 to Chapter 27.

5.- In heading 34.04, subject to the exclusions provided below, the expression “artificial waxes and prepared waxes” applies only to :

(a) Chemically produced organic products of a waxy character, whether or not water-soluble;

(b) Products obtained by mixing different waxes;

(c) Products of a waxy character with a basis of one or more waxes and containing fats, resins, mineral substances or other materials.

The heading does not apply to :

(a) Products of heading 15.16, 34.02 or 38.23, even if having a waxy character;

(b) Unmixed animal waxes or unmixed vegetable waxes, whether or not refined or coloured, of heading 15.21;

(c) Mineral waxes or similar products of heading 27.12, whether or not intermixed or merely coloured; or

(d) Waxes mixed with, dispersed in or dissolved in a liquid medium (headings 34.05, 38.09, etc.).

EXPLANATORY NOTES

Chapter 34

Soap, organic surface-active agents, washing preparations, lubricating preparations, artificial waxes, prepared waxes, polishing or scouring preparations, candles and similar articles, modelling pastes, “dental waxes” and dental preparations with a basis of plaster

Notes.

1.- This Chapter does not cover :

(a) Edible mixtures or preparations of animal, vegetable or microbial fats or oils of a kind used as mould release preparations (heading 15.17);

(b) Separate chemically defined compounds; or

(c) Shampoos, dentifrices, shaving creams and foams, or bath preparations, containing soap or other organic surface-active agents (heading 33.05, 33.06 or 33.07).

2.- For the purposes of heading 34.01, the expression “soap” applies only to soap soluble in water. Soap and the other products of heading 34.01 may contain added substances (for example, disinfectants, abrasive powders, fillers or medicaments). Products containing abrasive powders remain classified in heading 34.01 only if in the form of bars, cakes or moulded pieces or shapes. In other forms they are to be classified in heading 34.05 as scouring powders and similar preparations”.

3.- For the purposes of heading 34.02, organic surface-active agents are products which when mixed with water at a concentration of 0.5 % at 20 °C and left to stand for one hour at the same temperature :

(a) give a transparent or translucent liquid or stable emulsion without separation of insoluble matter; and

(b) reduce the surface tension of water to 4.5×10^{-2} N/m (45 dyne/cm) or less.

4.- In heading 34.03 the expression “petroleum oils and oils obtained from bituminous minerals” applies to the products defined in Note 2 to Chapter 27.

5.- In heading 34.04, subject to the exclusions provided below, the expression “artificial waxes and prepared waxes” applies only to :

(a) Chemically produced organic products of a waxy character, whether or not water-soluble;

(b) Products obtained by mixing different waxes;

(c) Products of a waxy character with a basis of one or more waxes and containing fats, resins, mineral substances or other materials.

The heading does not apply to :

(a) Products of heading 15.16, 34.02 or 38.23, even if having a waxy character;

(b) Unmixed animal waxes or unmixed vegetable waxes, whether or not refined or coloured, of heading 15.21;

(c) Mineral waxes or similar products of heading 27.12, whether or not intermixed or merely coloured; or

(d) Waxes mixed with, dispersed in or dissolved in a liquid medium (headings 34.05, 38.09, etc.).

GENERAL

This Chapter covers products mainly obtained by the industrial treatment of fats, oils or waxes (e.g., soap, certain lubricating preparations, prepared waxes, certain polishing or scouring preparations, candles). It also includes certain artificial products, e.g., surface-active agents, surface-active preparations and artificial waxes.

The Chapter **does not cover** separate chemically defined compounds, or natural products not mixed or prepared.

Heading 3401

Soap; organic surface-active products and preparations for use as soap, in the form of bars, cakes, moulded pieces or shapes, whether or not containing soap; organic surface-active products and preparations for washing the skin, in the form of liquid or cream and put up for retail sale, whether or not containing soap; paper, wadding, felt and nonwovens, impregnated, coated or covered with soap or detergent.

EXPLANATORY NOTES

34.01 - Soap; organic surface-active products and preparations for use as soap, in the form of bars, cakes, moulded pieces or shapes, whether or not containing soap; organic surface-active products and preparations for washing the skin, in the form of liquid or

cream and put up for retail sale, whether or not containing soap; paper, wadding, felt and nonwovens, impregnated, coated or covered with soap or detergent.

- Soap and organic surface-active products and preparations, in the form of bars, cakes, moulded pieces or shapes, and paper, wadding, felt and nonwovens, impregnated, coated or covered with soap or detergent :

3401.11 - - For toilet use (including medicated products)

3401.19 - - Other

3401.20 - Soap in other forms

3401.30 - Organic surface-active products and preparations for washing the skin, in the form of liquid or cream and put up for retail sale, whether or not containing soap

(I) SOAP

Soap is an alkaline salt (inorganic or organic) formed from a fatty acid or a mixture of fatty acids containing at least eight carbon atoms. In practice, part of the fatty acids may be replaced by rosin acids.

The heading covers only soap soluble in water, that is to say true soap. Soaps form a class of anionic surface-active agents, with an alkaline reaction, which lather abundantly in aqueous solutions.

There are three categories of soap :

Hard soaps, which are usually made with sodium hydroxide or sodium carbonate and comprise the bulk of the ordinary soaps. They may be white, coloured or mottled.

Soft soaps, which are made with potassium hydroxide or potassium carbonate. They are viscous and generally green, brown or pale yellow in colour. They may contain small quantities (generally not exceeding 5 %) of synthetic organic surface-active products.

Liquid soaps, which are solutions of soap in water, in some cases with a small quantity (generally not exceeding 5 %) of alcohol or glycerol added, but not containing synthetic organic surface-active products.

This part covers in particular :

(1) **Toilet soaps** frequently coloured and perfumed, which include : floating soaps and deodorant soaps, as well as glycerin soaps, shaving soaps, medicated soaps and certain disinfectant or abrasive soaps, as described below.

(a) **Floating soaps and deodorant soaps.**

(b) **Glycerin soaps**, which are translucent and are made by treating white soap with alcohol, glycerol or sugar.

(c) **Shaving soaps** (shaving creams fall in **heading 33.07**).

(d) **Medicated soaps** containing boric acid, salicylic acid, sulphur, sulphonamides or other medicinal substances.

(e) **Disinfectant soaps,** containing small quantities of phenol, cresol, naphthol, formaldehyde or other bactericidal, bacteriostatic, etc., substances. These soaps should not be confused with disinfecting preparations of **heading 38.08** containing the same constituents, the difference lying in the proportions of the constituents (soap, on the one hand, and phenol, cresol, etc., on the other). The disinfecting preparations of heading 38.08 contain a substantial proportion of phenol, cresol, etc., and are liquid whereas disinfectant soaps are usually solid.

(f) **Abrasive soaps**, consisting of soap to which sand, silica, pumice powder, slate powder, sawdust or any similar product has been added. The heading covers abrasive soaps **only** in the form of bars, cakes or moulded pieces or shapes. Abrasive scouring pastes and powders, whether or not containing soap, fall in **heading 34.05**.

(2) **Household soaps**, which may be coloured or perfumed, abrasive or disinfectant.

(3) **Rosin, tall oil or naphthenate soaps** containing not only alkaline salts of fatty acids, but also alkaline resinates of heading 38.06 or alkaline naphthenates of heading 34.02.

(4) **Industrial soaps**, prepared for special purposes, such as those used for wire-drawing, for polymerising synthetic rubber, or in laundries.

Subject to the exception in paragraph 1 (f) above, the soaps of this heading are generally in the following forms : bars, cakes, moulded pieces or shapes, flakes, powder, paste or aqueous solution.

(II) ORGANIC SURFACE-ACTIVE PRODUCTS AND PREPARATIONS FOR USE AS SOAP, IN THE FORM OF BARS, CAKES OR MOULDED PIECES OR SHAPES, WHETHER OR NOT CONTAINING SOAP

This part includes toilet or washing products and preparations, in which the active component consists wholly or partly of synthetic surface-active agents (which may contain soap in any proportion), **provided** they are put up in the form of bars, cakes or moulded pieces or shapes, that is to say, the ordinary forms of soaps intended for the same uses.

This part also includes such products and preparations which have been rendered abrasive by adding sand, silica, pumice powder, etc., **provided** they are put up in the forms described above.

(III) ORGANIC SURFACE-ACTIVE PRODUCTS AND PREPARATIONS FOR WASHING THE SKIN, IN THE FORM OF LIQUID OR CREAM AND PUT UP FOR RETAIL SALE, WHETHER OR NOT CONTAINING SOAP

This part includes preparations for washing the skin, in which the active component consists wholly or partly of synthetic organic surface-active agents (which may contain soap in any proportion), **provided** they are in the form of liquid or cream and put up for retail sale. Such preparations not put up for retail sale are classified in **heading 34.02**.

(IV) PAPER, WADDING, FELT AND NONWOVENS, IMPREGNATED, COATED OR COVERED WITH SOAP OR DETERGENT

This part covers paper, wadding, felt and nonwovens, impregnated, coated or covered with soap or detergent, whether or not perfumed or put up for retail sale. These products are generally used for washing the hands or the face.

Apart from the exclusions referred to above, the heading **excludes :**

(a) Soap-stocks (**heading 15.22**).

(b) Products and preparations insoluble in water, which are “soaps” only in the chemical sense, such as calcium or other metallic “soaps” (**Chapters 29, 30, 38**, etc., as the case may be).

(c) Paper, wadding, felt and nonwovens, simply perfumed (**Chapter 33**).

(d) Shampoos and dentifrices (**headings 33.05** and **33.06** respectively).

(e) Organic surface-active agents (other than soap), surface-active preparations and washing preparations (whether or not containing soap) and solutions or dispersions of soap in an organic solvent, of **heading 34.02**.

(f) Cellular plastics, cellular rubber, textile materials (other than wadding, felt and nonwovens) and metal pads, impregnated, coated or covered with soap or detergent (these generally fall in the heading appropriate to the supporting material).

3401.1

- Soap and organic surface-active products and preparations, in the form of bars, cakes, moulded pieces or shapes, and paper, wadding, felt and nonwovens, impregnated, coated or covered with soap or detergent :

3401.11

-- For toilet use (including medicated products)

3401.19

-- Other

3401.20

- Soap in other forms

3401.30

- Organic surface-active products and preparations for washing the skin, in the form of liquid or cream and put up for retail sale, whether or not containing soap

CLASSIFICATION OPINIONS

1. **Organic surface-active preparations, not containing soap but sometimes referred to as "liquid soaps",** in the form of liquid or cream, put up for retail sale for washing the skin. *Adoption : 1997*

2. **A white coloured cream** put up for retail sale in a bottle made of plastics (150 ml) containing organic surface-active agents for washing and moisturizing the skin. The cream is applied to the

skin and then rinsed off with water.
The surface-active agents contained in the product are disodium cocoamphodiacetate and PEG-100 stearate.
Application of GIRs 1 and 6.
Adoption : 2018

3. A clear brown coloured gel, with brown grains of finely ground walnut husks, put up for retail sale in a bottle made of plastics (250 ml) containing organic surface-active agents for washing and exfoliating the skin. The gel is applied to the skin and then rinsed off with water.
The surface-active agents contained in the product are sodium C14-16 olefin sulphonate, ammonium laureth sulphate, cocamidopropyl betaine, sodium methyl oleoyl taurate, and PEG/PPG-18/18 dimethicone.
Application of GIRs 1 and 6.
Adoption : 2018

Heading 3402

Organic surface-active agents (other than soap); surface-active preparations, washing preparations (including auxiliary washing preparations) and cleaning preparations, whether or not containing soap, other than those of heading 34.01.

EXPLANATORY NOTES

34.02 - Organic surface-active agents (other than soap); surface-active preparations, washing preparations (including auxiliary washing preparations) and cleaning preparations, whether or not containing soap, other than those of heading 34.01.

- Anionic organic surface-active agents, whether or not put up for retail sale :

3402.31 - - Linear alkylbenzene sulphonic acids and their salts

3402.39 - - Other

- Other organic surface-active agents, whether or not put up for retail sale :

3402.41 - - Cationic

3402.42 - - Non-ionic

3402.49 - - Other

3402.50 - Preparations put up for retail sale

3402.90 - Other

(I) ORGANIC SURFACE-ACTIVE AGENTS (OTHER THAN SOAP)

The organic surface-active agents of this heading are chemical compounds, not chemically defined, which contain one or more hydrophilic or hydrophobic functional groups in such a proportion that, when mixed with water at a concentration of 0.5 % at 20 °C and left to stand for one hour at the same

temperature, they give a transparent or translucent liquid or stable emulsion without separation of insoluble matter (see Note 3 (a) to this Chapter). For the purposes of this heading, an emulsion should not be considered as having a stable character if, after being left to stand for one hour at 20 °C, (1) solid particles are visible to the naked eye, (2) it has separated into visually distinguishable phases or (3) it has separated into a transparent part and a translucent part, visible to the naked eye.

Organic surface-active agents are capable of adsorption at an interface; in this state they display a number of physico-chemical properties, particularly surface activity (e.g., reduction of surface tension, foaming, emulsifying, wetting), which is why they are usually known as “surfactants”.

However, products which are not capable of reducing the surface tension of distilled water to 4.5×10^{-2} N/m (45 dyne/cm) or less at a concentration of 0.5 % at 20 °C are **not** regarded as surface-active agents and are therefore **excluded** from this heading.

Organic surface-active agents may be :

(1) **Anionic**, in which case they ionise in aqueous solution to produce negatively charged organic ions responsible for the surface activity. Examples are : sulphates and sulphonates of fats, vegetable oils (triglycerides) or resin acids; sulphates and sulphonates derived from fatty alcohols; petroleum sulphonates, e.g., of alkali metals (including those containing a proportion of mineral oils), of ammonium or of ethanolamines; alkylpolyethersulphates; alkylsulphonates or alkylphenylethersulphonates; alkylsulphates, alkylarylsulphonates (e.g., technical dodecylbenzenesulphonates).

These surface-active agents may contain, as impurities resulting from the manufacturing process, small quantities of fatty alcohols, alkylates or other hydrophobic raw materials which have escaped sulphation or sulphonation. They may also contain sodium sulphate or other residual inorganic salts in a proportion generally not exceeding 15 %, when expressed as the anhydrous salts.

(2) **Cationic**, in which case they ionise in aqueous solution to produce positively charged organic ions responsible for the surface activity. Examples are : salts of fatty amines and of quaternary ammonium bases.

(3) **Non-ionic**, in which case they do not produce ions in an aqueous solution. Their solubility in water is due to the presence in the molecules of functional groups which have a strong affinity for water. Examples are : products of the condensation of fatty alcohols, fatty acids or alkylphenols with ethylene oxide; ethoxylates of fatty acid amides.

(4) **Ampholytic**, in which case, depending on the conditions of the medium, they can be ionised in an aqueous solution and give to the compound the characteristics of an anionic or a cationic surface-active agent.

This ionic behaviour is similar to that of amphoteric compounds in the broadest sense. These are, for example, alkylbetaine or sulphobetaine proteins, their decomposition products and substitution compounds of amino-carboxylic, amino-sulphonic, amino-sulphuric and amino-phosphoric acids.

(II) SURFACE-ACTIVE PREPARATIONS, WASHING PREPARATIONS (INCLUDING AUXILIARY WASHING PREPARATIONS) AND CLEANING PREPARATIONS, WHETHER OR NOT CONTAINING SOAP, OTHER THAN THOSE OF HEADING 34.01

This group comprises three categories of preparations :

(A) **Surface-active preparations.**

These include :

(1) Intermixtures of the surface-active agents of Part (I) above (e.g., sulphoricinoleates mixed with sulphonated alkylnaphthalenes or sulphated fatty alcohols).

(2) Solutions or dispersions of the surface-active agents of Part (I) above in an organic solvent (e.g., a solution of a sulphated fatty alcohol in cyclohexanol or in tetrahydronaphthalene).

(3) Other mixtures based on a surface-active agent of Part (I) above (e.g., surface-active preparations containing a proportion of soap, such as alkylbenzenesulphonate with sodium stearate).

(4) Solutions or dispersions of soap in an organic solvent such as cyclohexanol. (Solutions of soap in water, which may have a small quantity (generally not exceeding 5 %) of alcohol or glycerol added, are liquid soaps of **heading 34.01**).

Surface-active preparations are used for their cleansing, wetting, emulsifying or dispersing properties in many industrial applications, for example as :

(i) Detergents for the textile industry, to eliminate fats and soiling matter on textiles during manufacture and finishing.

(ii) Wetting agents, emulsifying agents, fulling assistants and brightening agents, for the textile industry.

(iii) Soaking agents (for raw hides), de-greasing agents, wetting agents (for use in dyeing), levelling agents or toners for the leather or fur industries.

(iv) Basic materials for the manufacture of washing preparations of Part (B) below (e.g., anionic surface-active preparations which may contain, either as a residue or as a result of deliberate additions, a considerable quantity of sodium sulphate or other inorganic salts of the type arising during the manufacture of the surface-active agent).

(v) Dispersing agents for the paper or synthetic rubber industries.

(vi) Flotation aids for the mining industry.

(vii) Emulsifying agents used in the preparation of pharmaceutical or cosmetic products.

This group **does not include** organic surface-active products and preparations for washing the skin, in which the active component consists wholly or partly of synthetic organic-surface active agents (which may contain soap in any proportion), in the form of liquid or cream and put up for retail sale (**heading 34.01**).

(B) **Washing preparations (including auxiliary washing preparations) and cleaning preparations, having a basis of soap or other organic surface-active agents.**

This category covers washing preparations, auxiliary washing preparations and certain cleaning preparations. These various preparations generally contain **essential** constituents and one or more **subsidiary** constituents. The presence of these latter constituents distinguishes, in particular, these preparations from those described in Part (A) above.

The **essential** constituents are synthetic organic surface-active agents or soaps or mixtures thereof.

The **subsidiary** constituents are :

(1) Builders (e.g., sodium polyphosphates, carbonates, silicate or borate, salts of nitrilotriacetic acid (NTA)).

(2) Boosters (e.g., alkanolamides, fatty acid amides, fatty amine oxides).

(3) Fillers (e.g., sodium sulphate or chloride).

(4) Ancillaries (e.g., chemical or optical bleaches, antiredeposition agents, corrosion inhibitors, antielectrostatic agents, colouring matter, perfumes, bactericides, enzymes).

These preparations act on surfaces by bringing the soil on the surface into a state of solution or dispersion.

Washing preparations based on surface-active agents are also known as **detergents**. This type of preparation is used for washing clothes and also dishes or kitchen utensils.

They may be liquids, powders or pastes and are used for household or industrial purposes. Toilet and washing products in the form of bars, cakes, moulded pieces or shapes fall in **heading 34.01**.

Auxiliary washing preparations are used for soaking (pre-washing), rinsing or bleaching clothes, household linen, etc.

Cleaning preparations serve for cleaning floors, windows or other surfaces. They may also contain small quantities of odoriferous substances.

(C) **Cleaning or de-greasing preparations, not having a basis of soap or other organic surface-active agents.**

These include :

(i) Acid or alkaline cleaners specially formulated for cleaning sanitary ware, frying-pans, etc., e.g., those containing sodium hydrogen sulphate or a mixture of sodium hypochlorite and trisodium orthophosphate.

(ii) Degreasing or cleaning preparations, used, e.g., in dairies or breweries, and with a **basis** of :

- alkaline substances such as sodium carbonate or caustic soda, or
- solvents and emulsifiers.

This group of products may contain small quantities of soap or other surface-active agents.

This heading **does not cover** :

(a) Shampoos or preparations for foam baths, whether or not containing soap or other surface-active agents (**Chapter 33**).

(b) Paper, wadding, felt and nonwovens, impregnated, coated or covered with detergent (**heading 34.01**).

(c) Preparations, containing surface-active agents where the surface-active function is either not required or is only subsidiary to the main function of the preparation (**headings 34.03**, **34.05**, **38.08**, **38.09**, **38.24**, etc., as the case may be).

(d) Abrasive preparations containing surface-active agents (scouring pastes and powders) (**heading 34.05**).

(e) Water-insoluble naphthenates, petroleum sulphonates and other water-insoluble surface-active products and preparations. They fall in **heading 38.24**, **provided** they are not included in a more specific heading.

3402.3

- Anionic organic surface-active agents, whether or not put up for retail sale :

3402.31

-- Linear alkylbenzene sulphonic acids and their salts

CLASSIFICATION OPINIONS

1. Dodecylbenzenesulphonic acids used, either after neutralisation or directly, by reason of their surface-active properties, in electroplating, pickling, derusting, degreasing, flotation and emulsion polymerisation, etc.
Application of GIRs 1 and 6
Adoption : 1963

3402.39

-- Other

3402.4

- Other organic surface-active agents, whether or not put up for retail sale :

3402.41

-- Cationic

3402.42

-- Non-ionic

CLASSIFICATION OPINIONS

1. **Polyols,** having the character of non-ionic surfactants, used as surfactants and also for the manufacture of polyurethane foams.
Application of GIRs 1 and 6
Adoption : 1961

2. **Polyols,** having the character of non-ionic surfactants, obtained by the sequential addition of propylene and ethylene oxides to ethylenediamine, and used as surfactants and also for the manufacture of polyurethane foams.
Application of GIRs 1 and 6
Adoption : 1961

3402.49

-- Other

3402.50

- Preparations put up for retail sale

CLASSIFICATION OPINIONS

1. **Preparation in liquid form, consisting of sodium hypochlorite,** sodium chloride, sodium hydroxide, amine oxide, sodium laurate, perfume, silica, dye and water, put up in packing for retail sale and generally used as a cleaner and disinfectant for lavatories, sinks, etc.
Application of GIRs 1 and 6
Adoption : 1995

3402.90

- Other

CLASSIFICATION OPINIONS

1. **Surface-active preparation** consisting of an alkyltrimethylammonium chloride dissolved in isopropanol and used, in particular, as a gel sensitiser in foam rubber manufacture.
Adoption : 1968

Heading 3403

Lubricating preparations (including cutting-oil preparations, bolt or nut release preparations, anti-rust or anti-corrosion preparations and mould release preparations, based on lubricants) and preparations of a kind used for the oil or grease treatment of textile materials, leather, furskins or other materials, but excluding preparations containing, as basic constituents, 70 % or more by weight of petroleum oils or of oils obtained from bituminous minerals.

EXPLANATORY NOTES

34.03 - Lubricating preparations (including cutting-oil preparations, bolt or nut release preparations, anti-rust or anti-corrosion preparations and mould release preparations, based on lubricants) and preparations of a kind used for the oil or grease treatment of textile materials, leather, furskins or other materials, but excluding preparations containing, as basic constituents, 70 % or more by weight of petroleum oils or of oils obtained from bituminous minerals.

- Containing petroleum oils or oils obtained from bituminous minerals :

3403.11 - - Preparations for the treatment of textile materials, leather, furskins or other materials

3403.19 - - Other

- Other :

3403.91 - - Preparations for the treatment of textile materials, leather, furskins or other materials

3403.99 - - Other

Provided they do not contain, as basic constituents, 70 % or more by weight of petroleum oils or oils obtained from bituminous minerals (see **heading 27.10**), this heading includes, *inter alia*, prepared mixtures of the following types :

(A) **Lubricating preparations designed to reduce friction** between the moving parts of machinery, vehicles, aircraft or other appliances, apparatus or instruments. Such lubricants usually consist of, or are based on, mixtures of animal, vegetable or mineral oils, fats or greases, often with additives (e.g., graphite, molybdenum disulphide, talc, carbon blacks, calcium or other metallic soaps, pitch, or rust, oxidation, etc., inhibitors). However, the heading also includes synthetic lubricating preparations based on, for example, dioctyl or dinonyl sebacates, phosphoric esters, polychlorobiphenyls, poly(oxyethylene) (polyethylene glycol) or poly(oxypropylene) (polypropylene glycol). These synthetic lubricants, which include “greases” based on silicones or jet lube oils (or synthetic ester lubes), are designed to operate under specially exacting conditions (e.g., fire-resistant lubricants, lubricants for precision instrument bearings or jet engines).

(B) **Lubricating preparations used in wire-drawing** to ensure that the wire rod slides easily through the dies. These include : certain aqueous emulsions of tallow and sulphuric acid; mixtures of sodium soap, aluminium stearate, mineral oils and water; mixtures of oils, fats and sulpho-oleates; mixtures, in powder form, of calcium soaps and lime.

(C) **Cutting-oil preparations**. These are usually based on animal, vegetable or mineral oils, often with the addition of surface-active agents.

Preparations (e.g., those with a basis of petroleum sulphonates or other surface-active products) for making cutting oils, **but generally unsuitable for direct use as cutting oils**, are **excluded (heading 34.02)**.

(D) **Bolt or nut release preparations**. These are preparations intended for loosening bolts, nuts or other parts. They generally consist principally of lubricating oils and may also contain solid lubricants, solvents, surface-active agents, rust removers, etc.

(E) **Anti-rust or anti-corrosion preparations** consisting principally of lubricants.

(F) **Mould release preparations based on lubricants**, used in various industries (e.g., plastics, rubber, construction, foundry), such as :

(1) Mineral, vegetable or animal oils or other fatty substances (including those sulphonated, oxidised or hydrogenated) mixed or emulsified with waxes, lecithin or anti-oxidants.

(2) Mixtures containing silicone greases or oils.

(3) Mixtures of powdered graphite, talc, mica, bentonite or aluminium with oils, fatty substances, waxes, etc.

However, the heading **excludes** edible mixtures or preparations of animal or vegetable fats or oils of a kind used as mould release preparations (e.g., demoulding oils for bakery) (**heading 15.17**).

(G) **Preparations for the lubricating, oiling or greasing of textiles, leather, hides, furskins, etc**. These may be used to lubricate or soften textile fibres during spinning, to "stuff" leather, etc. They include, for example : mixtures of mineral oil or fatty substances with surface-active agents (e.g., sulphoricinoleates); water-dispersible textile lubricating preparations containing a high proportion of surface-active agents together with mineral oils and other chemicals.

The heading also covers :

(1) **Stabilised suspensions of molybdenum disulphide in mineral oil**, containing by weight 70 % or more of mineral oil, for adding, in small quantities, solely by reason of their special lubricating properties, to lubricating oils for engines, etc., the molybdenum disulphide being the basic constituent.

(2) **Anti-rust preparations** based on lanolin and dissolved in white spirit, even if the content of white spirit is 70 % or more by weight.

(3) **Non-hardening pastes** consisting of petroleum jelly and calcium soaps, and used for lubricating and sealing joints and threads when assembling vacuum power brake units.

The heading also **excludes :**

(a) Artificial degras (**heading 15.22**).

(b) Gel preparations designed to be used in human or veterinary medicine as a lubricant for parts of the body for surgical operations or physical examinations or as a coupling agent between the body and medical instruments (**heading 30.06**).

(c) Colloidal or semi-colloidal graphite or graphite pastes, of **heading 38.01**.

(d) Anti-slip transmission belt preparations (**heading 38.24**) and anti-rust preparations of **heading 38.24**.

3403.1

- Containing petroleum oils or oils obtained from bituminous minerals :

3403.11

-- Preparations for the treatment of textile materials, leather, furskins or other materials

3403.19

-- Other

3403.9

- Other :

3403.91

-- Preparations for the treatment of textile materials, leather, furskins or other materials

3403.99

-- Other

Heading 3404

Artificial waxes and prepared waxes.

EXPLANATORY NOTES

34.04 - Artificial waxes and prepared waxes.

3404.20 - Of poly(oxyethylene) (polyethylene glycol)

3404.90 - Other

This heading covers artificial waxes (sometimes known in industry as “synthetic waxes”) and prepared waxes, as defined in Note 5 to this Chapter, which consist of or contain relatively high molecular weight organic substances and which are **not** separate chemically defined compounds. These waxes are :

(A) Chemically produced organic products of a **waxy character**, whether or not water-soluble. Waxes of **heading 27.12**, produced synthetically or otherwise (e.g., Fischer-Tropsch waxes consisting essentially of hydrocarbons) are, however, **excluded**. Water-soluble waxy products having surface-active properties are also **excluded** (**heading 34.02**).

(B) Products obtained by mixing two or more different animal waxes, different vegetable waxes or different waxes of other classes or by mixing waxes of different classes (animal, vegetable or other) (for example, mixtures of different vegetable waxes and mixtures of a mineral wax with a vegetable wax). Mixtures of mineral waxes are, however, **excluded** (**heading 27.12**).

(C) Products of a **waxy character** with a basis of one or more waxes and containing fats, resins, mineral substances or other materials. Unmixed animal or vegetable waxes, whether or not refined or coloured, are, however, **excluded** (**heading 15.21**). Unmixed mineral waxes or mixtures of mineral waxes, whether or not coloured, are also **excluded** (**heading 27.12**).

The products described in (A), (B) and (C) above, when mixed with, dispersed (suspended or emulsified) in or dissolved in a liquid medium, are however **excluded** from this heading (**headings 34.05**, **38.09**, etc.).

The waxes of paragraphs (A) and (C) above must have :

(1) a dropping point above 40 °C; and

(2) a viscosity, when measured by rotational viscometry, not exceeding 10 Pa.s (or 10,000 cP) at a temperature of 10 °C above their dropping point.

In addition, such products generally display the following properties :

(a) they take a polish when gently rubbed;

(b) their consistency and solubility depend largely on temperature;

(c) at 20 °C :

(i) some are soft and kneadable (but not sticky or liquid) (soft waxes), others are brittle (hard waxes);

(ii) they are not transparent but may be translucent;

(d) at temperatures above 40 °C, they melt without decomposing;

(e) just above their melting point they cannot easily be drawn into threads;

(f) they are poor conductors of heat and electricity.

The waxes of this heading vary in chemical composition. Such waxes include :

(1) Polyalkylene waxes (e.g., polyethylene wax). They are used in packaging materials, textile lubricants, polishes, etc.

(2) Waxes obtained by partial oxidation of hydrocarbon waxes (such as synthetic or natural paraffin wax). They are used extensively in polishes, coatings, lubricants, etc.

(3) Waxes composed of mixtures of chloroparaffins, polychlorobiphenyls or polychloronaphthalenes. They are used in flame-proofing, as insulators, capacitor impregnators, lubricants, wood preservatives, etc.

(4) Poly(oxyethylene) (polyethylene glycol) waxes. They are water-soluble and are used in cosmetics or pharmaceuticals, as binding agents, softeners, preservatives and in adhesives for textiles or paper, in inks or rubber compositions, etc.

(5) Waxes composed of mixtures of fatty ketones, fatty esters (such as propylene glycol monostearate modified with small quantities of soap, and mixed glycerol mono- and distearate esterified by tartaric acid and acetic acid), fatty amines or fatty amides. They are used in cosmetics, polishes, paints, etc.

(6) Waxes obtained by partial or complete chemical modification of natural waxes such as lignite wax.

(7) Waxes composed of two or more different waxes (**except** mixtures of mineral waxes which fall in **heading 27.12**) or one or more waxes with other material, for example, wax consisting of paraffin wax and polyethylene, used as coating material, wax composed of paraffin wax and stearic acid, used as raw material for making candles, wax composed of oxidised hydrocarbon wax and emulsifier; sealing wax and waxes of similar composition, however they are put up, **other than** products of **heading 32.14**.

The above waxes, if coloured, are also classified here.

Apart from the exclusions mentioned above, the heading **does not cover** :

(a) Lanolin alcohols, even if having the character of waxes (**heading 15.05**).

(b) Hydrogenated oils, even if having the character of waxes (**heading 15.16**).

(c) Separate chemically defined organic compounds (**Chapter 29**).

(d) “Dental wax” and “dental impression compounds”, put up in sets, in packings for retail sale or in plates, horseshoe shapes, sticks or similar forms (**heading 34.07**).

(e) Industrial monocarboxylic fatty acids and industrial fatty alcohols, even if having the character of waxes (**heading 38.23**).

(f) Mixtures of mono-, di- and tri-, fatty acid esters of glycerol, not having the character of waxes (**heading 38.24**).

(g) Mixed polychlorobiphenyls and mixed chloroparaffins, not having the character of waxes (**heading 38.24**).

(h) Poly(oxyethylene) (polyethylene glycol) not having the character of waxes (e.g., **heading 38.24** or **39.07**).

(ij) Polyethylenes not having the character of waxes (e.g., **heading 39.01**).

3404.20

- Of poly(oxyethylene) (polyethylene glycol)

3404.90

- Other

CLASSIFICATION OPINIONS

1. Hydrogenated and texturised jojoba (Simmondsia chinensis) **seed oil**, in the form of solid waxy beads measuring approximately 0.15 mm to 1 mm in diameter, used as scrubbing particles in skincare and cosmetic preparations. **Application of GIR 1 and 6.** *Adoption : 2009*

2. Monoglycerides produced from fully hydrogenated edible palm oil.

After esterification of the raw material, it passes through a distillation process where concentrated monoglycerides are obtained, concentrating the product to the following specification: min. 90 % monoglycerides; iodine value max. 2 %; free glycerol max. 1 %; acid value max. 3 %; melting point approx. 63 ºC; trans fatty acids < 1 %.

The product meets the criteria for the character of artificial waxes referred to in the Explanatory Note to heading 34.04.

The product is presented in 25 kg bags. It is commonly used in bakery, production of margarine, coffee whiteners, pasta and potato products, candies and toffees, whipping gel and peanut butter.



Application of GIRs 1 and 6.
Adoption : 2021

Heading 3405

Polishes and creams, for footwear, furniture, floors, coachwork, glass or metal, scouring pastes and powders and similar preparations (whether or not in the form of paper, wadding, felt, nonwovens, cellular plastics or cellular rubber, impregnated, coated or covered with such preparations), excluding waxes of heading 34.04.

EXPLANATRY NOTES

34.05 - Polishes and creams, for footwear, furniture, floors, coachwork, glass or metal, scouring pastes and powders and similar preparations (whether or not in the form of paper, wadding, felt, nonwovens, cellular plastics or cellular rubber, impregnated, coated or covered with such preparations), excluding waxes of heading 34.04.

3405.10 - Polishes, creams and similar preparations for footwear or leather

3405.20 - Polishes, creams and similar preparations for the maintenance of wooden furniture, floors or other woodwork

3405.30 - Polishes and similar preparations for coachwork, other than metal polishes

3405.40 - Scouring pastes and powders and other scouring preparations

3405.90 - Other

This heading covers polishes and creams for footwear, furniture, floors, coachwork, glass or metal (silverware, copper, etc.) and prepared pastes or powders for scouring cooking utensils, sinks, tiles, stoves, etc., and similar preparations such as polishes and creams for leather. The heading also includes polishing preparations with preservative properties.

These preparations may have a basis of wax, abrasives or other substances. Examples of such preparations are :

(1) Waxes and polishes consisting of waxes impregnated with spirits of turpentine or emulsified in an aqueous medium and frequently containing added colouring matter.

(2) Metal polishes and polishes for glass consisting of very soft polishing materials such as chalk or kieselguhr in suspension in an emulsion of white spirit and liquid soap.

(3) Metal, etc., polishing, finishing or fine-grinding products containing diamond powder or dust.

(4) Scouring powders consisting of mixtures of very finely ground sand with sodium carbonate and soap. Scouring pastes are obtained by binding these powders with, for example, a solution of waxes in a lubricating mineral oil.

These preparations, which are often put up for retail sale and are usually in the form of liquids, pastes, powders, tablets, sticks, etc., may be used for household or industrial purposes.

The heading also covers paper, wadding, felt, nonwovens, cellular plastics or cellular rubber, impregnated, coated or covered with such preparations, but textile dusters and metal pot scourers similarly impregnated, coated or covered are **excluded** (**Sections XI** and **XV** respectively).

The heading also **excludes :**

(a) Abrasive powders, when not mixed (generally **Chapter 25** or **28**).

(b) Whitenings for footwear, in tablets, and prepared liquid dyes for chamois-leather footwear (**heading 32.10**).

(c) Degras and artificial degras (**heading 15.22**); other oils and greases for leather dressing (**Chapter 15**, **headings 27.10**, **34.03**, **38.24**, etc.).

(d) Dry-cleaning fluids and stain removers, for cleaning clothing, which are classified according to their composition (usually as petroleum spirit, **heading 27.10**, or as products of **heading 38.14** or **38.24**).

3405.10

- Polishes, creams and similar preparations for footwear or leather

3405.20

- Polishes, creams and similar preparations for the maintenance of wooden furniture, floors or other woodwork

3405.30

- Polishes and similar preparations for coachwork, other than metal polishes

3405.40

- Scouring pastes and powders and other scouring preparations

3405.90

- Other

Heading 3406

Candles, tapers and the like.

EXPLANATORY NOTES

34.06 - Candles, tapers and the like.

Candles, tapers (including ball or coiled tapers), etc., are usually made of tallow, stearin, paraffin wax or other waxes.

The heading covers these goods whether or not coloured, perfumed, decorated, etc.

The heading also covers night lights fitted with a float.

The heading **excludes :**

(a) Anti-asthmatic candles (**heading 30.04**).

(b) Wax matches or vestas (**heading 36.05**).

(c) Sulphur-treated bands, wicks and candles (**heading 38.08**).

3406.00

Candles, tapers and the like.

Heading 3407

Modelling pastes, including those put up for children's amusement; preparations known as «dental wax» or as «dental impression compounds», put up in sets, in packings for retail sale or in plates, horseshoe shapes, sticks or similar forms; other preparations for use in dentistry, with a basis of plaster (of calcined gypsum or calcium sulphate).

EXPLANATORY NOTES

34.07 - Modelling pastes, including those put up for children's amusement; preparations known as “dental wax” or as “dental impression compounds”, put up in sets, in packings for retail sale or in plates, horseshoe shapes, sticks or similar forms; other preparations for use in dentistry, with a basis of plaster (of calcined gypsum or calcium sulphate).

(A) **Modelling pastes**.

These are plastic preparations generally used by artists or goldsmiths for making models and also by children for amusement purposes.

The most common are those with a basis of zinc oleate. These also contain waxes, white oil and kaolin and are slightly greasy to the touch.

Others are mixtures of cellulose pulp and kaolin with binders.

These pastes are usually coloured and are presented in bulk or in cakes, sticks, plates, etc.

Assorted modelling pastes, including those put up in sets for the amusement of children, are also covered by this heading.

(B) **Preparations known as "dental wax" or as "dental impression compounds"**.

These are preparations of varying composition used in dentistry for taking dental impressions. They consist generally of wax, plastics or gutta-percha, mixed with products such as rosin, shellac and fillers (e.g., powdered mica) and are usually coloured. They may be hard or slightly soft.

These preparations are classified here **only** if put up in sets, in packings for retail sale or in plates, horseshoe shapes (solid or hollowed), sticks or similar forms. When **put up otherwise** (e.g., in bulk), they are classified according to their composition (**headings 34.04**, **38.24**, etc.).

(C) **Other preparations for use in dentistry, with a basis of plaster (of calcined gypsum or calcium sulphate)**.

This heading includes preparations for use in dentistry with a basis of plaster, usually containing more than 2 % of additives by weight. Possible additives are titanium dioxide as a white pigment, colouring agents, kieselguhr, dextrins and melamine resin. They also contain setting accelerators or retarders.

Such products for use in dentistry generally contain 25 % or more by weight of α-calcium sulphate hemihydrate or almost exclusively α-calcium sulphate hemihydrate, a form that does not occur naturally and that can be produced, e.g., by dehydration of gypsum deposits with a high calcium sulphate dihydrate content.

The products are used for taking dental impressions, for making models or for other dental uses and are classified here regardless of form or presentation.

Such preparations should not be confused with the plasters which contain small quantities of accelerators or retarders only (**heading 25.20**).

The heading **excludes** dental cements and other dental fillings (**heading 30.06**).

3407.00

Modelling pastes, including those put up for children's amusement; preparations known as «dental wax» or as «dental impression compounds», put up in sets, in packings for retail sale or in plates,

horseshoe shapes, sticks or similar forms; other preparations for use in dentistry, with a basis of plaster (of calcined gypsum or calcium sulphate).

Chapter 35

Albuminoidal substances; modified starches; glues; enzymes

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Yeasts (heading 21.02);

(b) Blood fractions (other than blood albumin not prepared for therapeutic or prophylactic uses), medicaments or other products of Chapter 30;

(c) Enzymatic preparations for pre-tanning (heading 32.02);

(d) Enzymatic soaking or washing preparations or other products of Chapter 34;

(e) Hardened proteins (heading 39.13); or

(f) Gelatin products of the printing industry (Chapter 49).

2.- For the purposes of heading 35.05, the term “dextrins” means starch degradation products with a reducing sugar content, expressed as dextrose on the dry substance, not exceeding 10 %.

Such products with a reducing sugar content exceeding 10 % fall in heading 17.02.

EXPLANATORY NOTES

Chapter 35

Albuminoidal substances; modified starches; glues; enzymes

Notes.

1.- This Chapter does not cover :

(a) Yeasts (heading 21.02);

(b) Blood fractions (other than blood albumin not prepared for therapeutic or prophylactic uses), medicaments or other products of Chapter 30;

(c) Enzymatic preparations for pre-tanning (heading 32.02);

(d) Enzymatic soaking or washing preparations or other products of Chapter 34;

(e) Hardened proteins (heading 39.13); or

(f) Gelatin products of the printing industry (Chapter 49).

2.- For the purposes of heading 35.05, the term “dextrins” means starch degradation products with a reducing sugar content, expressed as dextrose on the dry substance, not exceeding 10 %.

Such products with a reducing sugar content exceeding 10 % fall in heading 17.02.

Heading 3501

Casein, caseinates and other casein derivatives; casein glues.

EXLPANATORY NOTES

35.01 - Casein, caseinates and other casein derivatives; casein glues.

3501.10 - Casein

3501.90 - Other

(A) **Casein and casein derivatives**.

(1) **Casein** is the main protein constituent of milk. It is obtained from skimmed milk by precipitation (curdling), generally with acids or rennet. The heading covers various types of casein which differ according to the method of curdling, e.g., acid casein, caseinogen and rennet casein (paracasein).

Casein is usually a yellowish-white granular powder, soluble in alkalis but not in water. It is used mainly in the preparation of glues, paints or distempers, for the coating of papers, and in the manufacture of casein plastics (hardened casein), man-made fibres, dietary or pharmaceutical products.

(2) **Caseinates** (salts of casein) include the sodium and ammonium salts known as “soluble caseins”; these salts are normally used to prepare concentrated foods and pharmaceutical products. Calcium caseinate is used in the preparation of foodstuffs or as a glue, according to its character.

(3) **Other casein derivatives** include, in particular, chlorinated casein, brominated casein, iodised casein and casein tannate. They are used in pharmacy.

(B) **Casein glues.**

These consist of calcium caseinate (see Note on caseinates above), or of mixtures of casein and chalk with the addition of, for example, small quantities of borax or ammonium chloride. They are usually in the form of powders.

The heading **does not include** :

(a) Precious metal caseinates (**heading 28.43**) or caseinates of **headings 28.44 to 28.46** and **28.52**.

(b) Products incorrectly described as “vegetable casein” (**heading 35.04**).

(c) Casein glues put up for retail sale, not exceeding a net weight of 1 kg (**heading 35.06**).

(d) Hardened casein (**heading 39.13**).

3501.10

- Casein

3501.90

- Other

Heading 3502

Albumins (including concentrates of two or more whey proteins, containing by weight more than 80 % whey proteins, calculated on the dry matter), albuminates and other albumin derivatives.

EXPLANATORY NOTES

35.02 - Albumins (including concentrates of two or more whey proteins, containing by weight more than 80 % whey proteins, calculated on the dry matter), albuminates and other albumin derivatives.

- Egg albumin :

3502.11 - - Dried

3502.19 - - Other

3502.20 - Milk albumin, including concentrates of two or more whey proteins

3502.90 - Other

(1) **Albumins** are animal or vegetable proteins. The former are the more important and include egg white (ovalbumin), blood albumin (serum albumin), milk albumin (lactalbumin) and fish albumin. Unlike casein, they are soluble in water as well as in alkalis and the solutions coagulate on heating.

The heading also includes whey protein concentrates which contain two or more whey proteins and have a whey protein content of more than 80 % by weight, calculated on the dry matter. The whey protein content is calculated by multiplying the nitrogen content by a conversion factor of 6.38. Whey protein concentrates containing 80 % or less by weight of whey proteins, calculated on the dry matter, are classified in **heading 04.04**.

Albumins are usually in the form of viscous liquids, transparent yellow flakes or amorphous white, reddish or yellowish powders.

They are used in the preparation of glues, foodstuffs, pharmaceutical products, for leather finishing, for treating textiles or paper (especially photographic papers), for clarification of wine or other beverages, etc.

(2) **Albuminates (salts of albumin) and other albumin derivatives**, in particular iron albuminate, brominated albumins, iodised albumins and albumin tannate.

This heading also **excludes :**

(a) Dried blood, sometimes incorrectly described as “blood albumin” (**heading 05.11**).

(b) Precious metal albuminates (**heading 28.43**) or albuminates of **headings 28.44 to 28.46** and**28.52**.

(c) Blood albumin prepared for therapeutic or prophylactic uses and human plasma (**Chapter 30**).

3502.1

- Egg albumin :

3502.11

-- Dried

3502.19

-- Other

3502.20

- Milk albumin, including concentrates of two or more whey proteins

3502.90

- Other

Heading 3503

Gelatin (including gelatin in rectangular (including square) sheets, whether or not surface-worked or coloured) and gelatin derivatives; isinglass; other glues of animal origin, excluding casein glues of heading 35.01.

EXPLANATORY NOTES

35.03 - Gelatin (including gelatin in rectangular (including square) sheets, whether or not surface-worked or coloured) and gelatin derivatives; isinglass; other glues of animal origin, excluding casein glues of heading 35.01.

Gelatin and the glues of this heading are water-soluble protein substances obtained by treating skins, cartilage, bones, tendons or similar animal materials, usually with warm water with or without addition of acids.

(A) **Gelatin** is less glutinous and more refined than glues, forming a clear jelly with water. It is used in the preparation of foodstuffs, pharmaceutical products and photographic emulsions, for bacteriological culture and for clarifying beers and wines. It is also used for sizing paper or textiles, in the printing industry, for preparing plastics (hardened gelatin) and for manufacturing into articles.

Gelatin is usually in the form of thin, transparent, almost colourless and odourless sheets still bearing the impressions of the nets on which it was dried, but it is also marketed in slabs, plates, sheets, flakes, powders, etc.

Sheets of gelatin are classified in this heading provided they are in the form of rectangles (including squares), and whether or not they are surface-worked or coloured (e.g., embossed, metallised, printed - **other than** gelatin postcards and other products printed as described

in **Chapter 49**). If cut otherwise than in rectangles or squares (e.g., discs) they are classified in **heading 96.02**. Moulded or carved unhardened gelatin is also classified in **heading 96.02**.

(B) **Gelatin derivatives** include in particular gelatin tannate and gelatin bromotannate.

(C) **Isinglass** is obtained by mechanical treatment of the air bladders of certain fish, particularly the sturgeon. It is presented in a solid state, generally in the form of semi-transparent thin sheets. It is used principally as a clarifying agent for beer, wine or other alcoholic beverages, and in pharmacy.

(D) **The other glues of animal origin** covered by this heading are the impure forms of gelatin used as glues. They may contain additives such as preservatives, pigments or viscosity control agents.

The principal glues are :

(1) **Bone glues, hide glues, nerve glues, sinew glues**. These glues are yellow to brown in colour with a strong odour and are generally in thicker, harder, more brittle sheets than raw gelatin. They may also be in the form of beads, flakes, etc.

(2) **Fish glues** (other than isinglass). These glues are obtained by the action of hot water on fish waste (skin, cartilage, bones, fins, etc.), and are usually in a gelatinous liquid state.

The heading **does not cover** :

(a) Casein glues (**heading 35.01**).

(b) Glues put up for retail sale, not exceeding a net weight of 1 kg (**heading 35.06**).

(c) Copying pastes (duplicating jellies) with a basis of gelatin (**heading 38.24**).

(d) Hardened gelatin (**heading 39.13**).

3503.00

Gelatin (including gelatin in rectangular (including square) sheets, whether or not surface-worked or coloured) and gelatin derivatives; isinglass; other glues of animal origin, excluding casein glues of heading 35.01.

Heading 3504

Peptones and their derivatives; other protein substances and their derivatives, not elsewhere specified or included; hide powder, whether or not chromed.

EXPLANATORY NOTES

35.04 - Peptones and their derivatives; other protein substances and their derivatives, not elsewhere specified or included; hide powder, whether or not chromed.

This heading covers :

(A) **Peptones and their derivatives**.

(1) **Peptones** are soluble substances obtained when proteins are hydrolysed or submitted to the action of certain enzymes (pepsin, papain, pancreatin, etc.). They are usually white or yellowish powders and, being very hygroscopic, they are normally packed in airtight containers. Peptones may also be in solution. The main varieties are meat peptones, yeast peptones, blood peptones and casein peptones.

They are used in pharmacy, in food preparations, for bacterial cultures, etc.

(2) **Peptonates** are derivatives of peptones. They are used principally in pharmacy; the most important are iron peptonates and manganese peptonates.

(B) **Other protein substances and their derivatives**, not covered by a more specific heading in the Nomenclature, including in particular :

(1) **Glutelins** and **prolamins** (e.g., gliadins extracted from wheat or rye, and zein extracted from maize), being cereal proteins.

(2) **Globulins**, e.g., lactoglobulins and ovoglobulins (but see exclusion (d) at the end of the Explanatory Note).

(3) **Glycinin**, the main soya protein.

(4) **Keratins** obtained from hair, nails, horns, hoofs, feathers, etc.

(5) **Nucleoproteids**, being proteins combined with nucleic acids, and their derivatives. Nucleoproteids are isolated, for example, from brewer's yeast, and their salts (of iron, copper, etc.) are used mainly in pharmacy.

However, nucleoproteids of mercury answering to a description in **heading 28.52** are **excluded**.

(6) **Protein isolates** obtained by extraction from a vegetable substance (e.g., defatted soya bean flour) and consisting of a mixture of proteins contained therein. The protein content of these isolates is generally not less than 90 %.

(C) **Hide powder, whether or not chromed**. Hide powder is used for the determination of tannin in natural tanning materials and in vegetable tanning extracts. It is virtually pure collagen and is obtained by careful preparation from fresh skins. The powder may contain a small quantity of added chrome alum (chromed hide powder), or it may be presented unchromed requiring addition of the chrome alum immediately prior to use. Hide powder so treated must not be confused with chrome leather dust, powder and flour of **heading 41.15** which are not suitable for the determination of tannin and are of less value.

The heading **does not include** :

(a) Protein hydrolysates consisting mainly of a mixture of amino-acids and sodium chloride, and concentrates obtained by the elimination of certain constituents of defatted soya-bean flour, used as additives in food preparations (**heading 21.06**).

(b) Precious metal proteinates (**heading 28.43**) or proteinates of **headings 28.44 to 28.46** and**28.52**.

(c) Nucleic acid and its salts (nucleates) (**heading 29.34**).

(d) Fibrinogen, fibrin, blood globulins and serum globulins, human normal immunoglobulin and antisera (specific immunoglobulins) and other blood fractions (**heading 30.02**).

(e) Products described in this heading when put up as medicaments (**heading 30.03** or **30.04**).

(f) Enzymes (**heading 35.07**).

(g) Hardened proteins (**heading 39.13**).

3504.00

Peptones and their derivatives; other protein substances and their derivatives, not elsewhere specified or included; hide powder, whether or not chromed.

Heading 3505

Dextrins and other modified starches (for example, pregelatinised or esterified starches); glues based on starches, or on dextrins or other modified starches.

EXPLANATORY NOTES

35.05 - Dextrins and other modified starches (for example, pregelatinised or esterified starches); glues based on starches, or on dextrins or other modified starches

3505.10 - Dextrins and other modified starches

3505.20 - Glues

This heading covers :

(A) **Dextrins and other modified starches**, i.e., products obtained by the transformation of starches through the action of heat, chemicals (e.g., acids, alkalis) or diastase, and starch modified, e.g., by oxidation, esterification or etherification. Cross-linked starches (e.g., distarch phosphate) are an important group of modified starches.

(1) **Dextrins**, obtained :

- either by the degradation of starch by hydrolysis with acids or enzymes, the resulting product being termed maltodextrin. However products of this kind are classified here as dextrins only if their reducing sugar content, expressed as dextrose on the dry substance, does not exceed 10 %;

- or by roasting starch, with or without small quantities of chemical reagents. If no reagents are used, the resulting product is known as roasted starch.

Dextrinsare white, yellowish or brown powders, depending on manufacturing process and the kind of starch used. They are soluble in water (suitably heated, if necessary) but not in alcohol.

(2) **Soluble starch (amylogen) :** an intermediate product obtained in the transformation of starches into dextrins, prepared by boiling starch in water, or by keeping starch for a long while in contact with cold dilute acid. The heading also includes soluble starches containing very small quantities of kaolin, mainly used for adding to cellulose pulp during the manufacture of paper.

(3) **Pregelatinised or "swelling" starch**, obtained by moistening starch with water and heat-treating it to obtain a more or less gelatinous mass, which is then dried and ground to a powder. This product can also be obtained by extrusion, followed by grinding to a powder. It is used in paper manufacture, in the textile industry, in metallurgy (for the preparation of foundry core binders), in the food industries and for animal feed, etc.

(4) **Etherified or esterified starches** (starches modified by etherification or esterification). Etherified starches include those containing hydroxyethyl, hydroxypropyl or carboxymethyl groups. Esterified starches include starch acetates used principally in the textile or paper industries, and starch nitrates (nitrostarch) used in the manufacture of explosives.

(5) **Other modified starches,** for example :

(i) **Dialdehyde starch,** and

(ii) **Starch treated with formaldehyde or epichlorohydrin,** used, for example, as surgical glove powder.

In general, modified starches of this heading may be distinguished from unmodified starches of Chapter 11 on the basis of changes in their properties, for example, solution and gel clarity, tendency to gel or to crystallise, water binding capacity, freeze-thaw stability, gelatinisation temperature or peak viscosity.

(B) **Glues based on starches, or on dextrins or other modified starches**.

(1) **Dextrin glues** consisting of dextrin in aqueous solution or mixed with other substances (e.g., magnesium chloride).

(2) **Starch glues**, obtained by treating starch with an alkali (e.g., sodium hydroxide).

(3) **Glues** consisting of untreated starch, borax and water-soluble cellulose derivatives or consisting of untreated starch, borax and starch ethers.

The above-mentioned products are usually in the form of white, yellow or brownish amorphous powders or gum-like masses, hence the application of the names "British gum" and "starch gum" to certain of these products. They are mainly used as glues, in the colour industry, in the textile or paper industries, and in metallurgy.

The heading **does not cover** :

(a) Starches, not prepared **(heading 11.08)**.

(b) Starch degradation products with a reducing sugar content, expressed as dextrose on the dry substance, exceeding 10 % (**heading 17.02**).

(c) Glues put up for retail sale, not exceeding a net weight of 1 kg (**heading 35.06**).

(d) Prepared glazings and dressings (based on starches or dextrins) of a kind used in the paper, textile, leather or like industries (**heading 38.09**).

3505.10

- Dextrins and other modified starches

CLASSIFICATION OPINIONS

1. Amphoteric corn starch based on cationic corn starch with amine functionality to which a specific amount of phosphate has been added. The product contains, by weight, phosphorus (0.3872 %) and silicon (0.000392 %). Some of the added phosphate reacts with and is bound to the starch to provide an anionic substituent to the cationic modified starch. Some of the added phosphate remains unbound within the resulting product. Both the anionic groups and unbound phosphate provide a specific function to the final product for its use in the papermaking process. The product is of a kind used in acid papermaking processes, where high amounts of alum are added to the wet end of the papermaking machine.
Application of GIRs 1 and 6.
Adoption : 2003

2. Cationic corn starch to which a defoamer has been added (0.185 % by weight). The product is designed to be used in the papermaking industry, to be applied at the size press or calender stack, as a surface sizing agent.
Application of GIRs 1 and 6.
Adoption : 2003

3505.20

- Glues

Heading 3506

Prepared glues and other prepared adhesives, not elsewhere specified or included; products suitable for use as glues or adhesives, put up for retail sale as glues or adhesives, not exceeding a net weight of 1 kg.

EXPLANATORY NOTES

35.06 - Prepared glues and other prepared adhesives, not elsewhere specified or included; produts suitable for use as glues or adhesives, put up for retail sale as glues or adhesives, not exceeding a net weight of 1 kg.

3506.10 - Products suitable for use as glues or adhesives, put up for retail sale as glues or adhesives, not exceeding a net weight of 1 kg

- Other :

3506.91 - - Adhesives based on polymers of headings 39.01 to 39.13 or on rubber

3506.99 - - Other

This heading covers :

(A) **Products suitable for use as glues or adhesives and put up for retail sale as glues or adhesives, not exceeding a net weight of 1 kg**.

This group covers the prepared glues and adhesives of (B) below and other products suitable for use as glues or adhesives, **provided** they are put up for retail sale as glues or adhesives in packages the content of which does not exceed 1 kg.

The packages in which glues or adhesives are usually put up for retail sale include glass bottles or jars, metal boxes, collapsible metal tubes, cartons, paper bags, etc.; sometimes the "packaging" is merely a paper band wrapped round, for example, a slab of bone glue. A small brush of the appropriate type is sometimes packed with glues or adhesives (e.g., those put up in jars or tins ready for direct use). Such brushes are classified with the glues or adhesives if packed therewith.

Products having other uses in addition to use as glues or adhesives (e.g., dextrins, methyl cellulose in granules) are classified in this heading **only** if there is some indication on the packages that they are intended for sale as glues or adhesives.

(B) **Prepared glues and other prepared adhesives, not covered by a more specific heading in the Nomenclature**, for example :

(1) **Gluten glues** ("Vienna glues") normally obtained from gluten rendered soluble by partial fermentation. These glues are usually in the form of flakes or powders and vary in colour from yellowish to brown.

(2) **Glues or other adhesives obtained by chemically treating natural gums**.

(3) **Adhesives based on silicates**, etc.

(4) **Preparations specially formulated for use as adhesives**, consisting of polymers or blends thereof of headings 39.01 to 39.13 which, apart from any permitted additions to the products of Chapter 39 (fillers, plasticisers, solvents, pigments, etc.), contain other added substances not falling in that Chapter (e.g., waxes, rosin esters, unmodified natural shellac).

(5) **Adhesives consisting of a mixture** of rubber, organic solvents, fillers, vulcanising agents and resins.

Except when they comply with the provisions of paragraph (A) above, the heading **excludes** products covered by a more specific heading in the Nomenclature, for example :

(a) Casein glues (**heading 35.01**), glues of animal origin (**heading 35.03**) and glues based on starches, or on dextrins or other modified starches (**heading 35.05**).

(b) Other products, which can be used as glues or other adhesives either directly or after treatment, for example, bird lime (**heading 13.02**), silicates, not mixed (**heading 28.39**), calcium caseinate (**heading 35.01**), dextrin (**heading 35.05**), dispersions or solutions of polymers of headings 39.01 to 39.13 (**Chapter 39** or **heading 32.08**) and dispersions or solutions of rubber (**Chapter 40**).

It is to be noted that certain of the products included in this heading are usable as glues or adhesives in the form in which they are sold, while others must be dissolved or dispersed in water before use.

The heading **does not cover** prepared glazings and dressings for textiles, etc. (**heading 38.09**) or foundry core binders (**heading 38.24**); in certain countries, these substances are sometimes called “glues”, but they are not used for their adhesive properties.

The heading also **excludes** products having the character of mastics, fillings, etc., of **heading 32.14**.

3506.10

- Products suitable for use as glues or adhesives, put up for retail sale as glues or adhesives, not exceeding a net weight of 1 kg

CLASSIFICATON OPINIONS

Thread locker, a pale blue liquid, presented in plastic bottles of 50 ml with a dosage spout. It is used to seal and assemble parts which may need to be disassembled at some future date. It is a compound of polyglycol dimethacrylate, polyglycol dioctanoate, saccharin, cumene hydroperoxide, polyvinyl acetate and silica. **Application of GIRs 1 and 6**Adoption : 2009

3506.9

- Other :

3506.91

-- Adhesives based on polymers of headings 39.01 to 39.13 or on rubber

3506.99

-- Other

Heading 3507

Enzymes; prepared enzymes not elsewhere specified or included.

EXPLANATORY NOTES

35.07 - Enzymes; prepared enzymes not elsewhere specified or included.

3507.10 - Rennet and concentrates thereof

3507.90 - Other

Enzymes are organic substances produced by living cells; they have the property of causing and regulating specific chemical reactions inside or outside living cells, without themselves undergoing any change in their chemical structure.

Enzymes may be referred to as follows :

(I) **According to their chemical constitution, e.g.** :

(a) Enzymes in which the molecule consists solely of a protein (e.g., pepsin, trypsin, urease).

(b) Enzymes in which the molecule consists of a protein combined with a non-protein compound of low molecular weight, acting as a cofactor. The cofactor may be either a metal ion (e.g., copper in ascorbate oxidase, zinc in human placental alkaline phosphatase) or a complex

organic molecule called a coenzyme (e.g., thiamine diphosphate in pyruvate decarboxylase, pyridoxal phosphate in glutamine-oxo-acid aminotransferase). Sometimes both are required.

(II) **According to :**

(a) **their chemical activity** as oxidoreductases, transferases, hydrolases, lyases, isomerases, ligases; or

(b) **their biological activity** as amylases, lipases, proteases, etc.

*

* *

This heading includes :

(A) **"Pure" (isolated) enzymes**.

These are generally in crystalline form, and are mainly intended for use in medicine or in scientific research. They are not as important in international trade as enzymatic concentrates and prepared enzymes.

(B) **Enzymatic concentrates**.

These concentrates are generally obtained from either aqueous or solvent extracts of animal organs, of plants, of micro-organisms or of culture-broths (the latter derived from bacteria, moulds, etc.). These products, which may contain several enzymes in various proportions, can be standardised or stabilised.

It should be noted that certain standardising or stabilising agents may already exist in the concentrates in variable quantities, deriving either from the fermentation liquor or from the clarifying or precipitating processes.

The concentrates can be obtained, for example, in powder form by precipitation or freeze-drying or in granular form by using granulating agents or inert supports or carriers.

(C) **Prepared enzymes not elsewhere specified or included**.

Prepared enzymes are obtained by further dilution of the concentrates mentioned in Part (B) above or by intermixing isolated enzymes or enzymatic concentrates. Preparations with substances added, which render them suitable for specific purposes, are also included in this heading, **provided** they are **not** covered by a more specific heading in the Nomenclature.

This group includes, *inter alia :*

(i) Enzymatic preparations for tenderising meat, such as those consisting of a proteolytic enzyme (e.g., papain) with added dextrose or other foodstuffs.

(ii) Enzymatic preparations for clarifying beer, wine or fruit juice (e.g., pectic enzymes containing added gelatin, bentonite, etc.).

(iii) Enzymatic preparations for desizing textiles such as those with a basis of bacterial α-amylases or proteases.

This heading **excludes**, *inter alia*, the following preparations :

(a) Medicaments (**heading 30.03** or **30.04**).

(b) Enzymatic preparations for pre-tanning (**heading 32.02**).

(c) Enzymatic soaking or washing preparations and other products of **Chapter 34**.

*

* *

The following are the most important among the enzymes found in trade :

(1) **Rennet (lab-ferment, chymosin, rennin).**

Rennet is obtained either from the fresh or dried fourth stomach of calves or by the cultivation of certain micro-organisms. It is a proteolytic enzyme which curdles milk by coagulating its casein. It is available in liquid, powder or tablet form. It may contain salts (e.g., sodium chloride, calcium chloride, sodium sulphate), remaining from the manufacturing process or added for standardisation, and preserving agents (e.g., glycerol).

Rennet is mainly used in the cheese industry.

(2) **Pancreatic enzymes**.

The most important enzymes produced by the pancreas are **trypsin** and **chymotrypsin** (which break down proteins), α-**amylase** (which breaks down starches) and **lipase** (which breaks down fatty substances). They are mainly used in medicine and pharmacy for treating digestive disturbances.

Enzymatic concentrates of the pancreas are normally obtained from fresh or dried pancreas. They may contain highly absorbent salts (added to take up part of the water of crystallisation) and certain protective colloids (to facilitate storage or transport). They are used in the manufacture of preparations for desizing, washing, hair-removal or tanning.

The enzymatic preparations of the pancreas classified in this heading include those used for de-sizing textiles.

(3) **Pepsin**.

Pepsin is obtained from the stomach mucosa of hogs or cattle. For the purposes of stabilisation, it is sometimes preserved in a saturated solution of magnesium sulphate or is mixed with sucrose or lactose (powdered pepsin).

Pepsin is used mainly for medicinal purposes, combined with hydrochloric acid or betaine hydrochloride, or as pepsin wine.

(4) **Malt enzymes**.

This group covers **only malt amylases**.

Malt extracts are classified in **heading 19.01**.

(5) **Papain, bromelains, ficin**.

The term **papain** is used to describe both the dried latex of the papaya tree (*Carica papaya*) and the two fractions obtained from this product, viz., **papain** (in the more limited sense of this term) and **chymopapain**.

Papain is used, for example, for the manufacture of chillproof beer, in the preparation of meat tenderisers (see paragraph (C) (i) above) and in medicine.

Papain as the dried latex which is only partly water-soluble, falls in **heading 13.02**.

Bromelains are obtained from pineapple plants.

Ficin is obtained from the latex of certain varieties of fig trees.

(6) **Amylases and proteases obtained from micro-organisms**.

Certain micro-organisms, when grown in appropriate culture media, secrete a considerable quantity of amylases and proteases.

After removal of the cells and other impurities, the solutions are either concentrated by low temperature vacuum evaporation or the enzymes are precipitated by the addition of inorganic salts (e.g., sodium sulphate) or organic, water-miscible solvents (e.g., acetone).

Examples of microbial amylases and proteases are :

(a) **Bacterial α-amylases**.

Bacterial α-amylases (obtained, for example, by use of *Bacillus subtilis*) are starch-liquefying enzymes, used for the production of adhesives and of starch-based paper coatings, in bakeries and other food industries and for desizing textiles.

(b) **Fungal amylases**.

Fungal amylases are essentially α-amylases derived from mould cultures, mainly of the genus *Rhizopus* or the genus *Aspergillus*.

Although their liquefying power is marked, it is much less than that of bacterial amylases.

Fungal amylases have many uses in the food industry.

It should be noted that fungal amylases sometimes contain proteases, glucose oxidase and invertase.

(c) **Amyloglucosidases**.

These enzymes, obtained, for example, from moulds of the genus *Rhizopus* or the genus *Aspergillus* are strong saccharifying agents but have no liquefying properties. They are used to obtain a high yield of dextrose from starchy materials.

Their main applications are in the production of glucose syrups and dextrose, and as saccharifying agents for grain alcohol fermentation mashes.

(d) **Proteases**.

Bacterial proteases (obtained by use of, for example, *Bacillus subtilis*) are proteolytic enzymes used to prepare textile desizing agents, as ingredients in certain washing preparations and in beer-making. Proteases produced from moulds are used for medicinal and pharmaceutical purposes.

(7) ***β*-Amylases**.

These enzymes are obtained from vegetable materials, such as malted barley, wheat and soya beans. They produce maltose from starch and dextrins.

(8) **Pectic enzymes**.

These enzymes are manufactured by cultivating various mould types, mainly of the genus *Rhizopus* or the genus *Aspergillus*. They are used in the manufacture (in order to facilitate the pressing operation and increase the juice recovery) and processing of fruit and vegetable juices.

(9) **Invertase (*β*-fructofuranosidase)**.

Invertase is usually derived from low fermentation brewer's yeast.

This enzyme splits sucrose into glucose and fructose. It is used in the manufacture of golden syrup, chocolate and marzipan.

(10) **Glucose isomerase**.

This enzyme is manufactured by culture of certain micro-organisms, mainly of the genus *Streptomyces* or the genus *Bacillus*. It is used for the partial conversion of glucose to fructose in the production of syrups with a high degree of sweetness.

In addition to the other exclusions referred to above, this heading **does not cover :**

(a) Yeasts (**heading 21.02**).

(b) Coenzymes such as cocarboxylase (aneurine pyrophosphate) and cozymase (nicotinamide-adenine dinucleotide) (**Chapter 29**).

(c) Dried glands and other products of **heading 30.01**.

(d) Cultures of micro-organisms, blood enzymes (e.g., thrombin), blood fractions and truncated variants (parts) thereof with enzymatic properties/activity and other products of **heading 30.02**.

3507.10

- Rennet and concentrates thereof

3507.90

- Other

Chapter 36

Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations

LEGAL NOTES

Notes.

1.- This Chapter does not cover separate chemically defined compounds other than those described in Note 2 (a) or (b) below.

2.- The expression “articles of combustible materials” in heading 36.06 applies only to :

(a) Metaldehyde, hexamethylenetetramine and similar substances, put up in forms (for example, tablets, sticks or similar forms) for use as fuels; fuels with a basis of alcohol, and similar prepared fuels, in solid or semi-solid form;

(b) Liquid or liquefied-gas fuels in containers of a kind used for filling or refilling cigarette or similar lighters and of a capacity not exceeding 300 cm^3; and

(c) Resin torches, firelighters and the like.

EXPLANATORY NOTES

Chapter 36

Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations

Notes.

1.- This Chapter does not cover separate chemically defined compounds other than those described in Note 2 (a) or (b) below.

2.- The expression “articles of combustible materials” in heading 36.06 applies only to :

(a) Metaldehyde, hexamethylenetetramine and similar substances, put up in forms (for example, tablets, sticks or similar forms) for use as fuels; fuels with a basis of alcohol, and similar prepared fuels, in solid or semi-solid form;

(b) Liquid or liquefied-gas fuels in containers of a kind used for filling or refilling cigarette or similar lighters and of a capacity not exceeding 300 cm^3; and

(c) Resin torches, firelighters and the like.

GENERAL

This Chapter includes **propellent powders and prepared explosives**, *viz.*, **mixtures** characterised by the fact that they contain the oxygen necessary for their combustion and that in combustion they produce a large volume of gas at a high temperature.

It also covers certain accessory products required for their ignition (percussion or detonating caps, detonators, etc.).

Articles prepared from explosive, pyrophoric, inflammable or combustible products for producing light, sound, smoke, flame or sparks (e.g., pyrotechnic products, matches, ferro-cerium and certain combustible preparations) are also classified here.

This Chapter **does not cover** separate chemically defined compounds (usually classified in **Chapter 28** or **29**), **except** certain fuels described in Parts (II) (A), (II) (B) (1) and (II) (B) (2) of the Explanatory Note to heading 36.06. It also **excludes** ammunition of **Chapter 93**.

Heading 3601

Propellent powders.

EXPLANATORY NOTES

36.01 - Propellent powders.

These powders are mixtures, the combustion of which produces a large volume of hot gases. These gases generate a propellent effect.

In the case of propellent powders for firearms, combustion takes place in a confined space of virtually constant volume and the pressure created in the barrel of the firearm gives high velocity to a projectile.

In the case of propellent powders for rockets, combustion produces a constant pressure and the escape of gases through a nozzle gives the propellent effect.

The propellent powders of this heading contain combustible ingredients and ingredients which support combustion. They may also contain ingredients whose purpose is to control the rate of combustion.

The heading includes :

(1) **Black powder (gunpowder)**

Black powder consists of an intimate mixture of potassium nitrate or sodium nitrate, sulphur and charcoal.

This powder, the colour of which varies from black to brown, is slightly hygroscopic and is used as a sporting powder and as a blasting powder. In the first case, it is presented in the form of round and calibrated grains; in the second case, the grains are of various sizes or may be crushed (blasting powder for use in mining).

(2) **Propellent powders for firearms (other than black powder)**

(a) **Smokeless powders**

These are based on nitrocellulose (cellulose nitrates), usually gun-cotton or blasting grade nitrocellulose, together with other products and, in particular, with stabilisers such as diphenylamine. These powders may be manufactured either from nitrocellulose and solvents, or from nitrocellulose to which barium nitrate or potassium nitrate, alkaline dichromates, etc., and solvents have been added, or again by the association of nitroglycerol (glycerol trinitrate) with nitrocellulose (ballistites, cordites, etc.).

Smokeless powders are generally presented in the form of sticks, tubes, discs, flakes or grains.

(b) **Composite powders**

In composite powders, additives such as nitroguanidine, hexogen (1,3,5-trinitro- 1,3,5-triazinane), or octogene (1,3,5,7-tetranitro-1,3,5,7-tetrazocane) may be added to the basic products (nitrocellulose, nitroglycerol) to improve their combustion characteristics.

Polymeric binders associated with the same constituents (but not containing any nitrocellulose) may also be used to obtain a propellent powder.

(3) **Propellent powders for rockets**

(a) **Homogeneous propellent powders**

These are composed essentially of nitrocellulose and organic nitrates with the addition of other products (stabilisers, ballistic catalysts, etc.). They are presented as charges, generally cylindrical, which are loaded into the combustion chamber in the form of a cartridge.

(b) **Composite propellent powders**

These are products composed of a substance supporting combustion (ammonium perchlorate, ammonium nitrate, etc.) and a reducing agent (generally synthetic rubber), and possibly a further metallic reducing agent (aluminium, etc.).

The heading **excludes** :

(a) Separate chemically defined compounds (usually **Chapter 28** or **29**).

(b) Prepared explosives of **heading 36.02**.

(c) Nitrocellulose (cellulose nitrates) e.g., gun-cotton (**heading 39.12**).

3601.00

Propellent powders.

Heading 3602

Prepared explosives, other than propellent powders.

EXPLANATORY NOTES

36.02 - Prepared explosives, other than propellent powders.

This heading covers mixtures of chemical substances the combustion of which produces a more violent reaction than that produced by propellent powders. Combustion produces an extremely large release of gas at a high temperature, creating an enormous pressure within a very short period. Phlegmatising agents are often added to these products to reduce their sensitivity to shock or friction.

The heading includes :

(1) **Explosives consisting of mixtures based on nitrates of glycerol** (nitroglycerol) **and ethylene glycol** (nitroglycol). These products are commonly called dynamites and often contain other substances such as nitrocellulose (gun-cotton), ammonium nitrate, peat, wood flour, sodium chloride or granulated aluminium.

(2) **Explosives consisting of mixtures based on other organic nitrates or on nitro-compounds**, such as compositions based on TNT (2,4,6-trinitrotoluene), hexogen, octogene, tetryl (N-methyl-N,2,4,6-tetranitroaniline), pentrite (pentaerythritol tetranitrate, PETN) or TATB (1,3,5-triamino-2,4,6-trinitrobenzene).

The TNT-based mixtures include hexolites (TNT + hexogen) and pentolites (TNT + PETN) phlegmatised either by a wax or by a polymeric binder.

(3) **Explosives consisting of mixtures based on ammonium nitrate** sensitised by products other than a nitrate of glycerol or of a glycol. Together with the dynamites referred to in Item (1) above, these are widely used in mines, quarries and on civil engineering sites.

This group includes :

(a) Ammonals, amatols and ammonium nitrate fuel oil (ANFO);

(b) Specifically cartridged, nitrated explosives;

(c) Slurry explosives, consisting of a mixture of alkali nitrates and water, sensitised with an amino nitrate or finely powdered aluminium;

(d) “Emulsion” explosives, consisting of an aqueous solution of alkali nitrates, emulsified in mineral oils.

(4) **Explosives consisting of mixtures based on chlorates or perchlorates**, for example the cheddites used in mines and quarries.

(5) **Primary or initiating compositions**, which are much more sensitive in the dry state to shock and friction than the explosives of the types mentioned in the previous four groups. They are mixtures based mainly on lead azide or the trinitroresorcinate (or styphnate) of lead, and tetrazene. These explosives are generally used in the preparation of percussion, friction or flame primers for propellent charges or of detonators for explosives.

All these explosives may be presented as powders, granules, pastes, slurries, emulsions or as more or less dry gels, either in bulk or in the form of charges or cartridges.

This heading **does not cover** separate chemically defined compounds even though they may be explosive. These chemicals are usually included in **Chapter 28** or **29**, e.g., inorganic nitrates (**heading**

28.34), mercury fulminate (**heading 28.52**), trinitrotoluene (**heading 29.04**) and trinitrophenol (**heading 29.08**).

3602.00

Prepared explosives, other than propellent powders.

Heading 3603

Safety fuses; detonating cords; percussion or detonating caps; igniters; electric detonators.

EXPLANATORY NOTES

36.03 - Safety fuses; detonating cords; percussion or detonating caps; igniters; electric detonators.

3603.10 - Safety fuses

3603.20 - Detonating cords

3603.30 - Percussion caps

3603.40 - Detonating caps

3603.50 - Igniters

3603.60 - Electric detonators

These products, which are generally called blasting accessories, are required to ignite powders and explosives.

The heading covers :

(A) **Safety fuses.**

Safety fuses (slow fuses or Bickford fuses) are devices designed to transmit a flame towards an ordinary igniter or detonator. They consist generally of a thin envelope of textile material, tarred or impregnated with rubber or plastics, containing a linear charge of black powder.

(B) **Detonating cords.**

Detonating cords (also known as detonating fuses, detcords, or primer cords)serve to transmit one or more detonations, and generally comprise a core of PETN or penthrite (pentaerythritol tetranitrate) or other explosive in a waterproofed covering of textile material or plastics (flexible fuses). The PETN explodes at a rate of approximately 6.5 km (4 miles) per second. Detonating cords will initiate most commercial high explosives (dynamite, gelignite, sensitized gels, etc.) but will not initiate less sensitive blasting agents like ANFO (ammonium nitrate fuel oil) on their own. They are most frequently used in mines and quarries and on civil engineering sites.

(C) **Percussion caps :**

(1) **Percussion caps** (percussion primers) consist of a small container, generally metallic, usually containing a mixture based on lead trinitroresorcinate (styphnate) with the addition of tetrazene and various oxidising and reducing agents; charges of this explosive mixture usually weigh between 10 and 200 mg. These caps are intended for fixing in the bases of cartridge cases and are used to ignite propellent powder. Percussion caps are made in small sizes for pistols and larger sizes for rifles and muskets.

(2) **Friction percussion caps or firing tubes** consist generally of two concentric metal or cardboard tubes containing two different charges. The explosive charge in the inner tube is ignited by the tearing out of a saw-toothed wire and thus fires the charge of powder between the two tubes which transmits the ignition. Like the caps described in (1) above, firing tubes are used for firing propellent powders.

(D) **Detonating caps (excluding electric and electronic detonators).**

Detonating caps (blasting caps, detonators) consist of a small charge of primary explosive plus a charge of, e.g., PETN or penthrite, hexogen or tetryl, in a tube of metal or plastics under a protective capsule. They are used for igniting prepared explosives other than propellent powders and are generally fired by the flame from the safety fuse which leads into them.

(E) **Igniters :**

(1) **Electric igniters** consisting of an electric fuse head and a small charge of igniting powder, generally black powder.

An electric fuse head consists of two insulated conductors to the ends of which a conducting metal filament is soldered to form an electrically resistant bridge; this filament is embedded in an igniter bead. It is used to ignite a powder charge or to initiate a primary explosive.

(2) **Chemical igniters** such as those consisting of a cylinder containing a glass ampoule filled with a chemical product (e.g., sulphuric acid) and a charge of potassium chlorate, the two being separated by a metal diaphragm. When the ampoule is broken the acid eats away the metal diaphragm (which serves as a delay element) and reacts with the potassium chlorate, producing intense heat capable of igniting a powder charge or safety fuse.

(F) **Electric detonators (including electronic detonators) :**

(1) **Electric detonators** consist of an electric fuse head, as described in Item (E) (1) above, in a tube of metal (or possibly plastics), a small charge of primary explosive (50 to 500 mg of a composition based usually on lead azide) and a somewhat larger charge of another explosive (e.g., PETN or penthrite, hexogen or tetryl).

This group also includes certain electric detonators known as **electric primers**. These are often miniaturised, and the fuse head may be replaced by the incorporation, in the primary composition, of additives to make the composition conductive and enable it to be fired by induction.

(2) **Electronic detonators**, unlike conventional electric detonators described in Item (F) (1) above, electronic detonators contain integrated circuit (IC) timers as delay methods, enabling a highly accurate delay time.

This heading **does not include :**

(a) The paraffined amorce strips or rolls used in miners' lamps, nor caps for toy pistols (**heading 36.04**).

(b) Articles not containing any explosive or inflammable charge (small caps, tubes, electrical apparatus, etc.) which are classified according to their nature under their respective headings.

(c) Shell fuses and cartridge cases with or without caps (**heading 93.06**).

3603.10

- Safety fuses

3603.20

- Detonating cords

3603.30

- Percussion caps

3603.40

- Detonating caps

3603.50

- Igniters

3603.60

- Electric detonators

Heading 3604

Fireworks, signalling flares, rain rockets, fog signals and other pyrotechnic articles.

EXPLANATORY NOTES

36.04 - Fireworks, signalling flares, rain rockets, fog signals and other pyrotechnic articles.

3604.10 - Fireworks

3604.90 - Other

This heading covers pyrotechnic articles capable of producing luminous, acoustic, gaseous, smoke-producing or incendiary effects, including :

(1) **Pyrotechnic articles for amusement :**

(a) **Fireworks** (bombs, fuses, maroons, jets, candles, luminous torches, Bengal matches and lights, etc.) the purpose of which is to provide entertainment through the acoustic, luminous or smoke-producing effects of their combustion. Firing is ensured by a firing powder, such as black powder, integrated into the article and fired by an electric fuse head or a primer fuse.

(b) **Pyrotechnic toys**, such as caps for toy pistols (prepared in tapes, sheets, rolls or circular plastic rings), magic candles, and snaps for Christmas crackers. The combustion of these pyrotechnic toys causes only limited effects.

(2) **Technical devices :**

(a) **Sound or light signalling** devices, such as distress rockets for use at sea, photo-flash cartridges for the equipment of aircraft, Very flares, fog signals and torches for railways, individual distress rockets, lighting effects for cinema or television, etc., lighting devices, guide devices, pyrotechnic decoys, and smoke-producing devices (possibly coloured). Their general property is to produce a relatively long-lasting effect by light, sound or smoke.

(b) **Devices for agricultural or industrial use**, such as anti-hail rockets, anti-hail cartridges, agricultural smoke-producers, thunder-flashes to scare animals, and smoke-producing devices to test for leaks in pipelines.

This heading also includes other **pyrotechnic devices** not specified in the previous groups (e.g., life-line rockets, lead-coated detonating cord for cutting and not for transmitting a detonation).

The heading **does not include :**

(a) Photographic flashlight materials (**heading 37.07**).

(b) Articles producing a lighting effect by the phenomenon of chemiluminescence (**heading 38.24**).

(c) Blank cartridges, containing an explosive charge, for riveting tools or for starting compression ignition internal combustion piston engines (**heading 93.06**).

3604.10

- Fireworks

3604.90

- Other

Heading 3605

Matches, other than pyrotechnic articles of heading 36.04.

EXPLANATORY NOTES

36.05 - Matches, other than pyrotechnic articles of heading 36.04

This heading covers matches producing a flame on being rubbed on a rough surface (sometimes specially prepared for that purpose). They generally consist of a stem of wood, cardboard, textile yarn impregnated with stearin wax, paraffin wax, etc. (wax matches or vestas), and of a head made of various inflammable chemical products.

The heading **excludes** Bengal matches and other pyrotechnic products, though ignited by friction and having the shape of matches (**heading 36.04**).

3605.00

Matches, other than pyrotechnic articles of heading 36.04.

Heading 3606

Ferro-cerium and other pyrophoric alloys in all forms; articles of combustible materials as specified in Note 2 to this Chapter.

EXPLANATORY NOTES

36.06 - Ferro-cerium and other pyrophoric alloys in all forms; articles of combustible materials as specified in Note 2 to this Chapter.

3606.10 - Liquid or liquefied-gas fuels in containers of a kind used for filling or refilling cigarette or similar lighters and of a capacity not exceeding 300 cm^3

3606.90 - Other

(I) FERRO-CERIUM AND OTHER PYROPHORIC ALLOYS IN ALL FORMS

Pyrophoric alloys are alloys which when rubbed on rough surfaces give off sufficient sparks to ignite gas, petrol, tinder or other inflammable material. They are usually combinations of cerium and other metals, the most common being ferro-cerium.

These alloys are included in this heading whether in bulk or in the form of small rods or bars for mechanical lighters (lighter flints), and whether or not put up in small containers for retail sale.

(II) ARTICLES OF COMBUSTIBLE MATERIALS

This group covers **only** :

(A) **Liquid or liquefied-gas fuels** (e.g., petrol, liquid butane) in containers (ampoules, bottles, cans, etc.) of a kind used for filling or refilling cigarette or similar lighters and of a capacity **not exceeding** 300 cm^3.

Refill cartridges or other receptacles (filled or unfilled) which constitute parts of cigarette or similar lighters are **excluded** (**heading 96.13**).

(B) **The following solid fuels :**

(1) Metaldehyde (meta fuel) and hexamethylenetetramine (hexamine) put up as tablets, sticks or in similar forms for use as fuels. When put up in other forms (e.g., powder or crystals) these substances are **excluded** from this heading and fall, respectively, in **heading 29.12** or **29.33**.

(2) Similar chemical substances (whether or not chemically defined) put up as tablets, sticks or in similar forms for use as fuels.

(C) **The following solid or semi-solid fuels :**

Fuels with a basis of alcohol and containing such products as soap, gelatinous substances, cellulose derivatives (these fuels are often sold as “solidified alcohol”), and other similar prepared fuels, in solid or semi-solid form.

An example of a solid prepared fuel of this latter kind is a stick of powdered charcoal with very small proportions of sodium nitrate, as a combustion supporter, and carboxymethylcellulose as a binder, intended for burning slowly within a virtually airtight container which can be carried in clothing as a source of warmth.

However this heading **does not cover** disposable hand or foot warmers which generate heat by an exothermic reaction that does not produce light or a flame (e.g., by oxidation of iron powder through an oxidation catalyst) **(heading 38.24)**.

(D) **Resin torches, firelighters and the like.**

This group includes :

(i) **Resin torches**, which provide light for a relatively long period, composed of combustible materials impregnated with resin, asphalt, pitch, etc., and generally mounted on sticks or handles, or enveloped in paper, textile or other material.

(ii) **Firelighters**, which burn fiercely for a short time so that fuel (e.g., wood, coal, coke, fuel oil) is ignited. These articles may consist, for example, of urea-formaldehyde resins with the addition of kerosene and water, or of paper impregnated with mineral oil or paraffin wax.

However, this description **does not cover** fuels such as briquettes of agglomerated sawdust (**heading 44.01**).

3606.10

- Liquid or liquefied-gas fuels in containers of a kind used for filling or refilling cigarette or similar lighters and of a capacity not exceeding 300 cm3

3606.90

- Other

Chapter 37

Photographic or cinematographic goods

LEGAL NOTES

Notes.

1.- This Chapter does not cover waste or scrap.

2.- In this Chapter the word “photographic” relates to the process by which visible images are formed, directly or indirectly, by the action of light or other forms of radiation on photosensitive, including thermosensitive, surfaces.

EXPLANATORY NOTES

Chapter 37

Photographic or cinematographic goods

Notes.

1.- This Chapter does not cover waste or scrap.

2.- In this Chapter the word “photographic” relates to the process by which visible images are formed, directly or indirectly, by the action of light or other forms of radiation on photosensitive, including thermosensitive, surfaces.

GENERAL

The photographic plates, film, paper, paperboard and textiles of Chapter 37 are those with one or more layers of any emulsion sensitive to light or other forms of radiation having sufficient energy to cause the necessary reaction in photon (or photo) sensitive materials, i.e., radiation of wavelength no longer than approximately 1,300 nanometers in the electromagnetic spectrum (including gamma-rays, X-rays, ultra-violet and near-infrared radiation), as well as particle (or nuclear) radiation, whether for reproduction in monochrome or colour. Certain plates are, however, not coated with an emulsion but consist wholly or essentially of photosensitive plastics which may be affixed to a support. Infrared laser sensitive plates are often called thermosensitive/thermal plates or heat sensitive plates.

The most common emulsions are based on silver halides (silver bromide, silver bromide-iodide, etc.) or on salts of other precious metals, but certain other materials may be used, e.g., potassium ferricyanide or other iron compounds for blue-prints, potassium or ammonium dichromate for photomechanical engraving, diazonium salts for diazo emulsions, etc.

(A) **Plates and film** fall in the Chapter whether :

(1) Unexposed, i.e., not yet submitted to the action of light or other forms of radiation; or

(2) Exposed, whether or not developed (that is, chemically treated to render the image visible).

Plates and film remain in the Chapter whether negative (i.e., with lights and shades reversed), positive (including lavender positives used for the duplication of further positives), or reversible (i.e., with special emulsions which permit the direct production of positives).

(B) **Photographic paper, paperboard and textiles** are included in the Chapter **only** when unexposed or exposed (negative or positive) but **not** developed; after development, they are proper to **Chapter 49** or **Section XI**.

Subject to special conditions explained in the Explanatory Note to heading 37.07, the Chapter also includes chemical products and flashlight materials of a kind used in photography.

This Chapter **does not cover** waste and scrap. Photographic or cinematographic waste and scrap containing precious metal or precious metal compounds, of a kind used principally for the recovery of precious metal, is classified in **heading 71.12**. Other photographic or cinematographic waste and scrap is classified according to constituent material (e.g., if of plastics, **heading 39.15**, if of paper, **heading 47.07**).

Heading 3701

Photographic plates and film in the flat, sensitised, unexposed, of any material other than paper, paperboard or textiles; instant print film in the flat, sensitised, unexposed, whether or not in packs.

EXPLANATORY NOTES

37.01 - Photographic plates and film in the flat, sensitised, unexposed, of any material other than paper, paperboard or textiles; instant print film in the flat, sensitised, unexposed, whether or not in packs.

3701.10 - For X-ray

3701.20 - Instant print film

3701.30 - Other plates and film, with any side exceeding 255 mm

- Other :

3701.91 - - For colour photography (polychrome)

3701.99 - - Other

This heading covers :

(A) **Photographic plates and film in the flat, of any material other than paper, paperboard or textiles.**

Such plates and film **in the flat** (i.e., not in rolls), including film put up in disc form, are **unexposed** and are generally coated with a **sensitising** photographic emulsion. These may be made of any material **except** paper (e.g., paper “plates” used to produce negatives), paperboard or textiles (**heading 37.03**). The materials commonly used are glass and cellulose acetate, poly(ethylene terephthalate) or other plastics (for film packs or cut films), and metal or stone (for photomechanical processes). Certain plates, which when exposed and processed will be used for printing, are not

coated with an emulsion but consist wholly or essentially of photosensitive plastics. They may be affixed to a support of metal or other material. Some of these plates must have their degree of sensitivity enhanced prior to exposure and other plates must have the degree of hardening of the irradiated sections (thermally) enhanced after irradiation.

These goods are put to many uses such as :

(1) Plates, cut film and film packs for amateur or professional use.

(2) X-ray plates and flat film including those for dental radiography. These goods are generally sensitised on both sides.

(3) Photomechanical process plates of the type used for photoengraving, photolithography, etc.

(4) Special plates and film for use in microphotography, photomicrography, astronomy, cosmic ray photography, aerial photography, etc.

(B) **Instant print film in the flat.**

This is also **sensitised**, **unexposed** and **in the flat**. Instant print film consists of a sensitised sheet of any material (the negative), a sheet of specially treated paper (the positive), and a developer, for instant production of finished positive photographs. Instant print film may be presented as a pack (a cartridge or canister containing several sheets of instant print film) designed to be loaded directly into a camera, or a box containing a number of individually usable sheets.

However, instant print film in rolls, sensitised, unexposed, is **excluded** (**heading 37.02**).

The heading also **excludes** :

(a) Non-sensitised plates and film in the flat (classified according to their constituent material).

(b) Unexposed rolled film (**heading 37.02**).

3701.10

- For X-ray

3701.20

- Instant print film

3701.30

- Other plates and film, with any side exceeding 255 mm

CLASSIFICATION OPINIONS

1. Plates, unexposed, consisting of a sheet of sensitised copper foil bonded to an in sulating backing, for the fabrication of electric circuits by printing and chemical etching. *Adoption : 1963*

1. Plates, presensitised, unexposed (dimensions : 550 mm x 650 mm x 0.3 mm, 605 mm x 730 mm x 0.3 mm and 743 mm x 925 mm x 0.3 mm), each consisting of an electrochemically grained sheet

of aluminium coated with ultraviolet (UV) light sensitive chemicals (a mixture of organic resins (phenolic) and diazo compounds).
When exposed with UV light through a negative or positive film, developed and processed, the plates will be used for offset printing.
Application of GIRs 1 and 6
Adoption : 2015

3701.9

- Other :

3701.91

-- For colour photography (polychrome)

3701.99

-- Other

CLASSIFICATION OPINIONS

1. Plates, unexposed, consisting of a sheet of sensitised copper foil bonded to an in sulating backing, for the fabrication of electric circuits by printing and chemical etching.
Adoption : 1963

Heading 3702

Photographic film in rolls, sensitised, unexposed, of any material other than paper, paperboard or textiles; instant print film in rolls, sensitised, unexposed.

EXPLANATORY NOTES

37.02 - Photographic film in rolls, sensitised, unexposed, of any material other than paper, paperboard or textiles; instant print film in rolls, sensitised, unexposed.

3702.10 - For X-ray

- Other film, without perforations, of a width not exceeding 105 mm :

3702.31 - - For colour photography (polychrome)

3702.32 - - Other, with silver halide emulsion

3702.39 - - Other

- Other film, without perforations, of a width exceeding 105 mm :

3702.41 - - Of a width exceeding 610 mm and of a length exceeding 200 m, for colour photography (polychrome)

3702.42 - - Of a width exceeding 610 mm and of a length exceeding 200 m, other than for colour photography

3702.43 - - Of a width exceeding 610 mm and of a length not exceeding 200 m

3702.44 - - Of a width exceeding 105 mm but not exceeding 610 mm

- Other film, for colour photography (polychrome) :

3702.52 - - Of a width not exceeding 16 mm

3702.53 - - Of a width exceeding 16 mm but not exceeding 35 mm and of a length not exceeding 30 m, for slides

3702.54 - - Of a width exceeding 16 mm but not exceeding 35 mm and of a length not exceeding 30 m, other than for slides

3702.55 - - Of a width exceeding 16 mm but not exceeding 35 mm and of a length exceeding 30 m

3702.56 - - Of a width exceeding 35 mm

- Other :

3702.96 - - Of a width not exceeding 35 mm and of a length not exceeding 30 m

3702.97 - - Of a width not exceeding 35 mm and of a length exceeding 30 m

3702.98 - - Of a width exceeding 35 mm

This heading covers :

(A) **Photographic film in rolls, of any material other than paper, paperboard or textiles.**

Photographic film **in rolls** (i.e., other than flat), **sensitised**, **unexposed** is usually of poly(ethylene terephthalate), cellulose acetate or similar flexible materials and normally provides for a number of exposures. The heading **does not cover** such film of paper (e.g., paper "films" used to make negatives), paperboard or textiles (**heading 37.03**).

Film in rolls falls in this heading with or without perforations; it must be protected from the light by paper backing or other suitable packing.

The heading includes :

(1) Cinematographic film, the normal width of which is 35, 16, 9.5 or 8 mm.

(2) "Still" camera film in roll form.

Photographic film not cut to usable sizes remains classifiable in this heading.

Like the photographic plates of heading 37.01, this film may be used for amateur, professional photomechanical, scientific, radiographic, etc., purposes. X-ray film in rolls is generally sensitised on both sides.

Sensitised film for photoelectric sound recording is also classified here.

(B) **Instant print film in rolls.**

Instant print film in rolls permits instant production of finished positive photographs. Such film consists of a sensitised film of any material, such as cellulose acetate, poly(ethylene terephthalate) or other plastics, paper, paperboard or textiles (negative), a specially treated strip of paper (positive) and a developer.

However, instant print film in the flat, sensitised, unexposed, is **excluded** (**heading 37.01**).

The heading **does not cover** :

(a) Unexposed photographic plates and film in the flat (**heading 37.01**).

(b) Unsensitised film of plastics (**Chapter 39**).

(c) Prepared unrecorded film for mechanical sound recording (**heading 85.23**).

3702.10

- For X-ray

3702.3

- Other film, without perforations, of a width not exceeding 105 mm :

3702.31

-- For colour photography (polychrome)

3702.32

-- Other, with silver halide emulsion

3702.39

-- Other

3702.4

- Other film, without perforations, of a width exceeding 105 mm :

3702.41

-- Of a width exceeding 610 mm and of a length exceeding 200 m, for colour photography (polychrome)

3702.42

-- Of a width exceeding 610 mm and of a length exceeding 200 m, other than for colour photography

3702.43

-- Of a width exceeding 610 mm and of a length not exceeding 200 m

3702.44

-- Of a width exceeding 105 mm but not exceeding 610 mm

3702.5

- Other film, for colour photography (polychrome) :

3702.52

-- Of a width not exceeding 16 mm

3702.53

-- Of a width exceeding 16 mm but not exceeding 35 mm and of a length not exceeding 30 m, for slides
3702.54
-- Of a width exceeding 16 mm but not exceeding 35 mm and of a length not exceeding 30 m, other than for slides
3702.55
-- Of a width exceeding 16 mm but not exceeding 35 mm and of a length exceeding 30 m
3702.56
-- Of a width exceeding 35 mm
3702.9
- Other :
3702.96
-- Of a width not exceeding 35 mm and of a length not exceeding 30 m
3702.97
-- Of a width not exceeding 35 mm and of a length exceeding 30 m
3702.98
-- Of a width exceeding 35 mm
Heading 3703
Photographic paper, paperboard and textiles, sensitised, unexposed.
EXPLANATORY NOTES

37.03 - Photographic paper, paperboard and textiles, sensitised, unexposed.

3703.10 - In rolls of a width exceeding 610 mm

3703.20 - Other, for colour photography (polychrome)

3703.90 - Other

This heading covers all **sensitised**, **unexposed** photographic paper, paperboard and textiles, flat or rolled.

It therefore includes :

(1) Paper and textiles for the production of positive photographic prints. These may be used in amateur, professional, X-ray, electro-cardiographic, recording, photocopying, etc., work.

(2) The so-called paper “plates” and “films” used to produce negatives by exposure in a camera.

(3) Ferricyanide, ferro-gallate, etc., paper used to produce blue-prints, etc.

The heading **does not include :**

(a) Instant print film in the flat or in rolls, sensitised, unexposed (**heading 37.01** or **37.02**).

(b) Exposed but not developed, photographic paper, paperboard or textiles (**heading 37.04**).

(c) Prepared but unsensitised paper, paperboard or textiles, e.g., paper coated with albumin, gelatin, barium sulphate, zinc oxide, etc. (**Chapter 48** or **Section XI**).

(d) Developed photographic paper, paperboard or textiles (**Chapter 49** or **Section XI**).

3703.10

- In rolls of a width exceeding 610 mm

3703.20

- Other, for colour photography (polychrome)

3703.90

- Other

Heading 3704

Photographic plates, film, paper, paperboard and textiles, exposed but not developed.

EXPLANATORY NOTES

37.04 - Photographic plates, film, paper, paperboard and textiles, exposed but not developed.

This heading covers the photographic plates, film, paper, paperboard and textiles referred to in heading 37.01, 37.02 or 37.03, provided they are **exposed but not developed**. These goods may be negative or positive (whether reversible or not).

Developed plates, film, paper, paperboard and textiles are **excluded** (**heading 37.05**, **37.06**, **Chapter 49** or **Section XI**).

3704.00

Photographic plates, film, paper, paperboard and textiles, exposed but not developed.

Heading 3705

Photographic plates and film, exposed and developed, other than cinematographic film.

EXPLANATORY NOTES

37.05 - Photographic plates and film, exposed and developed, other than cinematographic film.

This heading covers the photographic plates and film of heading 37.01 or 37.02 after **exposure and development, provided** that, if with perforations, they are of a kind used for the reproduction or projection of still images. The heading covers both negatives and positives; the latter are sometimes called diapositives because they are transparent.

The heading also covers microcopies on transparent bases (microfilms).

The heading includes graduated (or “shade-off”) contact halftone film screens comprising a multitude of dots usually in checker-board pattern and other screens obtained by photography, for use in the graphic arts.

The heading **excludes** :

(a) Developed film of a kind used in a cinematographic projector to produce motion pictures (**heading 37.06**).

(b) Developed photographic paper, paperboard or textiles (**Chapter 49** or **Section XI**).

(c) Developed plates for printing purposes (e.g., offset), ready for use (**heading 84.42**).

3705.00

Photographic plates and film, exposed and developed, other than cinematographic film.

Heading 3706

Cinematographic film, exposed and developed, whether or not incorporating sound track or consisting only of sound track.

EXPLANATORY NOTES

37.06 - Cinematographic film, exposed and developed, whether or not incorporating sound track or consisting only of sound track.

3706.10 - Of a width of 35 mm or more

3706.90 - Other

This heading covers developed standard or substandard width cinematographic film for the projection of motion pictures, negative or positive, containing related visual images only, or both related visual images and sound track (whether photographically or non-photographically, e.g., magnetically, recorded).

This heading also covers **developed** standard or substandard width cinematographic film, whether negative or positive, containing no visual images, but **consisting solely** of one or more sound tracks. The track on film containing only a single sound track must be photoelectrically recorded. Film containing more than one sound track may include magnetically recorded track but at least one track must be photoelectrically recorded. The photoelectrically recorded tracks appear as narrow printed bands which reproduce the sound vibrations.

Sound track film produced solely by processes other than photoelectric (e.g., by mechanical engraving or magnetic recording) is **excluded** (**heading 85.23**).

3706.10

- Of a width of 35 mm or more

3706.90

- Other

Heading 3707

Chemical preparations for photographic uses (other than varnishes, glues, adhesives and similar preparations); unmixed products for photographic uses, put up in measured portions or put up for retail sale in a form ready for use.

EXPLANATORY NOTES

37.07 - Chemical preparations for photographic uses (other than varnishes, glues, adhesives and similar preparations); unmixed products for photographic uses, put up in measured portions or put up for retail sale in a form ready for use (+).

3707.10 - Sensitising emulsions

3707.90 - Other

Subject to the conditions specified at (A) and (B) below, this heading covers products of a kind used directly in the production of photographic images. Such products include :

(1) **Emulsions** (see the General Explanatory Note to this Chapter).

(2) **Developers** to render latent photographic images visible (e.g., hydroquinone, catechol, pyrogallol, phenidone, *p*-N-methylaminophenolsulphate and their derivatives). The heading also includes developers used for electrostatic document reproduction.

(3) **Fixers** to make the developed image permanent (e.g., sodium thiosulphate (hypo), sodium metabisulphite, ammonium thiosulphate, ammonium or sodium or potassium thiocyanate).

(4) **Intensifiers and reducers** to increase or diminish the intensity of the image (e.g., potassium dichromate, ammonium persulphate).

It should be noted, however, that mercuric chloride remains classified **in heading 28.52** even if presented for photographic uses and put up in measured portions or for retail sale in a form ready for use.

(5) **Toners** to modify the colour of the image (e.g., sodium sulphide).

(6) **Clearing agents** to remove stains caused during development, fixation, etc. (e.g., potash alum).

The heading also covers, subject to (A) and (B) below, **flashlight materials**, usually consisting of aluminium or magnesium, in powder, tablets, foil, etc., and sometimes mixed with other substances to promote combustion.

All the products cited above fall within the heading **only** when they are :

(A) Single substances which are :

(i) Put up in measured portions, that is uniformly divided up into the quantities in which they will be used, e.g., tablets, small envelopes put up containing the measured amount of powder for one developing bath; or

(ii) In packings for retail sale and put up with any indication that they are ready for use in photography, whether by label, literature or otherwise (e.g., instructions for use, etc.).

Single substances put up other than as above, **are classified according to their nature** (e.g., as chemical products in **Chapter 28** or **29**, as metallic powders in **Section XV**, etc.).

or (B) Preparations obtained by mixing or compounding together two or more substances for photographic use. Such preparations remain within the heading whether put up in bulk or small quantities, and whether or not presented for retail sale.

The heading **does not cover** :

(a) Auxiliary products not used directly in the production of photographic images, blue-prints, etc. (e.g., glue for mounting photographs, varnishes to protect and glaze negatives or positives, retouching paints, pencils, etc.).

(b) Photographic flashbulbs of **heading 90.06**.

(c) Products answering to descriptions in **headings 28.43 to 28.46 and 28.52** (e.g., salts and other products of precious metals), however put up and whatever their intended use.

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° °

Subheading Explanatory Note.

Subheading 3707.9

Subheading 3707.90 covers light-sensitive plastic resin solutions (“photoresists”) used in the photolithographic manufacture of semiconductor materials. They consist of a polymer, a photosensitizer, a non-aqueous solvent, and various other chemicals. A photoresist is applied to a metal oxide-coated silicon wafer that is to be converted into the finished semiconductor material.

3707.10

- Sensitising emulsions

3707.90

- Other

Chapter 38

Miscellaneous chemical products

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Separate chemically defined elements or compounds with the exception of the following :

(1) Artificial graphite (heading 38.01);

(2) Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products and plant-growth regulators, disinfectants and similar products, put up as described in heading 38.08;

(3) Products put up as charges for fire-extinguishers or put up in fire-extinguishing grenades (heading 38.13);

(4) Certified reference materials specified in Note 2 below;

(5) Products specified in Note 3 (a) or 3 (c) below;

(b) Mixtures of chemicals with foodstuffs or other substances with nutritive value, of a kind used in the preparation of human foodstuffs (generally heading 21.06);

(c) Products of heading 24.04;

(d) Slag, ash and residues (including sludges, other than sewage sludge), containing metals, arsenic or their mixtures and meeting the requirements of Note 3 (a) or 3 (b) to Chapter 26 (heading 26.20);

(e) Medicaments (heading 30.03 or 30.04); or

(f) Spent catalysts of a kind used for the extraction of base metals or for the manufacture of chemical compounds of base metals (heading 26.20), spent catalysts of a kind used principally for the recovery of precious metal (heading 71.12) or catalysts consisting of metals or metal alloys in the form of, for example, finely divided powder or woven gauze (Section XIV or XV).

2.- (A) For the purpose of heading 38.22, the expression “certified reference materials” means reference materials which are accompanied by a certificate which indicates the values of the certified properties, the methods used to determine these values and the degree of certainty associated with each value and which are suitable for analytical, calibrating or referencing purposes.

(B) With the exception of the products of Chapter 28 or 29, for the classification of certified reference materials, heading 38.22 shall take precedence over any other heading in the Nomenclature.

3.- Heading 38.24 includes the following goods which are not to be classified in any other heading of the Nomenclature :

(a) Cultured crystals (other than optical elements) weighing not less than 2.5 g each, of magnesium oxide or of the halides of the alkali or alkaline-earth metals;

(b) Fusel oil; Dippel's oil;

(c) Ink removers put up in packings for retail sale;

(d) Stencil correctors, other correcting fluids and correction tapes (other than those of heading 96.12), put up in packings for retail sale; and

(e) Ceramic firing testers, fusible (for example, Seger cones).

4.- Throughout the Nomenclature, "municipal waste" means waste of a kind collected from households, hotels, restaurants, hospitals, shops, offices, etc., road and pavement sweepings, as well as construction and demolition waste. Municipal waste generally contains a large variety of materials such as plastics, rubber, wood, paper, textiles, glass, metals, food materials, broken furniture and other damaged or discarded articles. The term "municipal waste", however, does not cover :

(a) Individual materials or articles segregated from the waste, for example wastes of plastics, rubber, wood, paper, textiles, glass or metals, electrical and electronic waste and scrap (including spent batteries) which fall in their appropriate headings of the Nomenclature;

(b) Industrial waste;

(c) Waste pharmaceuticals, as defined in Note 4 (k) to Chapter 30; or

(d) Clinical waste, as defined in Note 6 (a) below.

5.- For the purposes of heading 38.25, "sewage sludge" means sludge arising from urban effluent treatment plant and includes pre-treatment waste, scourings and unstabilised sludge. Stabilised sludge when suitable for use as fertiliser is excluded (Chapter 31).

6.- For the purposes of heading 38.25, the expression "other wastes" applies to :

(a) Clinical waste, that is, contaminated waste arising from medical research, diagnosis, treatment or other medical, surgical, dental or veterinary procedures, which often contain pathogens and pharmaceutical substances and require special disposal procedures (for example, soiled dressings, used gloves and used syringes);

(b) Waste organic solvents;

(c) Wastes of metal pickling liquors, hydraulic fluids, brake fluids and anti-freezing fluids; and

(d) Other wastes from chemical or allied industries.

The expression “other wastes” does not, however, cover wastes which contain mainly petroleum oils or oils obtained from bituminous minerals (heading 27.10).

7.- For the purposes of heading 38.26, the term “biodiesel” means mono-alkyl esters of fatty acids of a kind used as a fuel, derived from animal, vegetable or microbial fats and oils whether or not used.

Subheading Notes.

1.- Subheadings 3808.52 and 3808.59 cover only goods of heading 38.08, containing one or more of the following substances : alachlor (ISO); aldicarb (ISO); aldrin (ISO); azinphos-methyl (ISO); binapacryl (ISO); camphechlor (ISO) (toxaphene); captafol (ISO); carbofuran (ISO); chlordane (ISO); chlordimeform (ISO); chlorobenzilate (ISO); DDT (ISO) (clofenotane (INN), 1,1,1-trichloro-2,2-bis (*p*-chlorophenyl)ethane); dieldrin (ISO, INN); 4,6-dinitro-*o*-cresol (DNOC (ISO)) or its salts; dinoseb (ISO), its salts or its esters; endosulfan (ISO); ethylene dibromide (ISO) (1,2-dibromoethane); ethylene dichloride (ISO) (1,2-dichloroethane); fluoroacetamide (ISO); heptachlor (ISO); hexachlorobenzene (ISO); 1,2,3,4,5,6-hexachlorocyclohexane (HCH (ISO)), including lindane (ISO, INN); mercury compounds; methamidophos (ISO); monocrotophos (ISO); oxirane (ethylene oxide); parathion (ISO); parathion-methyl (ISO) (methyl-parathion); pentachlorophenol (ISO), its salts or its esters; perfluorooctane sulphonic acid and its salts; perfluorooctane sulphonamides; perfluorooctane sulphonyl fluoride; phosphamidon (ISO); 2,4,5-T (ISO) (2,4,5-trichlorophenoxyacetic acid), its salts or its esters; tributyltin compounds; trichlorfon (ISO).

2.- Subheadings 3808.61 to 3808.69 cover only goods of heading 38.08, containing alpha-cypermethrin (ISO), bendiocarb (ISO), bifenthrin (ISO), chlorfenapyr (ISO), cyfluthrin (ISO), deltamethrin (INN, ISO), etofenprox (INN), fenitrothion (ISO), lambda-cyhalothrin (ISO), malathion (ISO), pirimiphos-methyl (ISO) or propoxur (ISO).

3.- Subheadings 3824.81 to 3824.88 cover only mixtures and preparations containing one or more of the following substances : oxirane (ethylene oxide); polybrominated biphenyls (PBBs); polychlorinated biphenyls (PCBs); polychlorinated terphenyls (PCTs); tris(2,3-dibromopropyl) phosphate; aldrin (ISO); camphechlor (ISO) (toxaphene); chlordane (ISO); chlordecone (ISO); DDT (ISO) (clofenotane (INN); 1,1,1-trichloro-2,2-bis(*p*-chlorophenyl)ethane); dieldrin (ISO, INN); endosulfan (ISO); endrin (ISO); heptachlor (ISO); mirex (ISO); 1,2,3,4,5,6-hexachlorocyclohexane (HCH (ISO)), including lindane (ISO, INN); pentachlorobenzene (ISO); hexachlorobenzene (ISO); perfluorooctane sulphonic acid, its salts; perfluorooctane sulphonamides; perfluorooctane sulphonyl fluoride or tetra-, penta-, hexa-, hepta- or octabromodiphenyl ethers; short-chain chlorinated paraffins.

Short-chain chlorinated paraffins are mixtures of compounds, with a chlorination degree of more than 48% by weight with the following molecular formula : $C_xH_{(2xy+2)}Cl_y$, where x=10 - 13 and y= 1 – 13.

4.- For the purposes of subheadings 3825.41 and 3825.49, “waste organic solvents” are wastes containing mainly organic solvents, not fit for further use as presented as primary products, whether or not intended for recovery of the solvents.

EXPLANATORY NOTES

Miscellaneous chemical products

Notes.

1.- This Chapter does not cover :

(a) Separate chemically defined elements or compounds with the exception of the following :

(1) Artificial graphite (heading 38.01);

(2) Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products and plant-growth regulators, disinfectants and similar products, put up as described in heading 38.08;

(3) Products put up as charges for fire-extinguishers or put up in fire-extinguishing grenades (heading 38.13);

(4) Certified reference materials specified in Note 2 below;

(5) Products specified in Note 3 (a) or 3 (c) below;

(b) Mixtures of chemicals with foodstuffs or other substances with nutritive value, of a kind used in the preparation of human foodstuffs (generally heading 21.06);

(c) Products of heading 24.04;

(d) Slag, ash and residues (including sludges, other than sewage sludge), containing metals, arsenic or their mixtures and meeting the requirements of Note 3 (a) or 3 (b) to Chapter 26 (heading 26.20);

(e) Medicaments (heading 30.03 or 30.04); or

(f) Spent catalysts of a kind used for the extraction of base metals or for the manufacture of chemical compounds of base metals (heading 26.20), spent catalysts of a kind used principally for the recovery of precious metal (heading 71.12) or catalysts consisting of metals or metal alloys in the form of, for example, finely divided powder or woven gauze (Section XIV or XV).

2.- (A) For the purpose of heading 38.22, the expression “certified reference materials” means reference materials which are accompanied by a certificate which indicates the values of the certified properties, the methods used to determine these values and the degree of certainty associated with each value and which are suitable for analytical, calibrating or referencing purposes.

(B) With the exception of the products of Chapter 28 or 29, for the classification of certified reference materials, heading 38.22 shall take precedence over any other heading in the Nomenclature.

3.- Heading 38.24 includes the following goods which are not to be classified in any other heading of the Nomenclature :

(a) Cultured crystals (other than optical elements) weighing not less than 2.5 g each, of magnesium oxide or of the halides of the alkali or alkaline-earth metals;

(b) Fusel oil; Dippel's oil;

(c) Ink removers put up in packings for retail sale;

(d) Stencil correctors, other correcting fluids and correction tapes (other than those of heading 96.12), put up in packings for retail sale; and

(e) Ceramic firing testers, fusible (for example, Seger cones).

4.- Throughout the Nomenclature, "municipal waste" means waste of a kind collected from households, hotels, restaurants, hospitals, shops, offices, etc., road and pavement sweepings, as well as construction and demolition waste. Municipal waste generally contains a large variety of materials such as plastics, rubber, wood, paper, textiles, glass, metals, food materials, broken furniture and other damaged or discarded articles. The term "municipal waste", however, does not cover :

(a) Individual materials or articles segregated from the waste, for example wastes of plastics, rubber, wood, paper, textiles, glass or metals, electrical and electronic waste and scrap (including spent batteries) which fall in their appropriate headings of the Nomenclature;

(b) Industrial waste;

(c) Waste pharmaceuticals, as defined in Note 4 (k) to Chapter 30; or

(d) Clinical waste, as defined in Note 6 (a) below.

5.- For the purposes of heading 38.25, "sewage sludge" means sludge arising from urban effluent treatment plant and includes pre-treatment waste, scourings and unstabilised sludge. Stabilised sludge when suitable for use as fertiliser is excluded (Chapter 31).

6.- For the purposes of heading 38.25, the expression "other wastes" applies to :

(a) Clinical waste, that is, contaminated waste arising from medical research, diagnosis, treatment or other medical, surgical, dental or veterinary procedures, which often contain pathogens and pharmaceutical substances and require special disposal procedures (for example, soiled dressings, used gloves and used syringes);

(b) Waste organic solvents;

(c) Wastes of metal pickling liquors, hydraulic fluids, brake fluids and anti-freezing fluids; and

(d) Other wastes from chemical or allied industries.

The expression "other wastes" does not, however, cover wastes which contain mainly petroleum oils or oils obtained from bituminous minerals (heading 27.10).

7.- For the purposes of heading 38.26, the term “biodiesel” means mono-alkyl esters of fatty acids of a kind used as a fuel, derived from animal, vegetable or microbial fats and oils whether or not used.

Subheading Notes.

1.- Subheadings 3808.52 and 3808.59 cover only goods of heading 38.08, containing one or more of the following substances : alachlor (ISO); aldicarb (ISO); aldrin (ISO); azinphos-methyl (ISO); binapacryl (ISO); camphechlor (ISO) (toxaphene); captafol (ISO); carbofuran (ISO); chlordane (ISO); chlordimeform (ISO); chlorobenzilate (ISO); DDT (ISO) (clofenotane (INN), 1,1,1-trichloro-2,2-bis (*p*-chlorophenyl)ethane); dieldrin (ISO, INN); 4,6-dinitro-*o*-cresol (DNOC (ISO)) or its salts; dinoseb (ISO), its salts or its esters; endosulfan (ISO); ethylene dibromide (ISO) (1,2-dibromoethane); ethylene dichloride (ISO) (1,2-dichloroethane); fluoroacetamide (ISO); heptachlor (ISO); hexachlorobenzene (ISO); 1,2,3,4,5,6-hexachlorocyclohexane (HCH (ISO)), including lindane (ISO, INN); mercury compounds; methamidophos (ISO); monocrotophos (ISO); oxirane (ethylene oxide); parathion (ISO); parathion-methyl (ISO) (methyl-parathion); pentachlorophenol (ISO), its salts or its esters; perfluorooctane sulphonic acid and its salts; perfluorooctane sulphonamides; perfluorooctane sulphonyl fluoride; phosphamidon (ISO); 2,4,5-T (ISO) (2,4,5-trichlorophenoxyacetic acid), its salts or its esters; tributyltin compounds; trichlorfon (ISO).

2.- Subheadings 3808.61 to 3808.69 cover only goods of heading 38.08, containing alpha-cypermethrin (ISO), bendiocarb (ISO), bifenthrin (ISO), chlorfenapyr (ISO), cyfluthrin (ISO), deltamethrin (INN, ISO), etofenprox (INN), fenitrothion (ISO), lambda-cyhalothrin (ISO), malathion (ISO), pirimiphos-methyl (ISO) or propoxur (ISO).

3.- Subheadings 3824.81 to 3824.88 cover only mixtures and preparations containing one or more of the following substances : oxirane (ethylene oxide); polybrominated biphenyls (PBBs); polychlorinated biphenyls (PCBs); polychlorinated terphenyls (PCTs); tris(2,3-dibromopropyl) phosphate; aldrin (ISO); camphechlor (ISO) (toxaphene); chlordane (ISO); chlordecone (ISO); DDT (ISO) (clofenotane (INN); 1,1,1-trichloro-2,2-bis(*p*-chlorophenyl)ethane); dieldrin (ISO, INN); endosulfan (ISO); endrin (ISO); heptachlor (ISO); mirex (ISO); 1,2,3,4,5,6-hexachlorocyclohexane (HCH (ISO)), including lindane (ISO, INN); pentachlorobenzene (ISO); hexachlorobenzene (ISO); perfluorooctane sulphonic acid, its salts; perfluorooctane sulphonamides; perfluorooctane sulphonyl fluoride or tetra-, penta-, hexa-, hepta- or octabromodiphenyl ethers; short-chain chlorinated paraffins.

Short-chain chlorinated paraffins are mixtures of compounds, with a chlorination degree of more than 48% by weight with the following molecular formula : $C_xH_{(2xy+2)}Cl_y$, where x=10 - 13 and y= 1 – 13.

4.- For the purposes of subheadings 3825.41 and 3825.49, “waste organic solvents” are wastes containing mainly organic solvents, not fit for further use as presented as primary products, whether or not intended for recovery of the solvents.

GENERAL

This Chapter covers a large number of chemical and related products.

It **does not cover** separate chemically defined elements or compounds (usually classified in **Chapter 28** or **29**), **with the exception** of the following :

(1) Artificial graphite (heading 38.01).

(2) Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products and plant-growth regulators, disinfectants and similar products, put up as described in heading 38.08.

(3) Products put up as charges for fire-extinguishers or put up in fire-extinguishing grenades (heading 38.13).

(4) Cultured crystals (other than optical elements) weighing not less than 2.5 g each, of magnesium oxide or of the halides of the alkali or alkaline-earth metals (heading 38.24).

(5) Ink removers put up in packings for retail sale (heading 38.24).

For the purposes of Note 1 (b) to the Chapter, the expression “foodstuffs or other substances with nutritive value” principally includes edible products of Sections I to IV.

The expression “foodstuffs or other substances with nutritive value” also includes certain other products, for example, products of Chapter 28 used as mineral supplements in food preparations, sugar alcohols of heading 29.05, essential amino acids of heading 29.22, lecithin of heading 29.23, provitamins and vitamins of heading 29.36, sugars of heading 29.40, animal blood fractions of heading 30.02 for use in food preparations, casein and caseinates of heading 35.01, albumins of heading 35.02, edible gelatin of heading 35.03, edible protein substances of heading 35.04, dextrins and other edible modified starches of heading 35.05, sorbitol of heading 38.24, edible products of Chapter 39 (such as amylopectin and amylose of heading 39.13). It should be noted that this list of products is simply illustrative and should not be taken to be exhaustive.

The mere presence of “foodstuffs or other substances with nutritive value” in a mixture would not suffice to exclude the mixture from Chapter 38, by application of Note 1 (b). Substances having a nutritive value that is merely subsidiary to their function as chemical products, e.g., as food additives or processing aids, are not regarded as “foodstuffs or substances with nutritive value” for the purpose of this Note. The mixtures which are excluded from Chapter 38 by virtue of Note 1 (b) are those which are of a kind used in the preparation of human foodstuffs and which are valued for their nutritional qualities.

Heading 3801

Artificial graphite; colloidal or semi-colloidal graphite; preparations based on graphite or other carbon in the form of pastes, blocks, plates or other semi-manufactures.

EXPLANATORY NOTES

38.01 - Artificial graphite; colloidal or semi-colloidal graphite; preparations based on graphite or other carbon in the form of pastes, blocks, plates or other semi-manufactures.

3801.10 - Artificial graphite

3801.20 - Colloidal or semi-colloidal graphite

3801.30 - Carbonaceous pastes for electrodes and similar pastes for furnace linings

3801.90 - Other

(1) **Artificial graphite** (electro-graphite) is a variety of carbon, usually prepared in an electric furnace by heating a mixture of finely ground coke (normally petroleum coke, but sometimes anthracite coke, retort coke, pitch coke, etc.) and carbonaceous binders (e.g., pitch or tar), to a sufficiently high temperature (2500 to 3200 °C) to ensure its "graphitisation" under the catalytic action of substances present in the mixture (e.g., silica or iron oxide). The mixture is first extruded or moulded under pressure into "green" blocks of square or circular cross-section; these blocks may either be pre-fired (baked) at about 1000 °C and then graphitised, or they may be submitted directly to the graphitisation process.

In this way, a product is obtained with an apparent specific gravity of about 1.5 to 1.6 and a homogeneous microcrystalline structure which X-ray examination shows to be that of graphite. Chemical analysis confirms that the substance is graphite (precipitation of graphitic acid).

In addition to ordinary grades of artificial graphites, the heading includes :

(a) **Nuclear grade artificial graphite**, that is, specially prepared artificial graphite which has a boron content of not more than one part per million, and a total thermal neutrons absorption microscopic cross-section of not more than 5 millibarns per atom. This grade has a very low ash content (not exceeding 20 parts per million), and is used as a moderator or reflector in nuclear reactors.

(b) **Impregnated or impervious artificial graphite**, that is, artificial graphite which, in order to increase its apparent specific gravity or its impermeability to gases, has first been impregnated in a vacuum with tars or resins or with solutions of sugars or other organic products, and re-fired to graphitise the carbonaceous residues of these additives.

The impregnation process may be repeated several times to obtain a higher apparent specific gravity (1.9 or more) or high degree of impermeability. Impregnated graphite may also be of nuclear grade.

Artificial graphite of this heading is usually in the form of powder, flakes, blocks, plates, bars, rods, etc. The blocks and plates are used, after cutting and high-finish machining (fine tolerances and appropriate surface finish), to make the brushes or other electrical carbon articles of heading 85.45 or parts of nuclear reactors.

The heading also includes scrap, waste and worn-out articles, suitable only for the recovery of artificial graphite.

The heading does not cover :

(a) Natural graphite (**heading 25.04**).

(b) Retort carbon (or gas carbon), sometimes incorrectly called "artificial graphite" (**heading 27.04**).

(c) Artificial graphite surface-worked, surface-finished, cut to special shapes, lathe-worked, drilled, milled, etc., or transformed into articles. If of a kind used for non-electrical purposes these usually fall in **heading 68.15** (e.g., filters, discs, bearings, moulds, acid-resistant bricks, etc.); those of a kind used for electrical purposes fall in **heading 85.45**.

(d) Refractory goods, fired as ceramics, with a basis of artificial graphite (**heading 69.02** or **69.03**).

(e) Blocks, plates, bars and similar semi-manufactures, of artificial graphite which also contain powders of silver (**heading 71.06**).

(2) **Colloidal or semi-colloidal graphite.**

(a) **Colloidal graphite** consists of finely divided natural or artificial graphite in colloidal suspension in water or in other media (e.g., alcohol, mineral oil), to which may be added small quantities of other products such as tannin or ammonia for the purpose of stabilising the suspension. Colloidal graphite is usually semi-liquid, and is mainly used for the manufacture of lubricating preparations or for its high electrical conductivity.

(b) **Semi-colloidal graphite** (i.e., graphite in semi-colloidal suspension in water or in other media). Semi-colloidal graphite may be used for the preparation of graphited oils or for forming graphited surfaces.

This category covers only graphite in colloidal or semi-colloidal suspension in any media, the graphite being the basic constituent.

(3) **Preparations based on graphite or other carbon in the form of pastes, blocks, plates or other semi-manufactures.**

(a) **"Carbon" blocks, plates, bars and similar semi-manufactures of metallo-graphitic or other grades.**

These terms cover a group of semi-manufactures such as blocks, plates, etc., of the kind used to make "carbon" brushes for electrical or electrotechnical machinery or appliances, and which are based on carbonaceous materials (alone or compounded with other substances). They are generally of the following types :

(i) "**Carbons**" obtained by the firing, at a temperature (1000 to 1200 °C) insufficient to produce true "graphitisation", of mixtures of finely ground coke or lamp black and powdered natural or artificial graphite with carbonaceous binders such as pitches or tars.

The structure of the products thus obtained is not homogeneous; microscopic examination shows a mixture of grains of graphite with grains of amorphous carbon and, on chemical analysis, the graphitic acid precipitate is weaker than that obtained from artificial graphite.

(ii) **Metallo-graphitic grade compositions** obtained, by a process akin to sintering (agglomeration, moulding and firing), from mixtures of powdered graphite with powders of base metals (copper, cadmium or their alloys). Their metal content ranges from 10 to 95 %.

(iii) Grades obtained by moulding natural or artificial **graphite powder mixed with plastics**.

The blocks and plates, in particular, as obtained from the materials described above are generally in sizes about 200 x 100 x 35 mm or 150 x 70 x 30 mm. They are mainly used, after cutting and high-finishing machining (fine tolerances and appropriate surface finish) to make the electrical brushes of heading 85.45.

The above-mentioned semi-manufactures, when they contain powdered silver, are classified in **heading 71.06**. The heading also **excludes** blocks which have been cut to special shapes, surface-worked, surface finished, etc. (generally **heading 68.15** or **85.45**) and refractory goods, fired as ceramics, based on amorphous carbon or natural graphite (**heading 69.02** or **69.03**).

(b) **Carbonaceous pastes for electrodes**. These products consist mainly of a mixture of anthracite and coal tar pitch (which acts as a binder). They are usually put up in the form of small blocks, which are inserted in the upper part of a metal container, where they soften when exposed to heat. They are thus moulded inside the container to form an endless electrode for use in the furnaces, which no longer needs to be stopped to change worn-out pre-fabricated electrodes. The best known composition of this kind is “Soderberg paste”.

Similar pastes are used to make furnace linings which then harden *in situ*.

This category also covers **graphite in paste form**, consisting of a mixture of graphite in the form of particles (mostly exceeding 5 micrometres (microns)) with mineral oils, and equally suitable for use for treating the surfaces of heavy machinery or for the manufacture of graphited greases.

3801.10

- Artificial graphite

3801.20

- Colloidal or semi-colloidal graphite

CLASSIFICATION OPINIONS

1. Colloidal and semi-colloidal graphite, in dispersion in mineral oil, being products containing 70 % or more of mineral oil, graphite particles (in a proportion of 2 to 30 %) and, in certain cases, stabilisers, used mainly for the preparation of graphited oils or for forming graphited surfaces, the graphite being the basic constituent. *Adoption : 1963*

3801.30

- Carbonaceous pastes for electrodes and similar pastes for furnace linings

3801.90

- Other

Heading 3802

Activated carbon; activated natural mineral products; animal black, including spent animal black.

EXPLANATORY NOTES

38.02 - Activated carbon; activated natural mineral products; animal black, including spent animal black.

3802.10 - Activated carbon

3802.90 - Other

(A) ACTIVATED CARBON; ACTIVATED NATURAL MINERAL PRODUCTS

Carbon and mineral substances are said to be activated when their superficial structure has been modified by appropriate treatment (with heat, chemicals, etc.) in order to make them suitable for certain purposes, such as decolourising, gas or moisture adsorption, catalysis, ion-exchange or filtering.

These products fall in two groups :

(I) Products generally characterised by a very large specific surface (of the order of hundreds of square metres per gram), and by the presence of van der Waal's bonds (physical adsorption) or free chemical bonds saturable by organic or inorganic molecules (chemical adsorption).

These products are obtained by chemical or heat treatment of certain vegetable or mineral substances (clay, bauxite, etc.) in the presence of natural impurities or added foreign matter. This treatment causes a change in the structure of the basic substance, accompanied by an increase in the specific surface, and, in the case of crystalline substances, distortions in the lattice due to the insertion or substitution of atoms with different valencies. The valencies which thus remain free can cause the condensation of protons or electrons on the surface, rendering the product active as a chemical adsorbent, a catalyst or an ion-exchanger.

(II) Products which generally have a fairly small specific surface (of the order of 1 to 100 m^2/g). Although they generally have a high electrical charge density, these products have no marked capacity for adsorption and therefore are not decolourising agents. On the other hand, in aqueous suspension they establish powerful electrostatic interactions with colloids, facilitating or inhibiting their coagulation, and are therefore suitable for use as filtering agents.

Products of this type are also generally obtained by appropriate heat treatment. The presence of alkaline substances during the calcining process sometimes encourages the formation of surface charges.

The heading includes :

(a) **Activated carbon**. This is usually obtained by treating vegetable, mineral or other carbon (wood charcoal, coconut shell carbon, peat, lignite, coal, anthracite, etc.) at a high temperature in the presence of steam, carbon dioxide or other gases (gas activation), or by dry calcination of cellulosic materials impregnated with solutions of certain chemicals (chemical activation).

Activated carbon is used as a fine powder for decolourising liquids in many industries (sugar or glucose manufacture, oil or wine industry, medicaments, etc.). In the form of grains, it is used for adsorbing vapours (for example, in recovering volatile solvents during dry-cleaning processes, removing benzene from coal gas), for purifying water or air, as a protection against toxic gases, in catalysis, or for eliminating the accumulation of gas at the electrodes during electrolysis (depolarisation).

(b) **Other activated natural mineral products such as :**

(1) **Activated diatomite**. This consists of kieselguhr or other selected siliceous fossil earths, decalcified if necessary by means of acids, calcined in contact with sintering agents such as sodium chloride or sodium carbonate and then ground and graded by appropriate means. Diatomite calcined without the addition of sintering agents is, however, **excluded** (**heading 25.12**).

(2) **Certain volcanic minerals**, such as perlite, which, after grinding, are subjected to a thermal "shock" in a very hot flame (1000 °C or over), and then re-ground and graded. Activated perlite is in the form of a very light shiny powder. On microscopic examination it is seen to consist of very thin, transparent flakes having curved surfaces.

The two types of products cited at (1) and (2) above are of very low apparent specific gravity and are filter media chiefly used in the preparation of chemical or pharmaceutical products (especially antibiotics), in sugar or glucose manufacture, in processing beverages, for filtering water, etc.

(3) **Activated clays and activated earths**. These consist of selected colloidal clays or clayey earths activated, according to their intended use, by means of an acid or an alkali, dried and then ground. When activated by means of an alkali, they are emulsifiers, suspension agents and agglomerating agents; these are used, in particular, in the manufacture of polishing or cleaning preparations, and, because of their swelling properties, for improving foundry sands and drilling sludge. When activated by means of an acid, they are mainly used for decolourising animal, vegetable or mineral oils, fats or waxes.

(4) **Activated bauxite**. Bauxite is usually activated by means of alkalis or by suitable thermal treatment. It is chiefly used as a catalyst, a desiccant and a decolourising agent.

The heading also **excludes** :

(a) Naturally active mineral products (e.g., fuller's earth), which have not undergone any treatment modifying their superficial structure (**Chapter 25**).

(b) Activated chemical products such as activated alumina (**heading 28.18**), activated silica gel (**heading 28.11** or **38.24**), artificial zeolite ion-exchangers (**heading 28.42** or, if containing binders, **heading 38.24**) and sulphonated coal ion-exchangers (**heading 38.24**).

(c) Activated carbons having the character of medicaments (**heading 30.03** or **30.04**) or put up in packings for retail sale as deodorisers for refrigerators, cars, etc. (**heading 33.07**).

(d) Catalysts consisting of a chemical product (e.g., a metallic oxide) fixed on a support of an active material (e.g., activated carbon or diatomite) (**heading 38.15**).

(e) Expanded perlite in the form of light-weight spheroidal granules (**heading 68.06**).

(B) ANIMAL BLACK, INCLUDING SPENT ANIMAL BLACK

This group covers the different varieties of black obtained by carbonising materials of animal origin, in particular :

(1) **Bone black** obtained by calcining defatted bones in a closed vessel. It is a porous black product containing only a low content of pure carbon (about 10 to 20 % of its weight unless treated with acid, in which case the carbon content is much higher). It is in the form of powder, grains, paste, or pieces having the shape of the bones or pieces of bone used for its preparation. Bone black is a decolourising agent widely used in many industries, especially the sugar industry, and is also employed as a black pigment, for example, in the manufacture of polishes and certain inks.

Spent bone black is used as a fertiliser and also for the manufacture of black pigments.

(2) **Blood black** obtained by calcining dried blood in a closed vessel. It is generally used as a decolourising agent.

(3) **Ivory black** obtained by calcining ivory waste. This product, usually presented as a very fine, velvety black powder or small, irregularly-shaped cones, is used in artists' colours.

(The term "ivory black" is sometimes used to describe special grades of bone black.)

(4) **Leather black, horn black, hoof black, tortoise-shell black**, **etc**.

3802.10

- Activated carbon

3802.90

- Other

CLASSIFICATION OPINIONS

1. Acid-added clay product obtained by the controlled addition of sulfuric acid to natural palygorskite (attapulgite)-smectite clay. after the addition of sulfuric acid, the resulting bleaching clay product has been dried and comminuted to a desired particle size, but has not been washed with water. **Application of GIRs 1 and 6.** *Adoption : 2002*

Heading 3803

Tall oil, whether or not refined.

EXPLANATORY NOTES

38.03 - Tall oil, whether or not refined.

Tall oil (sometimes known as liquid rosin) is obtained from the black liquor left over from the manufacture of wood pulp by an alkali process or, more particularly, by the sulphate process. When this liquor is poured into settling-vats, a frothy mass forms on its surface. Crude tall oil is obtained when this frothy mass is heated and acidified, usually with dilute sulphuric acid.

Crude tall oil is a dark brown, semi-fluid mixture of fatty acids (mainly oleic and linoleic acids and their isomers), resin acids (especially the abietic types), and a smaller quantity of non-saponifiable products (sterols, higher alcohols and various impurities), in proportions varying according to the nature of the wood.

Refined tall oil may be obtained by distilling crude tall oil under very low pressure (distilled tall oil) or by other processes (e.g., treatment with selective solvents or activated earths). It is a yellowish liquid consisting essentially of fatty acids and resin acids.

Tall oil is used, *inter alia*, for the preparation of emulsions for road-surfacing, of common soap, metallic soaps, wetting agents and emulsifiers for the textile or paper industry, drying oils used in the manufacture of varnishes, paints or linoleum, oils for metal-working, disinfectants, mastics, etc.; it is also used as a plasticiser for rubber and increasingly as a source of tall oil fatty acids and tall oil resin acids.

The heading does not include :

(a) Saponified tall oil, obtained by neutralising distilled tall oil by means of an alkali (sodium or potassium hydroxide) (**heading 34.01**).

(b) Residual liquor from the manufacture of wood pulp by the soda or sulphate processes, whether or not concentrated, and the frothy mass separated from these liquors in the settling-vats (**heading 38.04**).

(c) Tall oil resin acids, essentially composed of a mixture of resin acids separated from fatty acids of the tall oil (**heading 38.06**).

(d) Sulphate pitch (tall oil pitch), residue of the distillation of tall oil (**heading 38.07**).

(e) Tall oil fatty acids containing by weight 90 % or more (calculated on the weight of the dry product) of fatty acids, separated from most of the resin acids of the tall oil by vacuum fractional distillation or otherwise (**heading 38.23**).

3803.00

Tall oil, whether or not refined.

Heading 3804

Residual lyes from the manufacture of wood pulp, whether or not concentrated, desugared or chemically treated, including lignin sulphonates, but excluding tall oil of heading 38.03.

EXPLANATORY NOTES

38.04 - Residual lyes from the manufacture of wood pulp, whether or not concentrated, desugared or chemically treated, including lignin sulphonates, but excluding tall oil of heading 38.03.

This heading covers :

(1) **Residual lyes from the manufacture of wood pulp by the sulphite process**, whether or not concentrated, desugared or chemically treated. Concentrated sulphite lye consists mainly of salts of lignosulphonic acids mixed with sugars and other products. It is usually in the form of a viscous liquid, a sticky brownish paste, a blackish mass with a vitreous fracture (in this case, it is sometimes known as sulphite pitch or cellulose pitch), or of a dry powder.

Concentrated sulphite lye is used as a binder for compressed blocks of fuel or for foundry cores, in the preparation of glues, impregnants, fungicides or tannins, for the production of alcohol, etc.

This group also covers **lignin sulphonates**, usually obtained by precipitation from sulphite lye. Lignin sulphonates are used as an ingredient in adhesives, as dispersants, as concrete admixtures or as drilling-mud additives.

(2) **Residual lyes from the manufacture of wood pulp by the soda or sulphate processes**, whether or not concentrated, desugared or chemically treated (including the frothy mass which forms on the surface of these lyes in the settling-vats). These lyes, which are usually black, are the source of tall oil and are sometimes used to produce sodium hydroxide.

The heading excludes :

(a) Sodium hydroxide (**heading 28.15**).

(b) Tall oil (**heading 38.03**).

(c) Sulphate pitch (tall oil pitch) (**heading 38.07**).

3804.00

Residual lyes from the manufacture of wood pulp, whether or not concentrated, desugared or chemically treated, including lignin sulphonates, but excluding tall oil of heading 38.03.

Heading 3805

Gum, wood or sulphate turpentine and other terpenic oils produced by the distillation or other treatment of coniferous woods; crude dipentene; sulphite turpentine and other crude para-cymene; pine oil containing alpha-terpineol as the main constituent.

EXPLANATORY NOTES

38.05 - Gum, wood or sulphate turpentine and other terpenic oils produced by the distillation or other treatment of coniferous woods; crude dipentene; sulphite turpentine and other crude para-cymene; pine oil containing alpha-terpineol as the main constituent.

3805.10 - Gum, wood or sulphate turpentine oils

3805.90 - Other

This heading covers mainly products rich in terpenes (pinene, beta-pinene, limonenes, etc.) obtained from the exudations or the resinous wood of conifers.

These products are :

(1) **The volatile products** of the distillation (usually by steam extraction) of the oleoresins (turpentines) exuded from pines or other coniferous trees (firs, larches, etc.). In some countries, these products are known as “gum spirits of turpentine”. In others, however, the term “spirits of turpentine” is reserved exclusively to volatile products within a certain range of boiling point and density, obtained by the distillation of the fresh oleoresins exuded from living pine trees.

They are all mobile, colourless liquids, insoluble in water, highly refractive and with a penetrating odour. They are used as solvents, particularly in the manufacture of varnishes, paints or polishes, in the preparation of medicaments, and in the manufacture of synthetic camphor, terpin hydrate, terpineol, etc.

(2) **Wood turpentine, sulphate turpentine and other terpenic oils** produced by the distillation or other treatment of coniferous woods.

(a) *Wood turpentine* is the most volatile product obtained by steam or destructive distillation of the stumps or other sufficiently resinous parts of pine trees.

(b) *Sulphate turpentine* is a volatile terpenic by-product obtained during the manufacture of wood pulp from resinous woods by the sulphate process.

The products described in this paragraph are liquids rich in terpenes, and are used for the same purposes as spirits of turpentine from exuded oleoresins, particularly as solvents in the preparation of varnishes, paints, etc.

(3) **Crude dipentene** is a terpenic oil (containing up to about 80 % of dipentene) obtained by fractionating wood turpentine or as a by-product from the manufacture of synthetic camphor. Pure or commercially pure dipentene is classified in **heading 29.02**.

(4) **Sulphite turpentine** is a volatile yellow liquid obtained as a by-product of the manufacture of wood pulp by the sulphite process. It is a crude para-cymene containing small quantities of terpenes and other products. The heading also covers **all crude** *p*-**cymene**, regardless of source.

(5) **Pine oil** is the fraction obtained, after wood turpentine, generally during the steam or destructive distillation of the oily stumps of pine trees. It is also obtained by chemical synthesis (e.g., chemical hydration of α-pinene). This heading covers **only** such pine oil containing α-terpineol as the main constituent. Pine oil is a colourless or amber coloured liquid, rich in α-terpineol, chiefly used in the textile industries as a wetting agent and solvent, for the manufacture of varnishes or paints, as a disinfectant, and in the concentration of metallic ores by flotation.

The heading **does not cover** :

(a) Pure or commercially pure terpenic hydrocarbons or terpenes, terpineol and terpin hydrate (**Chapter 29**).

(b) Pine needle oil, which is an essential oil of **heading 33.01**.

(c) Rosin oils (**heading 38.06**).

3805.10

- Gum, wood or sulphate turpentine oils

3805.90

- Other

Heading 3806

Rosin and resin acids, and derivatives thereof; rosin spirit and rosin oils; run gums.

EXPLANATORY NOTES

38.06 - Rosin and resin acids, and derivatives thereof; rosin spirit and rosin oils; run gums.

3806.10 - Rosin and resin acids

3806.20 - Salts of rosin, of resin acids or of derivatives of rosin or resin acids, other than salts of rosin adducts

3806.30 - Ester gums

3806.90 - Other

(A) ROSIN AND RESIN ACIDS

Both **rosin and resin acids** consist essentially of complex mixtures of abietic acid and allied acids with small amounts of non-acidic components. They are solids, usually transparent and vitreous. Their colour may vary from pale yellow to dark brown according to the amount of the impurities present.

Rosin and resin acids are obtained by the following processes :

(1) Separation of volatile terpenic products (spirits of turpentine and similar terpenic solvents) during the distillation of oleoresinous matter obtained in the form of an exudate from pine or other coniferous trees (pine resin, galipot, barras resin, etc.).

(2) Solvent extraction from pine stump wood.

(3) Fractional distillation of tall oil, a by-product of the pulp and paper industry.

Rosin and resin acids are used in the manufacture of certain soaps, for sizing paper, in the preparation of varnishes, polishes, mastics, inks, sealing-wax, binders for foundry cores, brewers' pitch, etc., and as raw material for the preparation of the derivatives and rosin oils described in Parts (B) to (D).

(B) SALTS OF ROSIN, OF RESIN ACIDS OR OF DERIVATIVES OF ROSIN OR RESIN ACIDS, OTHER THAN SALTS OF ROSIN ADDUCTS

Salts of this group cover salts of rosin, of resin acids or of derivatives of rosin or resin acids, other than salts of rosin adducts. Sodium or potassium resinates are usually obtained by boiling powdered rosin or resin acids in a solution of sodium or potassium hydroxides. The other inorganic resinates are generally prepared by precipitating a solution of sodium or potassium resinates with a solution of a metal salt (precipitated resinates), or by fusing a mixture of rosin or resin acids and a metal oxide (fused resinates). Examples of these products are resinates of aluminium, calcium, cobalt, copper, manganese, lead and zinc.

Resinates are used to increase the drying properties of the oils used in the manufacture of varnishes or paints, and in the preparation of fungicides, disinfectants, etc.

This group also includes hardened rosin which is obtained by treating rosin or resin acids with, for example, calcium hydroxide (in a proportion of about 6 %) which hardens it and renders it more suitable for use in the preparation of varnishes.

The heading **excludes** :

(a) Precious metal resinates (**heading 28.43**) and the resinates of **headings 28.44 to 28.46**.

(b) Prepared driers based on resinates (**heading 32.11**).

(c) Resin soaps obtained by saponifying mixtures of higher fatty acids and rosin or resin acids (**heading 34.01**), and other washing preparations with a basis of resinates (**heading 34.02**).

(C) ESTER GUMS

Ester gums are obtained by esterification, with ethylene glycol, glycerol or other polyhydric alcohol, of rosin or resin acids or, of their oxidised, hydrogenated, disproportionated (dehydrogenated) or

polymerised derivatives. These ester gums are more plastic than natural resins and this makes them suitable for mixing with pigments and other materials.

(D) OTHER

(I) Derivatives of rosin and resin acids

(1) **Oxidised rosin and resin acids** are usually obtained as a residual product of the distillation of extracts of the stumps of coniferous trees which have been left in the ground for a long time resulting in natural oxidation of their resin acid content. Rosin or resin acids may also be oxidised artificially. Oxidised rosin and resin acids are used in the preparation of glues, emulsions, varnishes, paints, inks and for electrical insulation, etc.

(2) **Hydrogenated rosin and resin acids** are obtained by treating rosin or resin acids with hydrogen in the presence of a catalyst. They are more resistant to oxidation than ordinary rosin and resin acids and discolour less readily under the action of light. They are used in the preparation of varnishes, soap, etc.

(3) **Disproportionated (dehydrogenated) rosin and resin acids** are prepared, for example, by heating rosin or resin acids to a moderate temperature or, at high temperature, by the use of acid catalysis; sulphur and selenium are also useful catalysts. They are used in the preparation of varnishes, etc.

(4) **Polymerised rosin and resin acids** are obtained by treating rosin or resin acids with sulphuric acid, and used, in particular, in the preparation of varnishes of high viscosity and stability. The degree of polymerisation is very low. Polymerised rosin and resin acids are generally composed of dimer and unpolymerised acids and may also be referred to as dimerised rosin.

(5) **Monohydric alcohol esters of rosin or resin acids.** The esters classified here include those known as “resinates” or “abietates”, e.g., the methyl, ethyl and benzyl esters and “methyl hydroabietate”, which are used, in particular, as plasticisers for cellulose lacquers.

(6) **Mixtures of dihydroabietyl, tetrahydroabietyl and dehydroabietyl alcohols (“abietyl alcohol”)**.

(7) **Rosin adducts and derivatives thereof.** Rosin or resin acids modified with fumaric acid, maleic acid or its anhydride, used in the preparation of alkyd resin, rosin size and inks. These adducts may be subsequently esterified with ethylene glycol, glycerol or other polyhydric alcohols. This group also includes salts of rosin adducts such as salts of rosin-maleic or of rosin-fumaric adducts.

(II) Rosin spirit and rosin oils

These products are obtained, usually from rosin or resin acids, by distillation with superheated steam and a catalyst, or by destructive distillation. They are essentially complex mixtures of hydrocarbons and may contain organic acids in quantities varying according to distilling conditions.

(1) **Rosin spirit,** which is the most volatile fraction, is a mobile, straw-coloured liquid with a pungent smell, used as a solvent for resins, in the manufacture of varnishes, paints, etc.

(2) **Rosin oils** are more or less thick, varying in colour and quality (golden oils, white, green or brown oils) and have a smoky odour. They are chiefly used for the preparation of lubricants, cutting oils, printing inks, ointments, varnishes, paints, etc.

The heading does not cover :

(a) Sulphonated rosin oils (**heading 34.02**).

(b) The volatile constituents of the distillation of the oleoresinous exudates of living pine trees or other living coniferous trees (**heading 38.05**).

(c) Rosin pitch (**heading 38.07**).

(III) **Run gums**

Run gums are obtained from the oleoresinous exudates of tropical forest trees by a process called “gum running” which involves heating the exudates to render them soluble in drying oils. The most common source of run gums is copal.

3806.10

- Rosin and resin acids

3806.20

- Salts of rosin, of resin acids or of derivatives of rosin or resin acids, other than salts of rosin adducts

3806.30

- Ester gums

3806.90

- Other

Heading 3807

Wood tar; wood tar oils; wood creosote; wood naphtha; vegetable pitch; brewers' pitch and similar preparations based on rosin, resin acids or on vegetable pitch.

EXPLANATORY NOTES

38.07 - Wood tar; wood tar oils; wood creosote; wood naphtha; vegetable pitch; brewers’ pitch and similar preparations based on rosin, resin acids or on vegetable pitch.

This heading covers products of complex composition obtained during the distillation (or carbonisation) of resinous or non-resinous wood. Apart from gases, these processes give pyroligneous liquids, wood tar and wood charcoal in proportions varying according to the nature of the wood employed and the speed of the operation. Pyroligneous liquids (sometimes known as raw pyroligneous acid), which are not materials of international commerce, contain acetic acid, methanol, acetone, a little furfuraldehyde and allyl alcohol. This heading also covers vegetable pitch of all kinds, brewers’ pitch and similar compounds based on rosin, resin acids or on vegetable pitch.

The products classified here are :

(A) **Wood tar; wood tar oils whether or not decreosoted and wood creosote.**

(1) **Wood tar** is obtained by draining from wood (coniferous or other) during carbonisation in charcoal kilns (e.g., Swedish tar or Stockholm tar), or by distillation in retorts or ovens (distilled tars). The latter are obtained directly as a fraction settling out from the pyroligneous liquids (settled tars), or by distillation of the pyroligneous liquids - in which they have been partially dissolved (dissolved tars).

Partially distilled tars from which some of the volatile oils have been removed by further distillation are also classified in this heading.

All these tars are complex mixtures of hydrocarbons, phenols or their homologues, furfuraldehyde, acetic acid and various other products.

Tars obtained from resinous woods, which differ from those obtained from non-resinous woods in that they also contain products resulting from the distillation of the resin (terpenes, rosin oils, etc.), are viscous products ranging in colour from brownish-orange to brown. They are chiefly employed (as obtained, after simple dehydration or after partial distillation) for impregnating ships' cables, as plasticisers in the rubber industry, in the preparation of mastics, in medicine, etc.

Tars obtained from non-resinous woods are thick brownish-black liquids mainly used for the preparation, by distillation or other means, of a wide range of by-products (wood creosote, guaiacol, etc.).

Cade oil, also known as juniper tar oil, used in medicine and soap making, is also covered by this heading.

(2) **Wood tar oils** are produced during the distillation of wood tar. The light oils (containing aliphatic hydrocarbons, terpenes and higher ketones) are used for the manufacture of sheep dips and horticultural sprays, and the heavy oils (containing aliphatic and aromatic hydrocarbons, higher ketones and higher phenols) serve for impregnating wood and for the extraction of wood creosote.

Decreosoted oils obtained after extraction of the creosote are used according to their characteristics for concentrating ores by flotation, for preparing fungicides, as solvents, as fuels, etc.

(3) **Wood creosote** is an essential constituent of wood tar. It is usually obtained by distilling tar obtained from non-resinous woods, separating it from the appropriate fraction with sodium hydroxide, re-acidification and re-distillation. It is a colourless liquid but takes on colour under the action of air and light, has an odour of smoke, is caustic and is used in particular as a disinfectant and antiseptic. It should not be confused with creosote oil or mineral creosote which are classified in **heading 27.07**.

(B) **Wood naphtha** is obtained by processing pyroligneous liquids. It is a yellowish liquid with an empyreumatic odour usually containing 70 to 90 % methanol (methyl alcohol) with varying proportions of acetone and other ketones (generally 8 to 20 %), as well as other impurities (methyl

acetate, higher alcohols, tarry substances, etc.). Certain types of wood naphtha are used as denaturants for ethanol.

(C) **Vegetable pitch**.

These are residues of the distillation or other treatment of vegetable materials. They include :

(1) **Wood pitch** (wood tar pitch), a residue of the distillation of wood tar.

(2) **Rosin pitch**, a residue of the preparation of rosin spirit and rosin oil by distillation of rosin.

(3) **Sulphate pitch**, a residue after the distillation of tall oil, etc.

These pitches are usually blackish-brown, reddish-brown or yellowish-brown. They generally soften with the heat of the hand. They are used, according to their type, for caulking ships, waterproof-coating of woven fabrics, impregnating woods, preparing anti-rust coatings, as binding materials, etc.

(D) **Brewers' pitch and similar preparations based on rosin, resin acids or on vegetable pitch.**

(1) **Brewers' pitch** is used hot for coating beer-barrels. It is usually obtained by melting mixtures of rosin, paraffin wax and rosin oil, or mixtures of rosin and vegetable oils (such as linseed oil, cotton-seed oil or colza oil).

(2) **Cobblers' wax** is used for waxing yarns and twine for sewing footwear and harness-makers' wares, and normally consists of a mixture of rosin, rosin oil, paraffin wax, ozokerite, etc., and contains powdered inorganic substances (such as talc or kaolin). It is usually in the form of blocks, sticks or discs.

(3) **Caulking pitch** is used for caulking ships and is generally prepared by fusing a mixture of wood pitch, wood tar and rosin.

This heading **does not cover** :

(a) Natural Burgundy pitch (also known as "Vosges pitch"), a natural resin obtained from certain coniferous trees, and yellow pitch which is natural Burgundy pitch purified by fusion and filtering (**heading 13.01**).

(b) Stearin pitch (stearic pitch), wool grease pitch and glycerol pitch (**heading 15.22**).

(c) Mineral pitch from coal, peat, petroleum, etc. (**Chapter 27**).

(d) Methanol (methyl alcohol), pure or commercially pure, or other separate chemically defined products obtained by redistilling or further treating the primary products of wood distillation, e.g., acetic acid, acetone, guaiacol, formaldehyde, acetates, etc. (**Chapter 29**).

(e) Sealing wax (**heading 32.14** or **34.04**).

(f) Residual lyes from the manufacture of wood pulp (**heading 38.04**).

(g) “Brais résineux” (**heading 38.06**).

3807.00

Wood tar; wood tar oils; wood creosote; wood naphtha; vegetable pitch; brewers' pitch and similar preparations based on rosin, resin acids or on vegetable pitch.

Heading 3808

Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products and plant-growth regulators, disinfectants and similar products, put up in forms or packings for retail sale or as preparations or articles (for example, sulphur-treated bands, wicks and candles, and fly-papers).

EXPLANATORY NOTES

38.08 - Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products and plant-growth regulators, disinfectants and similar products, put up in forms or packings for retail sale or as preparations or articles (for example, sulphur-treated bands, wicks and candles, and fly-papers) (+).

- Goods specified in Subheading Note 1 to this Chapter :

3808.52 - - DDT (ISO) (clofenotane (INN)), in packings of a net weight content not exceeding 300 g

3808.59 - - Other

- Goods specified in Subheading Note 2 to this Chapter :

3808.61 - - In packings of a net weight content not exceeding 300 g

3808.62 - - In packings of a net weight content exceeding 300 g but not exceeding 7.5 kg

3808.69 - - Other

- Other :

3808.91 - - Insecticides

3808.92 - - Fungicides

3808.93 - - Herbicides, anti-sprouting products and plant-growth regulators

3808.94 - - Disinfectants

3808.99 - - Other

This heading covers a range of products (**other than** those having the character of medicaments, including veterinary medicaments - **heading 30.03** or **30.04**) intended to destroy pathogenic germs, insects (mosquitoes, moths, Colorado beetles, cockroaches, etc.), mosses and moulds, weeds,

rodents, wild birds, etc. Products intended to repel pests or used for disinfecting seeds are also classified here.

These insecticides, disinfectants, herbicides, fungicides, etc., are applied by spraying, dusting, sprinkling, coating, impregnating, etc., or may necessitate combustion. They achieve their results by nerve-poisoning, by stomach-poisoning, by asphyxiation or by odour, etc.

The heading further covers anti-sprouting products and plant-growth regulators intended to inhibit or promote physiological processes in plants. Their modes of application vary and their effects range from destruction of the plant to enhanced growth-vigour and improved crop-yield.

These products are classified here in the following cases only :

(1) When they are put up in packings (such as metal containers or paperboard cartons) for retail sale as disinfectants, insecticides, etc., or in such forms (e.g., in balls, strings of balls, tablets or plates) that there can be no doubt that they will normally be sold by retail.

Products put up in these ways may or may not be mixtures. The unmixed products are mainly chemically defined products which would otherwise fall in Chapter 29, e.g., naphthalene, or 1,4-dichlorobenzene.

The heading also includes the following products, **provided** they are put up for retail sale as disinfectants, fungicides, etc. :

(a) **Organic surface-active products and preparations**, with active cation (e.g., quaternary ammonium salts), having antiseptic, disinfectant, bactericidal or germicidal properties.

(b) **Poly(vinyl pyrrolidone)-iodine**, being a reaction product of iodine and poly(vinyl pyrrolidone).

(2) When they have the character of preparations, whatever the presentation (e.g., as liquids, washes or powders). These preparations consist of suspensions or dispersions of the active product in water or in other liquids (e.g., a dispersion of DDT (ISO) (clofenotane (INN), (1,1,1-trichloro-2,2-bis(*p*-chlorophenyl)ethane) in water), or of other mixtures. Solutions of active products in solvents **other than water** are also included here (e.g., solutions of pyrethrum extract (other than standardised pyrethrum extract), or copper naphthenate in a mineral oil).

Intermediate preparations, requiring further compounding to produce the ready-for-use insecticides, fungicides, disinfectants, etc., are also classified here, **provided** they already possess insecticidal, fungicidal, etc., properties.

Insecticidal, disinfecting, etc., preparations may have a basis of copper compounds (copper acetate, sulphate, acetoarsenite, etc.), of sulphur or sulphur compounds (calcium sulphide, carbon disulphide, etc.), of mineral creosote or anthracene oils, of DDT (ISO) (clofenotane (INN), (1,1,1-trichloro-2,2-bis(*p*-chlorophenyl)ethane), lindane (ISO, INN), parathion, of phenol or cresol derivatives, of arsenical products (calcium arsenate, lead arsenate, etc.), of materials of vegetable origin (nicotine, tobacco essences and powders, rotenone, pyrethrum, red squill, rape oil), of plant-growth regulators, natural or synthetic (e.g., 2,4-D), of cultures of micro-organisms, etc.

Poisoned bait composed of edible products (wheat grains, bran, molasses, etc.) mixed with poison is another example of the preparations included in this heading.

(3) When they are put up in the form of **articles** such as sulphur-treated bands, wicks and candles (for disinfecting and fumigating vats, living quarters, etc.), fly-papers (including those coated with glue not containing poisonous matter), grease bands for fruit trees (including those not containing poisonous matter), papers impregnated with salicylic acid for preserving jams, papers or small wooden sticks coated with lindane (ISO, INN) and acting by combustion, etc.

*

* *

The products of heading 38.08 can be divided into the following groups :

(I) **Insecticides**

Insecticides include not only products for killing insects, but also those having a repellent or attractant effect. The products may be in a variety of forms such as sprays or blocks (against moths), oils or sticks (against mosquitoes), powder (against ants), strips (against flies), cyanogen gas absorbed in diatomite or paperboard (against fleas and lice).

Many insecticides are characterised by their mode of action or method of use. Among these are :

- insect growth regulators : chemicals which interfere with biochemical and physiological processes in insects.
- fumigants : chemicals which are distributed in the air as gases.
- chemosterilants : chemicals used to sterilise segments of an insect population.
- repellents : substances which prevent insect attack by making their food or living conditions unattractive or offensive.
- attractants : used to attract insects to traps or poisoned baits.

(II) **Fungicides**

Fungicides are products which protect against the growth of fungi (e.g., preparations based on copper compounds) or which are designed to eradicate the fungi already present (e.g., preparations based on formaldehyde).

Fungicides can be characterised by their mode of action or method of use. Examples of this are :

Systemic fungicides	- these chemicals are translocated in the sap stream from the site of application to other plant parts.

Fumigants	- chemicals which counteract fungi when they are applied to affected materials in a gaseous form.

(III) **Herbicides, anti-sprouting products, plant-growth regulators**

Herbicides are chemicals which are used to control or destroy unwanted plants. Some herbicides are applied to dormant plant parts or seeds, while other herbicides are applied to the whole foliage. They can provide control which is **selective** (herbicides which affect specific plants) or **non-selective** (herbicides which result in the complete eradication of vegetation).

The group also includes defoliants, which are chemicals intended to cause the leaves or foliage of plants to drop prematurely.

Anti-sprouting products can be applied to seeds, bulbs, tubers or soils to inhibit or delay germination or sprouting.

Plant-growth regulators are applied to alter the life processes of a plant so as to accelerate or retard growth, enhance yield, improve quality or facilitate harvesting, etc. Plant hormones (phytohormones) are one type of plant-growth regulator (e.g., gibberellic acid). Synthetic organic chemicals are also used as plant-growth regulators.

(IV) **Disinfectants**

Disinfectants are agents which destroy or irreversibly inactivate undesirable bacteria, viruses or other micro-organisms, generally on inanimate objects.

Disinfectants are used, for example, in hospitals for cleaning walls, etc., or sterilising instruments. They are also used in agriculture for disinfecting seeds and in the manufacture of animal feeds to control undesirable micro-organisms.

The group includes sanitisers, bacteriostats and sterilisers.

The heading also includes products to control mites and ticks (acaricides), molluscs (molluscicides), nematodes (nematocides), rodents (rodenticides), birds (avicides), and other pests (e.g., lampreycides, predacides).

This heading **excludes** :

(a) Products for disinfecting, insecticidal etc., uses, not answering to the description above. These products are classified according to their nature under the appropriate headings, for example :

(i) Ground pyrethrum flowers (**heading 12.11**).

(ii) Pyrethrum extract (whether or not standardised by the addition of mineral oil) (**heading 13.02**).

(iii) Creosote oil or mineral creosote (**heading 27.07**).

(iv) Naphthalene, DDT (ISO) (clofenotane (INN), (1,1,1-trichloro-2,2-bis-(*p*-chlorophenyl)ethane) and other separate chemically defined compounds (including aqueous solutions) (**Chapter 28** or **29**).

(v) Cultures of micro-organisms used as a basis for rodenticides, etc. (**heading 30.02**).

(vi) Spent oxide (**heading 38.25**).

(b) Preparations covered by more specific headings of the Nomenclature, or having subsidiary disinfecting, insecticidal, etc., properties, for example :

(i) Anti-fouling paints for ships' hulls, containing toxic materials (**heading 32.08, 32.09** or **32.10**).

(ii) Disinfectant soaps (**heading 34.01**).

(iii) DDT (ISO) (clofenotane (INN), (1,1,1-trichloro-2,2-bis(*p*-chlorophenyl)ethane) wax polishes (**heading 34.05**).

(c) Disinfectants, insecticides, etc., having the essential character of medicaments, including veterinary medicaments (**heading 30.03 or 30.04**).

(d) Prepared room deodorisers, whether or not having disinfectant properties (**heading 33.07**).

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Subheading Explanatory Note.

Subheadings 3808.91 to 3808.99

Products which have multiple uses, and are therefore *prima facie* classifiable in more than one subheading, are usually classified by application of General Interpretative Rule 3.

3808.5

- Goods specified in Subheading Note 1 to this Chapter :

3808.52

-- DDT (ISO) (clofenotane (INN)), in packings of a net weight content not exceeding 300 g

3808.59

-- Other

CLASSIFICATION OPINIONS

1. Intermediate preparation containing as its sole active ingredient approximately 75 % by weight of **carbofuran** (2,3-dihydro-2,2-dimethyl-7-benzofuranyl methyl carbamate) and possessing insecticidal properties, used to manufacture insecticides which may have subsidiary use as nematocides.

Application of GIRs 1 and 6 (Subheading Note 1 to Chapter 38).

Adoption : 1986

3808.6

- Goods specified in Subheading Note 2 to this Chapter :

3808.61

-- In packings of a net weight content not exceeding 300 g

CLASSIFICATION OPINIONS

1. Antiparasite lotion containing 1.0 % permethrin (active ingredient), 0.5 % malathion (active ingredient), 4.0 % piperonyl butoxide (synergist for the active ingredient), isododecane and propellant gas HFA134a. The product is packaged for retail sale in a 125-ml bottle of plastics, which itself is packaged in a paperboard box. Both the bottle and box indicate that the product is recommended for treating lice and nits on the scalp (head lice) and that it should be applied once only onto the scalp on dry hair in a ventilated place. After the product is used, the head should be washed with a gentle shampoo that makes removal of the dead nits easier.
Application of GIRs 1 and 6 (Subheading Note 2 to Chapter 38).
Adoption : 2012

3808.62

-- In packings of a net weight content exceeding 300 g but not exceeding 7.5 kg

3808.69

-- Other

3808.9

- Other :

3808.91

-- Insecticides

CLASSIFICATION OPINIONS

1. Antiparasite lotion containing 1.8 % depallethrin (active ingredient), 7.2 % piperonyl butoxide (synergist for the active ingredient), isododecane and propellant gas HFA134a. The product is packaged for retail sale in a 125 ml bottle of plastics, which itself is packaged in a paperboard box. Both the bottle and box indicate that the product is recommended for treating lice and nits on the scalp (head lice) and that it should be applied once only onto the scalp on dry hair in a ventilated place. After the product is used, the head should be washed with a gentle shampoo that makes removal of the dead nits easier. **Application of GIRs 1 and 6.**
Adoption : 2012

2. Collar for dogs, of plastics, impregnated with an insecticide and an acaricide, to protect dogs against fleas and ticks. The collar measures approximately 48 cm in length, 1.4 cm in width and 0.2 cm in thickness. The collar is pointed at one end and has a moulded slide buckle at the other end to attach the collar around the neck of a dog. The product is packed in a bag of plastics and put up in a box of paperboard for retail sale. **Application of GIRs 1 and 6.**
Adoption : 2013



3808.92

-- Fungicides

CLASSIFICATION OPINIONS

1. Preparations put up for retail sale in 300-ml aerosol containers, containing anti-fungal agents (1.2 % by weight), perfume, kerosene, ethyl alcohol and isobutane (propellant) and, in some preparations, diethyl phthalate. Used in hospitals, surgical theatres, offices, schools, sick-rooms, etc., to safeguard against the propagation of fungi.
Adoption : 1999

3808.93

-- Herbicides, anti-sprouting products and plant-growth regulators

3808.94

-- Disinfectants

CLASSIFICATION OPINIONS

1. Preparations consisting of a mixture of formic acid and propionic acid, with or without the addition of ammonium formate, diluted in water, used in the manufacture of animal feeds for their antimicrobial properties to control undesirable microorganisms such as bacteria (e.g., salmonella), yeasts or moulds.
Application of GIR 1.
Adoption : 1999

2. Broad spectrum antimicrobial agent based on derivatives of isothiazolinone, in aqueous solution. In contact with microorganisms, e.g., fungi, bacteria and algae, it causes an immediate inhibition of growth resulting in cell death.
It is used for water treatment and paper mill applications to control growth of bacteria, fungi and algae.
Application of GIRs 1, 3 (c) and 6.
Adoption : 2022

3808.99

-- Other

Heading 3809

Finishing agents, dye carriers to accelerate the dyeing or fixing of dyestuffs and other products and preparations (for example, dressings and mordants), of a kind used in the textile, paper, leather or like industries, not elsewhere specified or included.

EXPLANATORY NOTES

38.09 - Finishing agents, dye carriers to accelerate the dyeing or fixing of dyestuffs and other products and preparations (for example, dressings and mordants), of a kind used in the textile, paper, leather or like industries, not elsewhere specified or included.

3809.10 - With a basis of amylaceous substances

- Other :

3809.91 - - Of a kind used in the textile or like industries

3809.92 - - Of a kind used in the paper or like industries

3809.93 - - Of a kind used in the leather or like industries

This heading covers a wide range of products and preparations, of a kind generally used during processing or finishing of yarns, fabrics, paper, paperboard, leather or similar materials, not specified or included elsewhere in the Nomenclature.

They may be identified as falling in this heading because of their composition and presentation which give them a specific use in the industries cited in the heading and like industries, e.g., the textile floor carpeting industry, the vulcanised fibre manufacturing industry and the fur industry. Such products and preparations (e.g., textile softening agents) destined for domestic rather than industrial use are also covered by the heading.

Included here are :

(A) **Products and preparations used in the textile or like industries :**

(1) **Preparations to modify the feel of products**, for example : **stiffening agents**, generally based on natural starchy substances (such as starch of wheat, rice, maize (corn) or potato and dextrin), mucilaginous substances (lichens, alginates, etc.), gelatin, casein, vegetable gums (gum tragacanth, etc.) or rosin; **weighting agents**; **softening agents**, based on glycerol, imidazoline derivatives, etc.; **fillers**, based on natural or synthetic high molecular weight compounds.

In addition to the above-mentioned basic constituents some of the preparations may also contain wetting agents (soaps, etc.), lubricants (linseed oil, waxes, etc.), filling agents (kaolin, barium sulphate, etc.) and preservatives (particularly zinc salts, copper sulphate and phenol).

(2) **Agents to produce non-slip and anti-snag finishes**. These products are intended to reduce the slipping of fabrics to prevent the formation of snags in hosiery and knitwear. They are generally based on polymers, natural resins or silicic acid.

(3) **Agents to produce dirt-repellent finishes**. These are generally based on silicic acid, aluminium compounds or organic compounds.

(4) **Anti-crease and anti-shrink preparations** being mixtures of chemically defined compounds with at least two reactive groups (e.g., bis(hydroxymethyl) compounds, certain aldehydes and acetals).

(5) **Delustring agents** designed to reduce the lustre or gloss of textiles. They generally consist of suspensions of pigments (titanium oxide, zinc oxide, lithopone, etc.) stabilised by cellulose ethers, gelatin, glue, surface-active agents, etc.

The preparations classified here should not be confused with paints (**heading 32.08, 32.09** or **32.10**), nor with lubricating preparations for oiling or greasing wool (**heading 27.10** or **34.03**).

(6) **Flame-retardant preparations** based on ammonium salts, compounds of boron, nitrogen, bromine or phosphorus or on formulations based on chlorinated organic substances with antimony oxide or other oxides.

(7) **Lustring agents** intended to produce lustre or gloss on textiles. They are generally emulsions of paraffins, waxes, polyolefins or polyglycols.

(8) **Mordants** prepared for use in textile dyeing and printing processes to fix the dyestuffs. These preparations, which are soluble in water, are usually based on metallic salts (e.g., aluminium, ammonium, chromium or iron sulphates or acetates, potassium dichromate, antimony potassium tartrate) or tannin. (But see exclusion (d) at the end of this Explanatory Note.)

(9) **Dye carriers** which are used to accelerate dyeing and printing processes by causing swelling of the synthetic fibres. They include preparations based on biphenyl or on derivatives of benzene, phenol or hydroxytoluic acid, such as trichlorobenzenes, biphenyl-2-ol, methyl hydroxytoluates and mixtures thereof, whether or not containing surface-active agents.

(10) **Non-felting agents** designed to reduce the felting of animal fibres. They are often chlorinating or oxidising agents or specialised formulations of synthetic resin-forming substances.

(11) **Sizing agents** which are used to make yarns more resistant during weaving operations. These preparations are generally based on starch, starch derivatives or other natural or synthetic polymer binders. These may also contain wetting agents, softening agents, fats, waxes or other materials. This group also includes emulsified warp sizing waxes and emulsified fats prepared for sizing.

(12) **Oil-repellents** which are intended to produce an oil-repellent finish in textiles. They generally are emulsions or solutions of organic fluorine compounds such as perfluorinated carboxylic acids, and may contain modified resins (extenders).

(13) **Water-repellent agents**, generally consisting of aqueous emulsions of water-repellent products (such as waxes or lanolin) stabilised by cellulose ethers, gelatin, glue, organic surface-active agents, etc., and containing added soluble salts of, for example, aluminium or zirconium. This group of products also includes preparations based on silicones and on fluorine derivatives.

(B) **Products and preparations used in the paper, paperboard or like industries :**

(1) **Binders** used to bind the pigment particles in the coating mixture. They are preparations based on natural products such as casein, starch, starch derivatives, soya protein, animal glue, alginates or cellulose derivatives.

(2) **Sizing agents or sizing additives** used in paper processing to improve printability, smoothness and gloss and to impart writing properties to the paper. These preparations may be based on rosin soaps, fortified resins, wax dispersions, paraffin dispersions, acrylic polymers, starch and carboxymethylcellulose or vegetable gum.

(3) **Wet-strengthening agents**. These preparations are used to increase tensile strength, tearing strength, bursting strength and resistance to abrasion of wet paper or nonwovens.

(C) **Products and preparations used in the leather or like industries :**

(1) **Binders**. Preparations which are intended to anchor the pigment colours in leather. They are specially formulated, generally on a basis of protein substances, natural resins or waxes, etc.

(2) **Seasons** which are specially formulated to be applied as the final surface seal in leather finishing. Their structure and composition is similar to that of the binders of (1) above.

(3) **Waterproofing agents**. These usually consist of (i) chromium soaps, (ii) alkylsuccinic acid or citric acid derivatives, etc., in solvents (such as isopropyl alcohol) or (iii) fluorochemicals, either in solution or in dispersion.

In addition to the products excluded above, this heading **excludes** :

(a) Preparations of a kind used for the oil or grease treatment of textile materials, leather, furskins or other materials (**heading 27.10** or **34.03**).

(b) Separate chemically defined elements or compounds (usually **Chapter 28** or **29**).

(c) Pigments, prepared colours, paints, etc. (**Chapter 32**).

(d) Organic surface-active agents or preparations, e.g., dyeing adjuvants, of **heading 34.02**.

(e) Dextrins and other modified starches, and glues based on starches or on dextrins or other modified starches (**heading 35.05**).

(f) Insecticides and other preparations of **heading 38.08**.

(g) Emulsions, dispersions or solutions of polymers (**heading 32.09** or **Chapter 39**).

3809.10

- With a basis of amylaceous substances

3809.9

- Other :

3809.91

-- Of a kind used in the textile or like industries

CLASSIFICATION OPINIONS

1. **Dimethylol urea in aqueous solution,** whether or not containing formaldehyde resulting from dissociation of the product, used as a textile dressing : With added perfume.
See also Opinion 2924.19/1.
Adoption : 1964

2. **Trimethylol melamine in aqueous solution,** whether or not containing formaldehyde resulting from dissociation of the product, used as a textile dressing : With added perfume.
See also Opinion 2933.69/1.
Adoption : 1964

3. **Mixtures of addition compounds of low molecular weight** presenting various degrees of methylolisation, sometimes containing free formaldehyde and whether or not etherified (such

as : monomethylol and dimethylol ureas; trimethylol and pentamethylol melamines; dimethylol ethyleneurea and etherified polymethylol melamine), used as textile dressings
Adoption : 1967

4. **Mixtures of two diazonium salts** diluted to standard strength by the addition of sodium sulphate and sodium chloride, and producing, with a coupler, on certain textile fibres, an insoluble dye the shade of which would be unobtainable with a single diazonium salt.
Adoption : 1961

5. **Preparation** put up for retail sale in plastic bottles (75 ml to 5 l), presented in the form of an opaque viscous scented liquid, containing a quaternary surfactant agent (ammonium triethanol dialkyl ester methosulfate, acrylamide polymer and ammonium acrylate) (4 %), fragrance, mineral oil, polymer, trialkyl amin phosphonic acid (adjuvant), lactic acid (reinforcing), colorants and water (95 %). It is used to prevent static cling and make clothes softer. It is added to a load of laundry on the final rinse. **Application of GIRs 1 and 6.**
Adoption : 2010



3809.92

-- Of a kind used in the paper or like industries

3809.93

-- Of a kind used in the leather or like industries

Heading 3810

Pickling preparations for metal surfaces; fluxes and other auxiliary preparations for soldering, brazing or welding; soldering, brazing or welding powders and pastes consisting of metal and other materials; preparations of a kind used as cores or coatings for welding electrodes or rods.

EXPLANATORY NOTES

38.10 - Pickling preparations for metal surfaces; fluxes and other auxiliary preparations for soldering, brazing or welding; soldering, brazing or welding powders and pastes consisting of metal and other materials; preparations of a kind used as cores or coatings for welding electrodes or rods.

3810.10 - Pickling preparations for metal surfaces; soldering, brazing or welding powders and pastes consisting of metal and other materials

3810.90 - Other

(1) **Pickling preparations for metal surfaces**. These are preparations used to remove oxides, scale, rust or tarnish from the surface of metals, or for roughening these surfaces to facilitate certain operations. The pickling process may be a finishing operation, or may be effected at an earlier stage (to prepare the metal for drawing or extruding operations, for example), or prior to coating the metal, e.g., by galvanising, metallising, tinning, cladding, electroplating, painting, etc.

Pickling preparations are usually based on dilute acids (hydrochloric, sulphuric, hydrofluoric, nitric, phosphoric, etc.), and sometimes contain inhibitors which restrict the corrosion of the metal. Some, however, have a basis of alkalis (e.g., sodium hydroxide).

The heading **does not include** cleaning preparations for metals (**heading 34.02**).

(2) **Fluxes and other auxiliary preparations for soldering, brazing or welding**. Fluxes are used to facilitate the joining of the metals in the process of soldering, brazing or welding, by protecting the metal surfaces to be joined and the solder itself from oxidation. They have the property of dissolving the oxide which forms during the operation. Zinc chloride, ammonium chloride, sodium tetraborate, rosin and lanolin are the products most commonly used in these preparations.

This group also includes mixtures of aluminium granules or powder with various metallic oxides (e.g., iron oxide) used as intense heat-generators (alumino-thermic process) in welding operations, etc.

(3) **Soldering, brazing or welding powders and pastes consisting of metal and other materials**. These preparations are used to make the metal surfaces to be joined adhere to each other. Their essential constituent is metal (usually alloys containing tin, lead, copper, etc.). These preparations are classified in the heading **only when** :

(a) They contain other constituents as well as metals. These constituents are the auxiliary preparations described in (2) above; and

(b) They are put up in the form of powders or pastes.

Soldering, brazing or welding preparations consisting solely of metallic powders, whether or not mixed together, are **excluded (Chapter 71** or **Section XV** according to their constituents).

(4) **Preparations of a kind used as cores or coatings for welding electrodes or rods**. These are mainly intended to eliminate, in the form of fusible slag, the oxides which form during welding operations. They usually consist of a refractory mixture containing, for example, lime and kaolin.

Electrodes, of base metal or of metal carbides, coated or cored with a flux, are excluded (**heading 83.11**).

3810.10

- Pickling preparations for metal surfaces; soldering, brazing or welding powders and pastes consisting of metal and other materials

3810.90

- Other

Heading 3811

Anti-knock preparations, oxidation inhibitors, gum inhibitors, viscosity improvers, anti-corrosive preparations and other prepared additives, for mineral oils (including gasoline) or for other liquids used for the same purposes as mineral oils.

EXPLANATORY NOTES

38.11 - Anti-knock preparations, oxidation inhibitors, gum inhibitors, viscosity improvers, anti-corrosive preparations and other prepared additives, for mineral oils (including gasoline) or for other liquids used for the same purposes as mineral oils.

- Anti-knock preparations :

3811.11 - - Based on lead compounds

3811.19 - - Other

- Additives for lubricating oils :

3811.21 - - Containing petroleum oils or oils obtained from bituminous minerals

3811.29 - - Other

3811.90 - Other

The preparations of this heading are additives for mineral oils or for other liquids used for the same purposes to eliminate or reduce undesirable properties, or to impart or enhance desirable properties.

(A) **Prepared additives for mineral oils.**

1.- **Additives for crude oils**. This group includes anticorrosives which are added to crude oils to protect metal structures (in particular, distillation columns). Their active constituents are generally amino-type substances derived in particular from imidazoline.

2.- **Additives for gasoline (petrol)**. This group includes :

(a) **Anti-knock preparations** which increase the resistance of fuels to premature ignition and thus prevent knocking. They are usually based on tetraethyllead and tetramethyllead, and also contain, for example, 1,2-dibromoethane or monochloronaphthalene. The heading **does not include** leaded anti-knock compound sludges obtained from storage tanks for leaded anti-knock compounds and consisting essentially of lead, lead compounds and iron oxide (**heading 26.20**).

(b) **Oxidation inhibitors**. The most important oxidation inhibitors are based on phenolic products (e.g., dimethyl-*tert*-butylphenol), and such derivatives of aromatic amines as alkyl *p*-phenylenediamines.

(c) **Anti-icing preparations**. Products often based on alcohols (e.g., propan-2-ol (or isopropyl alcohol)), which are added to gasoline (petrol) to prevent the formation of ice in fuel systems.

(d) **Detergents**. Preparations used to keep the carburettor and the inflow and outflow of the cylinders clean.

(e) **Gum inhibitors**. These products are intended to prevent the formation of gum in the carburettor or engine intake.

3.- **Additives for lubricating oils.** This group includes :

(a) **Viscosity improvers**, based on polymers such as polymethacrylates, polybutenes, polyalkylstyrenes.

(b) **Pour-point depressants**, which prevent the aggregation of crystals at low temperatures. The products of this category are based on polymers of ethylene, on vinyl esters and ethers or on acrylic esters.

(c) **Oxidation inhibitors** usually based on phenolic or amino compounds.

(d) **Extreme pressure (EP) additives** based on organodithiophosphates of zinc, sulphurised oils, chlorinated hydrocarbons, aromatic phosphates and thiophosphates.

(e) **Detergents and dispersants**, such as those based on alkyl phenoxides, naphthenates or petroleum sulphonates of certain metals, such as those of aluminium, calcium, zinc or barium.

(f) **Rust preventatives** based on organic salts (sulphonates) of calcium or barium, on amines or on alkylsuccinic acids.

(g) **Foam inhibitors**, usually based on silicones.

Those lubricating preparations intended to be added in small quantities to motor fuels or lubricants, for example, for reducing wear on engine cylinders, are **excluded** (**heading 27.10** or **34.03**).

4.- **Additives for other mineral oils**. This group includes :

(a) **Pour-point depressants**, similar to those used for lubricants as in 3 (b) above.

(b) **Oxidation inhibitors**. These are similar to those used for gasoline (petrol).

(c) **Cetane number improvers** for gas oil, for example those based on alkyl nitrates and alkyl nitrites.

(d) **Additives with surface-active action, which eliminate or prevent the formation of sediment (asphaltenes)** in stored oil.

(e) **Additives to prevent or reduce undesirable deposits** (e.g., ash, carbon black) in the combustion chambers or flues of furnaces, and **additives to reduce corrosion** by volatile products (e.g., SO_2 and SO_3) in heat transmission structures or chimneys.

(f) Anti-icing preparations, added to prevent the formation of ice in fuel systems.

(B) **Prepared additives for other liquids used for the same purposes as mineral oils**.

Among the liquids used for the same purposes as mineral oils are :

(a) Fuels based on alcohols (e.g., gasohol); and

(b) Synthetic lubricants :

(1) based on esters of organic acids (adipates, azelates, neopentylpolyol esters) or of inorganic acids (triaryl phosphates);

(2) based on polyethers (poly(oxyethylene) (polyethylene glycol) or poly(oxypropylene) (polypropylene glycol));

(3) based on silicones.

The additives are the same as those used for the corresponding mineral oils.

This heading **does not apply** to separate chemically defined elements and compounds (usually **Chapter 28** or **29**), or to petroleum sulphonates not in the form of preparations.

The heading also **excludes** :

(a) Lubricating preparations with a basis of molybdenum disulphide (**heading 34.03**).

(b) Colloidal graphite in suspension in oil or other media and semi-colloidal graphite (**heading 38.01**).

3811.1

- Anti-knock preparations :

3811.11

-- Based on lead compounds

3811.19

-- Other

3811.2

- Additives for lubricating oils :

3811.21

-- Containing petroleum oils or oils obtained from bituminous minerals

3811.29

-- Other

3811.90

- Other

Heading 3812

Prepared rubber accelerators; compound plasticisers for rubber or plastics, not elsewhere specified or included; anti-oxidising preparations and other compound stabilisers for rubber or plastics.

EXPLANATORY NOTES

38.12 - Prepared rubber accelerators; compound plasticisers for rubber or plastics, not elsewhere specified or included; anti-oxidising preparations and other compound stabilisers for rubber or plastics.

3812.10 - Prepared rubber accelerators

3812.20 - Compound plasticisers for rubber or plastics

- Anti-oxidising preparations and other compound stabilizers for rubber or plastics :

3812.31 - - Mixtures of oligomers of 2,2,4-trimethyl-1,2-dihydroquinoline (TMQ)

3812.39 - - Other

For the purpose of this heading, the terms “compound”, “prepared” and “preparation” include :

(i) deliberate mixtures and blends; and

(ii) reaction mixtures including products produced from a homologous series such as fatty acids or fatty alcohols of heading 38.23.

(A) **Prepared rubber accelerators**.

This category covers products which are added to rubber prior to vulcanisation to give the vulcanised articles better physical properties and reduce the time and temperature required for the vulcanising process. They sometimes also serve as plasticisers. This heading covers **only** such products which are mixtures.

These preparations are generally based on organic products (diphenylguanidine, dithiocarbamates, thiuram sulphides, hexamethylenetetramine, mercaptobenzothiazole, etc.) often combined with inorganic activators (zinc oxide, magnesium oxide, lead oxide, etc.).

(B) **Compound plasticisers for rubber or plastics, not elsewhere specified or included**.

This category covers compound plasticisers which are used to provide a desired degree of flexibility to plastics or to increase the plasticity of the rubber mix. Examples of these types of products include deliberate mixtures of two or more phthalate esters as well as mixed dialkyl phthalates produced from mixed fatty alcohols of heading 38.23. Plasticisers are used extensively with poly(vinyl chloride) and with cellulose esters.

The heading **does not cover** products used as or sometimes called plasticisers, which are more specifically covered by some other heading of the Nomenclature (see the exclusions at the end of this Explanatory Note).

(C) **Anti-oxidising preparations and other compound stabilisers for rubber or plastics**.

This category covers anti-oxidising preparations for rubber or plastics (used, for example, in rubber manufacture to prevent hardening or ageing), such as mixtures of oligomers of 2,2,4-

trimethyl-1,2-dihydroquinoline (TMQ), mixed alkylated diphenylamines and preparations based on N-naphthylaniline.

This category also covers other compound stabilisers for rubber or plastics. Examples of this type of product include deliberate mixtures of two or more stabilisers as well as reaction mixtures such as mixed organotin compounds obtained from mixed fatty alcohols of heading 38.23. The main use of compound stabilisers for plastics is to inhibit the dehydrochlorination of certain polymers such as poly(vinyl chloride). They may also be used as heat stabilisers for polyamides.

The heading **excludes** :

(a) Petroleum oils, petroleum jelly, paraffin waxes and asphalts of **Chapter 27**.

(b) Separate chemically defined compounds of **Chapter 28** or **29**, e.g., dioctyl phthalate.

(c) Anti-oxidants prepared as additives for mineral oils or for other liquids used for the same purposes as mineral oils (**heading 38.11**).

(d) Peptisers for rubber processing, though known as chemical plasticisers (generally **heading 38.24**).

(e) Polymers of **Chapter 39**.

3812.10

- Prepared rubber accelerators

3812.20

- Compound plasticisers for rubber or plastics

3812.3

- Anti-oxidising preparations and other compound stabilizers for rubber or plastics :

3812.31

-- Mixtures of oligomers of 2,2,4-trimethyl-1,2-dihydroquinoline(TMQ)

3812.39

-- Other

Heading 3813

Preparations and charges for fire-extinguishers; charged fire-extinguishing grenades.

EXPLANATORY NOTES

38.13 - Preparations and charges for fire-extinguishers; charged fire-extinguishing grenades.

This heading covers :

(A) **Preparations for fire-extinguishers**. These include preparations with a basis of bicarbonates, sometimes containing, e.g., extracts of quillaia bark, extracts of liquorice or surface-active products to help produce a blanket of foam. These preparations may be liquid or dry.

(B) **Charges for fire-extinguishers**, i.e., light-weight containers (of glass, thin sheet-metal, etc.) designed to be themselves incorporated into fire-extinguishers, whether they contain :

(1) Preparations of the kind described in paragraph (A).

or (2) Two or more unmixed products (e.g., a solution of aluminium sulphate and a solution of sodium hydrogencarbonate), separated by a partition and intended to be put into contact at the moment of use.

or (3) A single unmixed product (e.g., carbon tetrachloride, methyl bromide or sulphuric acid).

(C) **Charged fire-extinguishing grenades**, i.e., containers charged with fire-extinguishing products (whether or not mixed), and used directly without incorporation in fire-extinguishing appliances. These are glass or pottery containers which are thrown into the heart of the fire and which break freeing their contents, or glass containers the end of which need only be broken between the fingers to project the extinguishing product.

Fire-extinguishers, whether or not portable and whether or not charged, which are operated by means of a pin, by upturning, striking a trigger, etc., fall in **heading 84.24**.

The heading also **excludes** unmixed chemical products with fire-extinguishing properties, when put up otherwise than as described in paragraphs (B) (2), (B) (3) and (C) above (generally **Chapter 28** or **29**).

3813.00

Preparations and charges for fire-extinguishers; charged fire-extinguishing grenades.

Heading 3814

Organic composite solvents and thinners, not elsewhere specified or included; prepared paint or varnish removers.

EXPLANATORY NOTES

38.14 - Organic composite solvents and thinners, not elsewhere specified or included; prepared paint or varnish removers.

This heading covers organic solvents and thinners (whether or not containing 70 % or more by weight of petroleum oil) **provided** that they are not separate chemically defined compounds and are not covered by a more specific heading. They are more or less volatile liquids which are used, *inter alia*, in the preparation of varnishes and paints or as degreasing preparations for machinery parts, etc.

Examples of the products classified in this heading are :

(1) Mixtures of acetone, methyl acetate and methanol, and mixtures of ethyl acetate, butyl alcohol and toluene.

(2) Degreasing preparations for machinery parts, etc., consisting of a mixture of :

(i) white spirit with trichloroethylene; or

(ii) petroleum spirit with chlorinated products and xylene.

The heading also covers paint or varnish removers consisting of the above mixtures with the addition of small quantities of paraffin wax (to retard evaporation of the solvents), emulsifiers, gelling agents, etc.

The heading **does not cover** :

(a) Separate chemically defined solvent or thinning compounds (**Chapter 29** generally) and products of complex constitution used as solvents or thinners but covered by more specific headings of the Nomenclature, e.g., solvent naphtha (**heading 27.07**), white spirit (**heading 27.10**), gum, wood or sulphate turpentine (**heading 38.05**); wood tar oils (**heading 38.07**), inorganic composite solvents (generally **heading 38.24**).

(b) Solvents for removing nail varnishes, put up for retail sale (**heading 33.04**).

3814.00

Organic composite solvents and thinners, not elsewhere specified or included; prepared paint or varnish removers.

Heading 3815

Reaction initiators, reaction accelerators and catalytic preparations, not elsewhere specified or included.

EXPLANATORY NOTES

38.15 - Reaction initiators, reaction accelerators and catalytic preparations, not elsewhere specified or included.

- Supported catalysts :

3815.11 - - With nickel or nickel compounds as the active substance

3815.12 - - With precious metal or precious metal compounds as the active substance

3815.19 - - Other

3815.90 - Other

This heading covers preparations which initiate or accelerate certain chemical processes. Products which retard these processes **are not included**.

These preparations fall broadly into two groups.

(a) Those of the first group are, in general, composed either of one or more active substances deposited on a support (known as “supported catalysts”) or of mixtures with a basis of active substances. In the majority of cases, these active substances are certain metals, metallic oxides, other metallic compounds or mixtures thereof. The metals most frequently used as such or as compounds are cobalt, nickel, palladium, platinum, molybdenum, chromium, copper or zinc. The support, sometimes activated, generally consists of alumina, carbon, silica gel, siliceous fossil meal or ceramic materials. Examples of “supported catalysts” are supported Ziegler or Ziegler-Natta types.

(b) Those of the second group are mixtures with a basis of compounds whose nature and proportions vary according to the chemical reaction to be catalysed. These preparations include :

(i) “free radical catalysts” (e.g., organic solutions of organic peroxides or of azo compounds, redox mixtures);

(ii) “ionic catalysts” (e.g., alkyllithium);

(iii) “catalysts for polycondensation reactions” (e.g., mixtures of calcium acetate with antimony trioxide).

The preparations of the second group are generally used in the course of manufacture of polymers.

This heading **does not include :**

(a) Spent catalysts of a kind used for the extraction of base metals or for the manufacture of chemical compounds of base metals (**heading 26.20**) and spent catalysts of a kind used principally for the recovery of precious metal (**heading 71.12**).

(b) Separate chemically defined compounds (**Chapter 28 or 29**).

(c) Catalysts consisting solely of metals or metal alloys in the form of finely divided powder, woven gauze, etc. (**Section XIV** or **XV**).

(d) Prepared rubber accelerators for use in the vulcanisation of rubber (**heading 38.12**).

3815.1

- Supported catalysts :

3815.11

-- With nickel or nickel compounds as the active substance

3815.12

-- With precious metal or precious metal compounds as the active substance

3815.19

-- Other

3815.90

- Other

Heading 3816

Refractory cements, mortars, concretes and similar compositions, including dolomite ramming mix, other than products of heading 38.01.

EXPLANATORY NOTES

38.16 - Refractory cements, mortars, concretes and similar compositions, including dolomite ramming mix, other than products of heading 38.01.

This heading covers certain preparations (e.g., for furnace linings) with a basis of such refractory materials as chamotte and dinas earths, crushed or ground corundum, powdered quartzites, chalk, calcined dolomite, with an added refractory binder (for example, sodium silicate, magnesium or zinc fluosilicates). Many of the products of this heading also contain non-refractory binders such as hydraulic binding agents.

The heading also covers refractory compositions with a basis of silica for the manufacture of dental or jewellery moulds by the lost wax process.

This heading further includes dolomite ramming mixes which are used as refractory materials (e.g., for furnace lining). These products are traded in powder or granular form consisting predominantly of crushed sintered dolomite. Depending on the field of application or temperature at which the mix will be used, different non-hydraulic binding agents (e.g., tar, pitch, resins) are used.

The heading further covers refractory concretes consisting of mixtures of heat-resistant hydraulic cements (e.g., aluminous cements) and refractory aggregates, used for the foundation of furnaces, coke ovens, etc., or for patching furnace linings as well as the following :

(a) **Compositions known as refractory "plastics"**, which are products sold as a dampened mass often consisting of a refractory aggregate, clay and minor additives.

(b) **Ramming mixes**, which are similar in composition to the products mentioned in (a) above and which, when applied by handheld pneumatic rammers, form a dense coating or filling.

(c) **Gunning mixes**, which are refractory aggregates mixed with hydraulic setting or other binders, applied to furnace linings, sometimes even when these are hot, by special guns which project the mix through a nozzle using compressed air.

The heading **does not cover** carbonaceous pastes of **heading 38.01**.

3816.00

Refractory cements, mortars, concretes and similar compositions, including dolomite ramming mix, other than products of heading 38.01.

Heading 3817

Mixed alkylbenzenes and mixed alkylnaphthalenes, other than those of heading 27.07 or 29.02.

EXPLANATORY NOTES

38.17 - Mixed alkylbenzenes and mixed alkylnaphthalenes, other than those of heading 27.07 or 29.02.

This heading covers **mixed alkylbenzenes** and **mixed alkylnaphthalenes** obtained by alkylation of benzene and naphthalene. They have fairly long side-chains and are not of the kind mentioned in the second part of the text of heading 27.07. Mixed alkylbenzenes are used, *inter alia*, as solvents, and in the manufacture of surface-active agents, lubricants and insulating oils. Mixed alkylnaphthalenes are mainly used for the manufacture of alkylnaphthalene sulphonic acids and their salts.

The heading **excludes** mixtures of isomers of **heading 29.02**.

3817.00

Mixed alkylbenzenes and mixed alkylnaphthalenes, other than those of heading 27.07 or 29.02.

Heading 3818

Chemical elements doped for use in electronics, in the form of discs, wafers or similar forms; chemical compounds doped for use in electronics.

EXPLANATORY NOTES

38.18 - Chemical elements doped for use in electronics, in the form of discs, wafers or similar forms; chemical compounds doped for use in electronics.

This heading covers :

(1) The chemical elements of Chapter 28 (for example, silicon and selenium) doped with, for example, boron or phosphorus, generally in a proportion of the order of one part per million, **provided** they are in the form of discs, wafers or similar forms. When in forms unworked as drawn, or in the form of cylinders or rods, they are classified in **Chapter 28**.

(2) Chemical compounds such as cadmium selenide and sulphide, indium arsenide, etc., containing certain additives (e.g., germanium, iodine) generally in a proportion of a few per cent, with a view to their use in electronics, whether in the form of cylinders, rods, etc., or cut into discs, wafers or similar forms.

The heading covers such crystals, polished or not, whether or not coated with a uniform epitaxial layer.

Those more extensively worked (e.g., by selective diffusion) fall in **heading 85.41** as semiconductor devices.

3818.00

Chemical elements doped for use in electronics, in the form of discs, wafers or similar forms; chemical compounds doped for use in electronics.

Heading 3819

Hydraulic brake fluids and other prepared liquids for hydraulic transmission, not containing or containing less than 70 % by weight of petroleum oils or oils obtained from bituminous minerals.

EXPLANATORY NOTES

38.19 - Hydraulic brake fluids and other prepared liquids for hydraulic transmission, not containing or containing less than 70 % by weight of petroleum oils or oils obtained from bituminous minerals.

This heading covers **hydraulic brake fluids and other prepared liquids for hydraulic transmission**, e.g., those consisting of mixtures of castor oil, 2-ethoxyethanol or ethylene diricinoleate and butyl alcohol, or those composed of 4-hydroxy-4-methylpentan-2-one (diacetone alcohol), diethyl phthalate and propane-1,2-diol as well as mixtures of glycols.

The heading also includes prepared hydraulic fluids based on polyglycols, silicones, or other polymers of Chapter 39.

Similar liquids containing 70 % or more by weight of petroleum oils or of oils obtained from bituminous minerals are, however, **excluded** (**heading 27.10**).

3819.00

Hydraulic brake fluids and other prepared liquids for hydraulic transmission, not containing or containing less than 70 % by weight of petroleum oils or oils obtained from bituminous minerals.

Heading 3820

Anti-freezing preparations and prepared de-icing fluids.

EXPLANATORY NOTES

38.20 - Anti-freezing preparations and prepared de-icing fluids.

This heading covers anti-freezing preparations and prepared de-icing fluids (e.g., mixtures with a basis of glycol derivatives).

Some anti-freezing preparations also act as coolants or as heat-exchange agents.

It **does not cover**, however, prepared additives for mineral oils or for other liquids used for the same purposes as mineral oils (**heading 38.11**).

3820.00

Anti-freezing preparations and prepared de-icing fluids.

Heading 3821

Prepared culture media for the development or maintenance of micro-organisms (including viruses and the like) or of plant, human or animal cells.

EXPLANATORY NOTES

38.21 - Prepared culture media for the development or maintenance of micro-organisms (including viruses and the like) or of plant, human or animal cells.

This heading covers various preparations in which bacteria, moulds, microbes, viruses, other micro-organisms and plant, human or animal cells required for medical purposes (e.g., for obtaining antibiotics) or for other scientific purposes or in industry (e.g., in the manufacture of vinegar, lactic acid, butyl alcohol) can find nourishment and multiply or in which they can be maintained.

They are usually prepared from meat extracts, fresh blood or blood serum, eggs, potatoes, alginates, agar-agar, peptones, gelatin, etc., and often contain additional ingredients such as glucose, glycerol, sodium chloride, sodium citrate or dyes. Acids, digestive ferments or alkalis may be added to bring them to the required degree of acidity or alkalinity, etc.

There are also other media, e.g., mixtures of sodium chloride, calcium chloride, magnesium sulphate, potassium hydrogensulphate, potassium aspartate and ammonium lactate in distilled water.

Certain culture media for viruses consist of living embryo.

They are usually in liquid form (broths), pastes or powders but may also be in tablets or granule form, and are sterilised and put up in sealed glass bottles, tubes, ampoules or tins.

The heading **does not cover** products not prepared as culture media, e.g. :

(a) Agar-agar (**heading 13.02**).

(b) Blood or egg albumin (**heading 35.02**).

(c) Gelatin (**heading 35.03**).

(d) Peptones (**heading 35.04**).

(e) Alginates (**heading 39.13**).

3821.00

Prepared culture media for the development or maintenance of micro-organisms (including viruses and the like) or of plant, human or animal cells.

Heading 3822

Diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents whether or not on a backing, whether or not put up in the form of kits, other than those of heading 30.06; certified reference materials.

EXPLANATORY NOTES

38.22 - Diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents whether or not on a backing, whether or not put up in the form of kits, other than those of heading 30.06; certified reference materials.

- Diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents whether or not on a backing, whether or not put up in the form of kits :

3822.11 - - For malaria

3822.12 - - For Zika and other diseases transmitted by mosquitoes of the genus *Aedes*

3822.13 - - For blood-grouping

3822.19 - - Other

3822.90 - Other

This heading covers **diagnostic or laboratory reagents on a backing, prepared diagnostic** or **laboratory reagents whether or not on a backing, whether or not put up in the form of kits, including** blood grouping reagents, **other than** diagnostic reagents designed to be administered to the patient of **heading 30.06**. It also covers **certified reference materials**.

Diagnostic reagents are used in the evaluation of physical, biophysical or biochemical processes and states in animals and humans; their function is based upon a measurable or observable change in the biological or chemical substances constituting the reagent. Prepared diagnostic reagents of this heading may be similar in function to those designed to be administered to patients (subheading 3006.30), with the exception that they are used for *in vitro*, rather than for *in vivo*, applications. Prepared laboratory reagents include not only diagnostic reagents, but also other analytical reagents used for purposes other than detection or diagnosis. Prepared diagnostic and laboratory reagents may be used in medical, veterinary, scientific or industrial laboratories, in hospitals, in industry, in the field or, in some cases, in the home.

Reagents of this heading are either on a backing or in the form of preparations and thus comprise more than a single constituent. For example, they may consist of admixtures of two or more reagents or of single reagents dissolved in solvents other than water. They may also be in the form of paper, plastics or other materials (used as backings or support), impregnated or coated with one or more diagnostic or laboratory reagents, such as litmus, pH or pole-finding papers or pre-coated immuno-assay plates. Reagents of this heading may also be put up in the form of kits, consisting of several

components, even if one or more components are separate chemically defined compounds of Chapter 28 or Chapter 29, synthetic colouring matter of heading 32.04 or any other substance which, when presented separately, would be classifiable under another heading. Examples of such kits are those for testing glucose in blood, ketones in urine, etc., and those based on enzymes.

The reagents of this heading should be clearly identifiable as being for use only as diagnostic or laboratory reagents. This must be clear from their composition, labelling, instructions for *in vitro* or laboratory use, indication of the specific diagnostic test to be performed or physical form (e.g., presented on a backing or support).

Diagnostic kits based on reactions such as agglutination, precipitation, neutralization, binding of complement, haemagglutination, enzyme-linked immunosorbent assay (ELISA), etc are classified here. Malaria diagnostic kits, for example those based on monoclonal antibodies to pLDH (plasmodium lactate dehydrogenase), are also classified here.

However, diagnostic kits having the essential character of products of **heading 30.06** (e.g., blinded (or double-blinded) clinical trial kits for a recognized clinical trial, put up in measured doses) are **excluded**.

Blood-grouping reagents are also classified here. The reagents under this heading must be suitable for direct use in blood-grouping. They are either sera of human or animal origin, or vegetable extracts of seeds or other parts of plants (phytagglutinins). These reagents are used in the determination of blood-groups by reference to the characteristics of the blood corpuscles or of the blood serum. In addition to the active principle(s), they may contain substances to strengthen their activity or stabilize them (antiseptics, antibiotics, etc.).

A. The following are to be regarded as reagents for determining blood-group by reference to the **characteristics of blood corpuscles** :

(i) Preparations for determining the A, B, O and AB groups, A_1 and A_2 sub-groups and Factor H.

(ii) Preparations for determining the M, N, S and P groups and other groups such as Lu, K and Le.

(iii) Preparations for determining the Rh groups and C^w, F, V, etc. sub-groups.

(iv) Preparations for determining the blood-groups of animals.

B. The preparations to be regarded as reagents for determining the **characteristics of sera** are those used to determine :

(i) characteristics of Gm, Km, etc., systems;

(ii) serum groups Gc, Ag, etc.

C. Anti-human globulin serum (Coombs serum), which is essential in certain bloodgrouping techniques, is also to be regarded as a reagent of this heading.

Crude sera and other semi-finished substances which require further treatment before becoming suitable for use as reagents are to be classified by reference to their constituent material.

D. Reagents for the determination of HLA properties (HLA antigens) fall in this heading; they must be directly applicable. They are sera of either human or animal origin. These reagents react with peripheral blood lymphocytes of the test subject for the determination of the HLA antigens. The HLA antigens of the test subject may be determined on the basis of the reaction pattern of different HLA test sera. Besides the active ingredients the reagents contain additives for stabilisation and conservation.

These include :

a. Preparations for the determination of the HLA A, B and C antigens.

b. Preparations for the determination of the HLA DR antigens.

c. Preparations for the determination of the HLA D antigens.

d. Finished reagents for the determination of the HLA A, B and C antigens which contain a range of different HLA antisera (e.g., test plates).

e. Finished reagents for the determination of the HLA DR locus (e.g., test plates).

With the **exception** of the products of **Chapter 28** or **29**, for the classification of certified reference materials, heading 38.22 shall take precedence over any other heading in the Nomenclature.

The **certified reference materials** of this heading are reference materials prepared for the calibration of an apparatus, the assessment of a measurement method or the assignment of values to a material. These reference materials may consist of the following :

(a) Substrate materials containing added analytes, the concentration of which has been accurately determined;

(b) Unmixed materials, the concentration of certain components of which has been accurately determined (e.g., the protein and fat content of milk powder);

(c) Materials, whether natural or synthetic, certain properties of which have been accurately determined (e.g., tensile strength, specific gravity).

These reference materials must be accompanied by a certificate which indicates the values of the certified properties, the methods used to determine the values and the degree of certainty associated with each value, and the certifying authority.

The heading also **excludes** the following reagents, whether or not put up in forms for use as diagnostic or laboratory reagents :

(a) Goods of **headings 28.43 to 28.46 and 28.52** (see Note 1 to Section VI);

(b) Products covered by Note 1 to Chapter 28 or Note 1 to Chapter 29;

(c) Colouring matter of **heading 32.04**, including preparations mentioned in Note 3 to Chapter 32;

(d) Prepared culture media for the development or maintenance of micro-organisms (including viruses and the like) or of plant, human or animal cells (**heading 38.21**).

3822.1

- Diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents whether or not on a backing, whether or not put up in the form of kits :

3822.11

-- For malaria

3822.12

-- For Zika and other diseases transmitted by mosquitoes of the genus Aedes

CLASSIFICATION OPINIONS

1. **Diagnostic kit for detecting the Zika virus** consisting of an in vitro assay based on the quantitative detection of Zika virus RNA through reverse transcription followed by real-time polymerase chain reaction (RT-PCR).
   The product consists of the following components :

   (i) PCR Solution : Primer, probe, TRIS-HCl;
   (ii) Mix Taq : Polymerase, dNTPs, MgCl2;
   (iii) Mix Buffer : TRIS-HCl;
   (iv) PCR Solution CI : Primer, probe, TRIS-HCl;
   (v) Internal Control : Plasmid, TRIS-HCl;
   (vi) Negative Control : TRIS-HCl;
   (vii) Standard A (2 x 105 copies/µL) : Plasmid, TRIS-HCl, EDTA;
   (viii) Diluent : TRIS-HCl, EDTA;
   (ix) Water : DNase/RNase free water; and
   (x) Usage instructions (manual).

The product should be used with RNA samples extracted from serum, plasma, urine, cerebrospinal fluid and amniotic fluid.

The RT-PCR method is used to amplify the pathogen RNA. A thermocycler for RT-PCR is used to amplify and detect the fluorescent probe. Software calculates the Zika Virus RNA concentration, expressed in copies/µL, using the standard curve generated from the quantitative standard, contained in the kit.
Application of GIRs 1 and 6.
See also Opinions 3822.12/2 and 3822.12/3
Adoption : 2017

2. **Diagnostic kit for detecting the Zika virus** consisting of an ELISA (enzyme-linked immunosorbent assay) test kit that provides a semiquantitative in vitro assay for human antibodies of the immunoglobulin class IgM against Zika virus in serum.
   The product consists of the following components :

   (i) Microplate wells coated with recombinant non-structural protein (NS1) of Zika virus, in the form of 12 microplate strips each containing 8 individual break-off wells in a frame;

   (ii) Calibrator (IgM, human);

(iii) Positive control (IgM, human);

(iv) Negative control (IgM, human);

(v) Enzyme conjugate peroxidase-labelled anti-human IgM (goat);

(vi) Sample buffer containing IgG/RF-Absorbent (Anti-human IgG antibody preparation obtained from goat);

(vii) Wash buffer;

(viii) Chromogen/substrate solution TMB/H2O2;

(ix) Stop solution 0.5 M sulphuric acid;

(x) Protective foil;

(xi) Test instruction; and

(xii) Quality control certificate.

In the first reaction step, diluted patient samples are incubated in the wells. In the case of positive samples, specific IgM (also IgA and IgG) antibodies will bind to the antigens. To detect the bound antibodies, a second incubation is carried out using an enzyme-labelled anti-human IgM (enzyme conjugate) catalysing a colour reaction.

The kit is suitable for the serodiagnosis of acute and past Zika virus infections. **Application of GIRs 1 and 6.**
See also Opinion 3822.12/1
Adoption : 2017

3. Diagnostic kit for detecting the Chikungunya virus consisting of a ELISA (enzyme-linked immunosorbent assay) test kit that provides a semiquantitative in vitro assay for human antibodies of the immunoglobulin class IgM against chikungunya virus in serum or plasma for the diagnosis of chikungunya fever, and differential diagnosis of haemorrhagic fever. The product consists of the following components :

(i) Microplate wells coated with recombinant chikungunya virus antigens, in the form of 12 microplate strips each containing 8 individual break-off wells in a frame;

(ii) Calibrator (IgM, human);

(iii) Positive control (IgM, human);

(iv) Negative control (IgM, human);

(v) Enzyme conjugate peroxidase-labelled anti-human IgM (goat),

(vi) Sample buffer containing IgG/RF-Absorbent (Anti-human IgG antibody preparation obtained from goat);

(vii) Wash buffer;

(viii) Chromogen/substrate solution TMB/H2O2;

(ix) Stop solution 0.5 M sulphuric acid;

(x) Protective foil;

(xi) Test instruction; and

(xii) Quality control certificate.

In the first reaction step, diluted patient samples are incubated in the wells. In the case of positive samples, specific IgM (also IgA and IgG) antibodies will bind to the antigens. To detect the bound antibodies, a second incubation is carried out using an enzyme-labelled anti-human IgM (enzyme conjugate) catalysing a colour reaction.
Application of GIRs 1 and 6.
See also Opinion 3822.12/1
Adoption : 2017

3822.13

-- For blood-grouping

3822.19

-- Other

CLASSIFICATION OPINIONS

1. **Hemolysis washing solution,** a liquid preparation which contains sodium azide, phosphate and surfactant, put up in 2-litre bottles. The main function of this solution is to lyse the cell membrane of erythrocytes, and release small hemoglobin fractions that will then pass a High-Performance Liquid Chromatography (HPLC) column.
   It is used in combination with other substances as an in vitro diagnostic reagent, for measuring hemoglobin A1c (HbA1c) in human whole blood.
   Application of GIRs 1 and 6.
   Adoption : 2019

2. **Diagnostic kit for in vitro detection of the HIV virus in human blood, sera or plasma by enzyme-linked immunosorbent assay (ELISA).** The principal components of the kit are (i) microplate wells coated with purified HIV-I and HIV-II antigens and (ii) a peroxidase conjugate consisting of anti-human IgG and IgM goat antibodies. Any existing HIV antibodies in the test sera or plasma specimens introduced into the microplate wells bind to the HIV antigens during a 30-minute incubation period at 40 °C. Following washing of the wells with a special washing solution to remove unbound substances, the conjugate is added to the wells and incubation occurs for an additional 30 minutes. Following further washing and drying to remove unbound conjugate, a chromogen solution is added, and a colourgenerating reaction is left to develop at room temperature for 30 minutes, at the end of which time a stopping solution is added. The optical density of each well is measured within 30 minutes after the reaction is stopped and serves to indicate whether and how much HIV-specific antibodies occur in the test specimens.
   Application of GIRs 1 and 6.
   Adoption : 1998

3822.90

- Other

Heading 3823

Industrial monocarboxylic fatty acids; acid oils from refining; industrial fatty alcohols.

EXPLANATORY NOTES

38.23 - Industrial monocarboxylic fatty acids; acid oils from refining; industrial fatty alcohols.

- Industrial monocarboxylic fatty acids; acid oils from refining :

3823.11 - - Stearic acid

3823.12 - - Oleic acid

3823.13 - - Tall oil fatty acids

3823.19 - - Other

3823.70 - Industrial fatty alcohols

(A) INDUSTRIAL MONOCARBOXYLIC FATTY ACIDS; ACID OILS FROM REFINING

Industrial monocarboxylic fatty acids are generally manufactured by the saponification or hydrolysis of natural fats or oils. Separation of solid (saturated) and liquid (unsaturated) fatty acids is usually done by crystallisation either with or without solvent. The liquid part (commercially known as oleic acid or olein) consists of oleic acid and other unsaturated fatty acids (e.g., linoleic and linolenic acids) together with small amounts of saturated fatty acids. The solid part (commercially known as stearic acid or stearin) consists mainly of palmitic and stearic acids with a small proportion of unsaturated fatty acids.

This heading includes, *inter alia* :

(1) **Commercial stearic acid** (stearin) which is a white solid material with a characteristic odour. It is relatively hard and rather brittle and is usually marketed in the form of beads, flakes or powder. It is also marketed in liquid form when transported hot in isothermal tanks.

(2) **Commercial oleic acid** (olein) which is a colourless to brown oily liquid with a characteristic odour.

(3) **Tall oil fatty acids** (TOFA) which consist primarily of oleic and linoleic acid. They are obtained by the distillation of crude tall oil and contain by weight 90 % or more (calculated on the weight of the dry product) of fatty acids.

(4) **Distilled fatty acids** which are obtained after hydrolytic splitting of various fats and oils (e.g., coconut oil, palm oil, tallow) followed by a purification process (distillation).

(5) **Fatty acid distillate**, obtained from fats and oils which have been subjected to vacuum distillation in the presence of steam as part of a refining process. Fatty acid distillate is characterised by a high free fatty acid (ffa) content.

(6) **Fatty acids obtained by catalytic oxidation** of synthetic hydrocarbons of a high molecular weight.

(7) **Acid oils from refining**, with a relatively high free fatty acid content, prepared by decomposing with mineral acid the soap-stock obtained during the refining of crude oils.

The heading **excludes** :

(a) Oleic acid, of a purity of 85 % or more (calculated on the weight of the dry product) (**heading 29.16**).

(b) Other fatty acids of a purity of 90 % or more (calculated on the weight of the dry product) (generally **heading 29.15, 29.16** or **29.18**).

(B) INDUSTRIAL FATTY ALCOHOLS

The fatty alcohols classified here are mixtures of acyclic alcohols obtained by catalytic reduction of the mixed fatty acids of this heading (see Part (A) above) or of their esters, by saponification of sperm oil, by catalytic reaction between olefins, carbon monoxide and hydrogen ("Oxo" process), by hydration of olefins, by oxidation of hydrocarbons or by other means.

Fatty alcohols are usually liquid but some are solid.

The principal fatty alcohols of this heading are :

(1) **Lauryl alcohol** which is a mixture of saturated fatty alcohols obtained by catalytic reduction of the fatty acids from coconut oil. It is liquid at normal temperatures, but is semi-solid in cold weather.

(2) **Cetyl alcohol** which is a mixture of cetyl and stearyl alcohols, the former greatly predominating, obtained from spermaceti and sperm oil. It is a crystalline, translucent solid at room temperature.

(3) **Stearyl alcohol** which is a mixture of stearyl and cetyl alcohols obtained by reduction of stearin or oils rich in stearic acid, or from sperm oil by hydrogenation and hydrolysis followed by distillation. It is a white crystalline solid at room temperature.

(4) **Oleyl alcohol** which is obtained by reduction of olein, or from alcohols derived from sperm oil by hydraulic pressure. It is liquid at room temperature.

(5) **Mixtures of primary aliphatic alcohols** commonly comprising alcohols in the range from six to thirteen carbon atoms. They are liquids generally produced by the "Oxo" process.

The fatty alcohols referred to in paragraphs (1) to (4) are mainly used for the preparation of their sulphonated derivatives whose alkali salts are the organic surface-active agents of heading 34.02. The fatty alcohols of paragraph (5) are principally used for the manufacture of plasticisers for poly(vinyl chloride).

This heading also covers industrial fatty alcohols which have a waxy character.

The heading **does not include** chemically defined fatty alcohols, of a purity of 90 % or more (calculated on the weight of the dry product) (generally **heading 29.05**).

3823.1

- Industrial monocarboxylic fatty acids; acid oils from refining :

3823.11

-- Stearic acid

3823.12

-- Oleic acid

3823.13

-- Tall oil fatty acids

3823.19

-- Other

CLASSIFICATION OPINIONS

1. Mixtures of trialkylacetic acids having 9 to 11 atoms of carbon.
Adoption : 1994

2. 12-Hydroxystearic acid, less than 90 % pure.
See also Opinion 2918.19/1.
Adoption : 1995

3823.70

- Industrial fatty alcohols

Heading 3824

Prepared binders for foundry moulds or cores; chemical products and preparations of the chemical or allied industries (including those consisting of mixtures of natural products), not elsewhere specified or included.

EXPLANATORY NOTES

38.24 - Prepared binders for foundry moulds or cores; chemical products and preparations of the chemical or allied industries (including those consisting of mixtures of natural products), not elsewhere specified or included (+).

3824.10 - Prepared binders for foundry moulds or cores

3824.30 - Non-agglomerated metal carbides mixed together or with metallic binders

3824.40 - Prepared additives for cements, mortars or concretes

3824.50 - Non-refractory mortars and concretes

3824.60 - Sorbitol other than that of subheading 2905.44

- Goods specified in Subheading Note 3 to this Chapter :

3824.81 - - Containing oxirane (ethylene oxide)

3824.82 - - Containing polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs) or polybrominated biphenyls (PBBs)

3824.83 - - Containing tris(2,3-dibromopropyl) phosphate

3824.84 - - Containing aldrin (ISO), camphechlor (ISO) (toxaphene), chlordane (ISO), chlordecone (ISO), DDT (ISO) (clofenotane (INN), 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane), dieldrin (ISO, INN), endosulfan (ISO), endrin (ISO), heptachlor (ISO) or mirex (ISO)

3824.85 - - Containing 1,2,3,4,5,6-hexachlorocyclohexane (HCH (ISO)), including lindane (ISO, INN)

3824.86 - - Containing pentachlorobenzene (ISO) or hexachlorobenzene (ISO)

3824.87 - - Containing perfluorooctane sulphonic acid, its salts, perfluorooctane sulphonamides, or perfluorooctane sulphonyl fluoride

3824.88 - - Containing tetra-, penta-, hexa-, hepta- or octabromodiphenyl ethers

3824.89 - - Containing short-chain chlorinated paraffins

- Other :

3824.91 - - Mixtures and preparations consisting mainly of (5-ethyl-2-methyl-2-oxido- 1,3,2-dioxaphosphinan-5-yl)methyl methyl methylphosphonate and bis[(5-ethyl-2-methyl-2-oxido-1,3,2-dioxaphosphinan-5-yl)methyl] methylphosphonate

3824.92 - - Polyglycol esters of methylphosphonic acid

3824.99 - - Other

This heading covers :

(A) PREPARED BINDERS FOR FOUNDRY MOULDS OR CORES

The heading covers foundry core binders based on natural resinous products (e.g., rosin), linseed oil, vegetable mucilages, dextrin, molasses, polymers of Chapter 39, etc.

These are preparations for mixing with foundry sand to give it a consistency suitable for use in foundry moulds or cores, and to facilitate the removal of the sand after the piece has been cast.

However, dextrins and other modified starches, and glues based on starches or on dextrins or other modified starches are classified in **heading 35.05**.

(B) CHEMICAL PRODUCTS AND CHEMICAL OR OTHER PREPARATIONS

With only three exceptions (see paragraphs (7), (19) and (32) below), this heading **does not apply** to separate chemically defined elements or compounds.

The **chemical products** classified here are therefore products whose composition is not chemically defined, whether they are obtained as by-products of the manufacture of other substances (this applies, for example, to naphthenic acids) or prepared directly.

The **chemical or other preparations** are either mixtures (of which emulsions and dispersions are special forms) or occasionally solutions. Aqueous solutions of the chemical products of **Chapter 28** or **29** remain classified within those Chapters, but solutions of these products in solvents other than water are, apart from a few exceptions, excluded therefrom and accordingly fall to be treated as preparations of this heading.

The preparations classified here may be either wholly or partly of chemical products (this is generally the case) or wholly of natural constituents (see, for example, paragraph (24) below).

However, the heading **does not cover** mixtures of chemicals with foodstuffs or other substances with nutritive value, of a kind used in the preparation of certain human foodstuffs either as ingredients or to improve some of their characteristics (e.g., improvers for pastry, biscuits, cakes and other bakers' wares), provided that such mixtures or substances are valued for their nutritional content itself. These products generally fall in **heading 21.06**. (See also the General Explanatory Note to Chapter 38.)

This heading also **excludes** mercury compounds (**heading 28.52**).

Subject to the above conditions, the preparations and chemical products falling here include :

(1) **Naphthenic acids** (by-products of the refining of certain petroleum oils and of certain oils obtained from bituminous minerals), **and their salts**, **other than** the water-soluble naphthenates of **heading 34.02**, and salts of **headings 28.43 to 28.46 and 28.52**. The heading covers, for example, calcium, barium, zinc, manganese, aluminium, cobalt, chromium, lead, etc., naphthenates, some of which are used for the preparation of driers or additives for mineral oils, and copper naphthenate used for the preparation of fungicides.

(2) **Non-agglomerated metal carbides** (tungsten carbide, molybdenum carbide, etc.) mixed together or with metallic binders (such as cobalt), for the manufacture of the tips or the like for tools of heading 82.09.

(3) **Prepared additives for cements, mortars or concretes**, for example, anti-acid additives with a basis of sodium or potassium silicate and sodium or potassium fluorosilicate, and waterproofing preparations (whether or not containing soap), e.g., based on calcium oxide, fatty acids, etc.

(4) **Non-refractory mortars and concretes**.

(5) **Sorbitol other than that of heading 29.05**.

This category covers, in particular, sorbitol (D-glucitol) syrups containing other polyols and in which the D-glucitol content normally ranges from 60 % to 80 % of the dry matter. Products of this kind are obtained by the hydrogenation of glucose syrups having a high disaccharide and polysaccharide content, without any separation process having taken place. They have the characteristic of being difficult to crystallise and are used in a wide variety of industries (e.g., food, cosmetics, pharmaceuticals, plastics, textiles).

Sorbitol meeting the requirements of Note 1 to Chapter 29 is classified in **heading 29.05**. Sorbitol of this kind is usually obtained by the hydrogenation of glucose or invert sugar.

(6) **Mixtures of calcium carbide, calcium carbonate (limestone) and other materials** such as carbon or fluorspar, prepared for use as a desulphuriser in steel-making.

(7) **Cultured crystals** (**other than** optical elements) weighing not less than 2.5 g each, of magnesium oxide or of the halides of the alkali or of the alkaline-earth metals (calcium or lithium fluoride, potassium or sodium chloride, potassium bromide, potassium bromiodide, etc.). Optical elements of cultured crystals are **excluded** (**heading 90.01**).

Cultured crystals (**other than** optical elements) weighing less than 2.5 g each, are classified in **Chapter 28**, **heading 25.01** (sodium chloride crystals) or **heading 31.04** (potassium chloride crystals).

(8) **Petroleum sulphonates**, not water-soluble, obtained from petroleum or petroleum fractions by sulphonation, for example, with sulphuric acid, oleum or sulphur trioxide dissolved in liquid sulphur dioxide, this process usually being followed by neutralisation. Water-soluble petroleum sulphonates, e.g., of alkali metals, of ammonium or of ethanolamines are, however, **excluded** (**heading 34.02**).

(9) **Polychlorobiphenyls** (mixtures of chlorinated derivatives of biphenyl) **and chloroparaffins**.

Solid polychlorobiphenyls and solid chloroparaffins having the character of artificial waxes are, however, **excluded** (**heading 34.04**).

(10) **Poly(oxyethylene) (polyethylene glycol)** with a very low molecular weight, e.g., mixtures of di-, tri- and tetra(oxyethylene) glycols.

All other types of poly(oxyethylene) (polyethylene glycol) are, however, excluded (**heading 39.07** or, if having the character of artificial waxes, **heading 34.04**).

(11) **Mixtures of mono-, di- and tri-, fatty acid esters of glycerol**, used as emulsifiers for fats.

Those which have the character of artificial waxes are, however, **excluded** (**heading 34.04**).

(12) **Fusel oil**, which is obtained in the rectification of crude ethyl alcohol.

(13) **Dippel's oil** (bone oil, animal oil, Jeppel's oil) obtained by destructive distillation of the bones or horns of ruminants. It is a blackish liquid, extremely viscous and with a fetid odour, chiefly used in the preparation of insecticides or pyridine bases.

(14) **Ion-exchangers** (including base or acid exchangers) **other than** polymers of **Chapter 39**. These are insoluble compounds which, when brought into contact with a solution of an electrolyte, exchange one of their own ions for one of those contained in a substance dissolved in that solution, this property being of value industrially, e.g., for removing the calcium or magnesium salts from hard water intended for boilers, for the textile or dyeing industries, for laundries, etc. They are also used to convert salt water into drinking water, etc. Artificial zeolites (whether or not chemically defined), except those containing binders are, however, **excluded** (**heading 28.42**).

(15) **Anti-scaling compounds** usually based on sodium carbonate, sodium silicate, tannin, etc. These compounds, added to hard water, precipitate most of the dissolved calcium and magnesium salts, thus preventing the formation of calcareous deposits in boilers, the tubes of steam generators and other apparatus through which water circulates.

(16) **Oxylith** (or oxygen stone), prepared by adding small quantities of products such as copper or nickel salts to sodium peroxide. This regulates the release of oxygen on immersion in water. Oxylith is often in the form of cubes or slabs.

(17) **Additives to harden varnish or glue**, e.g., mixtures of ammonium chloride and urea.

(18) **Getters for vacuum tubes**, with a basis of barium, zirconium, etc. These getters are usually put up in pastilles, tablets or similar forms, or on metal tubes or wires.

(19) **Ink-removers put up in packings for retail sale**. These are usually aqueous solutions of chemically defined compounds. In some cases a single compound may be used (e.g., an aqueous solution of chloramine), but in others, two with complementary functions may be necessary. In the latter case, two bottles may be provided in the same package, one containing, for example, an aqueous solution of sodium hydrogensulphite and the other an aqueous solution of potassium permanganate.

(20) **Stencil correctors put up in packings for retail sale**. These are usually pink cellulose varnishes and are put up in small bottles the caps of which are generally provided with a small brush.

These varnishes are **excluded** from this heading when not put up for retail sale as stencil correctors. Organic composite thinners for these varnishes fall in **heading 38.14**.

(21) **Correcting fluids put up in packings for retail sale**. These are opaque (white or otherwise coloured) fluids consisting essentially of pigments, binders, and solvents, used for masking errors or other unwanted marks in typescripts, manuscripts, photocopies, offset printing masters or the like. They are usually put up in small bottles (the cap of which is usually provided with a small brush), in tins or in the form of pens.

Organic composite thinners for these fluids fall in **heading 38.14**.

(22) **Correction tapes put up in packings for retail sale**. These are rolls of correction ribbons generally presented in a plastic dispenser, used for masking writing or typewriting errors or other unwanted marks in typescripts, manuscripts, photocopies, offset printing masters or the like. These products are available in different tape widths and lengths. The correction ribbon is composed of an opaque pigment coating which is applied on the surface of the ribbon. The coating is applied manually by pressing a transfer head on the part to be corrected.

The heading **excludes** :

(a) Correction tapes composed of paper with an adhesive backing (**Chapter 48**)

(b) Typewriter or similar ribbons, inked or otherwise prepared for giving impressions (**heading 96.12)**.

(23) **Preparations used mainly for clarifying wines and other fermented beverages**. These generally have a basis of poly(vinyl pyrrolidone) or gelatinous or albuminous substances such as

isinglass, gelatin, carrageen moss or egg albumin. However, those containing enzymes are **excluded** (**heading 35.07**).

(24) **Compounded extenders for paints**. These are prepared powders often added to paints (other than distempers) to reduce their cost and at the same time, in some cases, to improve certain properties (e.g., to facilitate the spreading of colouring pigments). They are also used in the manufacture of distempers, but in this case they act as pigments. These preparations consist of mixtures of two or more natural products (chalk, natural barium sulphate, slate, dolomite, natural magnesium carbonate, gypsum, asbestos, mica, talc, calcite, etc.), of mixtures of these natural products with chemical products, or of mixtures of chemical products (e.g., mixtures of aluminium hydroxide and barium sulphate).

This category also includes finely ground natural calcium carbonate ("Champagne white"), each particle being coated, by a special treatment, with a water-repellent film of stearic acid.

(25) **Preparations for the manufacture of certain ceramic articles** (artificial teeth, etc.), e.g., mixtures with a basis of kaolin, quartz and feldspar.

This category also includes dental zirconia products with a basis of zirconium oxide (ZrO2) and other metal oxides. They can not be applied in dentistry prior to undergoing several procedures such as milling, sintering and glazing to take their final forms of artificial teeth or dental restorations.

(26) **Fusible ceramic firing testers** (Seger cones, etc.). These are usually in the shape of small pyramids, formed of mixtures of substances similar to those in ceramic pastes and vitrifiable preparations. Their composition has been worked out so that they soften and collapse at a given temperature, and can thus be used for controlling the firing of articles such as ceramic ware.

(27) **Soda-lime**, prepared by impregnating pure lime with sodium hydroxide and used to absorb carbon dioxide in re-breathing anaesthesia systems, in submarines, etc. The heading **excludes** soda-lime put up as a laboratory reagent (**heading 38.22**).

(28) **Hydrated silica gel coloured with cobalt salts**, used as a desiccating agent which indicates by its colour when it is no longer operating.

(29) **Anti-rust preparations**. These may be preparations based on, for example, phosphoric acid which acts chemically in the prevention of rust.

Anti-rust preparations based on lubricants fall in **heading 27.10** or **34.03**, as the case may be.

(30) **Preparations (e.g., tablets), consisting of saccharin or its salts and substances such as sodium bicarbonate (sodium hydrogencarbonate) and tartaric acid**, not being foodstuffs, used for sweetening purposes.

(31) **Salt for curing or salting**, consisting of sodium chloride with added sodium nitrite (nitrited salts) or sodium nitrate (nitrated salts).

The same products containing added sugar are classified in **heading 21.06**.

(32) **Certain unmounted cut elements of piezo-electric materials (other than quartz, tourmaline, etc., of heading 71.03 or 71.04).**

The materials most commonly used for the production of the piezo-electric elements of this heading are :

(a) Rochelle salt (or Seignette salt, i.e., potassium sodium tartrate tetrahydrate); ethylenediamine tartrate; orthophosphates of ammonium, rubidium or caesium or mixed crystals thereof.

(b) Barium titanate; lead zirconate titanate; lead metaniobate; lead strontium titanate zirconate; calcium titanate; etc.

The elements are obtained by precision cutting, relative to their electrical axes, of high quality cultured crystals. Prior to cutting such crystals fall in their appropriate headings in **Chapter 28** or **29** if they constitute separate chemically defined compounds; otherwise they fall in this heading.

The heading also covers polycrystalline polarised elements of the products cited in subparagraph (b) above, **provided they are unmounted**.

(33) **Anti-slip transmission belt preparations** consisting of fatty substances, abrasives, etc., even if containing 70 % or more by weight of petroleum oils or of oils obtained from bituminous minerals.

(34) **Intermediate products of the manufacture of certain therapeutic substances (for example, antibiotics)**, obtained with the aid of micro-organisms by fermentation, filtration and first stage extraction, generally containing not more than 70 % of active substances; for example, “alkaline cakes”, which are intermediate products of the manufacture of chlorotetracycline (aureomycin) and which consist of inactive mycelium, filter aids, and 10 % to 15 % of chlorotetracycline.

(35) **Articles producing a lighting effect by the phenomenon of chemiluminescence**, e.g., lightsticks in which the lighting effect is obtained by a chemical reaction between oxalic acid type esters and hydrogen peroxide in the presence of a solvent and a fluorescent compound.

(36) **Starting fluid for petrol engines**, consisting of diethyl ether, 70 % or more by weight of petroleum oils and also other constituents, the diethyl ether being the basic constituent.

(37) **Modelling paste in powder form** (for use after mixing with water). The powder consists of about 30 % rye flour and about 30 % wood cellulose, together with cement, glue and chalk. The heading **does not include**, however, modelling pastes of **heading 34.07**.

(38) **“Flatting pigment(s)”** consisting of the aluminium salt of a modified resinic acid, the particles being coated with a cellulose ether to protect them against solvents and to prevent sedimentation.

(39) **“Fish-scale paste”** or **“fish guano”**, consisting of a crude silvery paste obtained by treating fish scales with white spirit, and, because of its guanine content, used after refining to make pearl essence.

(40) **Thallium bromoiodide crystals**, consisting of a solid solution of bromide and iodide, used for their optical properties (high transparency to infra-red radiation).

(41) **Gelling agent**, a non-chemically defined product, consisting of a montmorillonite which has been subjected to a special treatment rendering it organophilic, put up in the form of a creamy-white

powder, used in the manufacture of many organic preparations (paints, varnishes, vinyl polymer dispersions, waxes, adhesives, mastic compounds, cosmetics, etc.).

(42) **Fatty acids, industrial** :

(i) Dimerised.

(ii) Trimerised.

(iii) Esterified with amyl alcohol and subsequently epoxydised.

(43) **Agglomerated mixture** of technical molybdic oxide, carbon and boric acid, prepared for use as an alloying material in steel-making.

(44) **Powder described in trade as "grey oxide" or "black oxide" and sometimes improperly called "lead dust",** being a specially prepared mixture of lead monoxide (65 to 80 %) and lead metal (the balance), obtained by controlled oxidation of pure lead in a ball mill process and used in the manufacture of storage battery plates.

(45) **Mixtures of isomers of two different organic compounds,** divinylbenzene isomers (typically 25 to 80 %) and ethylvinylbenzene isomers (typically 19 to 50 %), used as polymerizing agents in polystyrene resins in which only the divinylbenzene isomers take part in the cross-linking process.

(46) **Mixtures, used as thickeners and emulsion stabilisers in chemical preparations or as binders in the manufacture of abrasive grindstones**, consisting of products of either separate headings or the same heading of Chapter 25, whether or not with materials classified in other Chapters and having one of the following compositions :

- mixture of various clays;
- mixture of various clays and feldspar;
- mixture of clay, powdered feldspar and powdered natural borax (tincal);
- mixture of clay, feldspar and sodium silicate.

(47) **Mixtures used as plant growing media, such as potting soils**, consisting of products classifiable in Chapter 25 (earth, sand, clay), whether or not they contain small quantities of the fertilising elements nitrogen, phosphorus or potassium.

Mixtures of peat and sand or clay, the essential character of which is given by the peat, are, however, **excluded** (**heading 27.03**).

(48) **Copying pastes with a basis of gelatin**. These are used to duplicate drawings, to coat printing machine rollers, etc. The composition of these pastes varies, but the essential constituent is gelatin, to which is added, in varying proportions, dextrin and barium sulphate, or (if the pastes are to be used for the manufacture of inking rollers for printing machines) glycerol or sugar and fillers (kaolin, etc.)

These pastes are classified here whether presented in bulk (boxes, drums, etc.) or ready for use (generally on a paper or textile backing).

The heading **excludes** inking rollers for printing machines coated with copying paste (**heading 84.43**).

(49) **Diacetyl tartaric acid ester of mono- and diglycerides** mixed with tricalcium phosphate or calcium carbonate, used as emulsifiers.

The heading also **excludes** :

(a) Separate chemically defined silica fume collected as a by-product from silicon, ferrosilicon and zirconia production, generally used as a pozzolanic additive in concrete, fibre cement, or refractory castables, and as an additive in polymers (**heading 28.11**).

(b) Finishing agents and other products or preparations, of a kind used in the textile, paper, leather or like industries (**heading 38.09**).

(c) Mixtures of heat- or sound-insulating or sound-absorbing mineral materials of **heading 68.06** or mixtures with a basis of asbestos or with a basis of asbestos and magnesium carbonate of **heading 68.12**.

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Subheading Explanatory Notes.

Subheading 3824.89

Trade in mixtures containing short-chain chlorinated paraffins is controlled by the Rotterdam and Stockholm Conventions.

Subheading 3824.91

Trade in mixtures and preparations described in subheading 3824.91 is controlled by the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (Chemical Weapons Convention).

Subheading 3824.92

Trade in mixtures containing polyglycol esters of methylphosphonic acid is controlled by the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (Chemical Weapons Convention).

3824.10

- Prepared binders for foundry moulds or cores

3824.30

- Non-agglomerated metal carbides mixed together or with metallic binders

3824.40

- Prepared additives for cements, mortars or concretes

3824.50

- Non-refractory mortars and concretes

3824.60

- Sorbitol other than that of subheading 2905.44

3824.8

- Goods specified in Subheading Note 3 to this Chapter :

3824.81

-- Containing oxirane (ethylene oxide)

3824.82

-- Containing polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs) or polybrominated biphenyls (PBBs)

3824.83

-- Containing tris(2,3-dibromopropyl) phosphate

3824.84

-- Containing aldrin (ISO), camphechlor (ISO) (toxaphene), chlordane (ISO), chlordecone (ISO), DDT (ISO) (clofenotane (INN), 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane), dieldrin (ISO, INN), endosulfan (ISO), endrin (ISO), heptachlor (ISO) or mirex (ISO)

3824.85

-- Containing 1,2,3,4,5,6-hexachlorocyclohexane (HCH (ISO)), including lindane (ISO, INN)

3824.86

-- Containing pentachlorobenzene (ISO) or hexachlorobenzene (ISO)

3824.87

-- Containing perfluorooctane sulphonic acid, its salts, perfluorooctane sulphonamides, or perfluorooctane sulphonyl fluoride

3824.88

-- Containing tetra-, penta-, hexa-, hepta- or octabromodiphenyl ethers

3824.89

-- Containing short-chain chlorinated paraffins

3824.9

- Other :

3824.91

-- Mixtures and preparations consisting mainly of (5-ethyl-2-methyl-2-oxido-1,3,2-dioxaphosphinan-5-yl)methyl methyl methylphosphonate and bis[(5-ethyl-2-methyl-2-oxido-1,3,2-dioxaphosphinan-5-yl)methyl] methylphosphonate

3824.92

-- Polyglycol esters of methylphosphonic acid

3824.99

-- Other

CLASSIFICATION OPINIONS

1. **Preparation** containing, besides numerous other secondary constituents, sodium pyrophosphate and triphosphate, an optical bleach, and a very small quantity of an anionic surface-active agent, for use in the manufacture of a washing preparation, by adding, e.g., detergents.
Adoption : 1969 + 1994

2. **Combined emulsifier and stabiliser** in the form of a powder, consisting mainly of a mixture of mono-, di- and tri-, fatty acid esters of glycerol (the triglyceride content of which is a residue of the manufacturing process), sodium carboxymethylcellulose, guar gum, carrageenan, sodium alginate and locust bean gum, intended to be added in small proportions (less than 1 %) to ice cream and soft ice to improve the texture and consistency.
Adoption : 1992 + 1994

3. **Antibiotic concentrate** in the form of a white, micronised powder, containing nisin (an antibiotic) (approximately 2.3 %), 74 % sodium chloride and 17 % milk proteins (a residue from the manufacturing process of nisin), used in food manufacture to prevent the growth of bacteria.
Adoption : 1992 + 1994

4. **Lipstick base not containing colouring matter or perfume,** consisting of a homogenised mixture of certain ingredients, intended to be used, after the addition of colouring matter and perfume, for moulding into lipsticks.
Adoption : 1992 + 1994

5. **Synthetic sodium aluminosilicates,** crystalline, whether or not having a constant ratio of elements, but containing binders.
Adoption : 1995

6. **Synthetic calcium silicates**, amorphous, having a random structure containing varying elemental ratios of calcium and silicon and whose composition cannot be defined by a constant ratio of elements.
Adoption : 1995

7. **Natural calcium bentonite mixed with small amounts (1 % to 4 % by weight) of sodium carbonate (soda ash),** which, when treated with water at the time of use, undergoes an ion-exchange transformation from calcium bentonite to sodium bentonite, the latter being preferred for applications requiring high swelling capacity in water (e.g., oil-well drilling muds, cement slurries for oil-well casings, etc.).
Adoption : 1998

8. **Disposable hand or foot warmer,** comprising a porous, plastics-coated nonwoven sachet which contains, principally, iron powder, an oxidation catalyst, an oxidation promoter and moisture absorbents, and is packaged in an airtight wrapping. Upon contact with ambient air after removal of the exterior wrapping, the iron powder is steadily oxidised in a reaction which generates heat (exothermic reaction) over a period of 5 to 7 hours, for warming the hands or feet during cold-weather activities.
Application of GIR 1.
Adoption : 1999

9. **Mixture of two types of bentonite clay,** obtained through a patented process which involves blending magnesium and aluminium based clays in predetermined ratios, the addition of water

to create a slurry, the disintegration of the clays in a ball mill in order to remove some impurities, centrifugation to remove additional impurities and then drum-drying the mixture in order to obtain an end product with desirable properties that did not exist in the natural state.
Application of GIR 1 and Note 1 to Chapter 25.
Adoption : 2000

10. **Bleach activator in the form of granules,** consisting of tetraacetylethylenediamine (> 90 % by weight) as the active component, sodium carboxymethylcellulose (< 8 %) as the binding agent, inert pigment (< 0.5 %) for aesthetic reasons and water (< 2 %). The product is used in detergent formulations.
Application of GIRs 1 and 6.
Adoption : 2001

11. **Mixture of two inorganic oxides,** obtained through a patented process which involves blending yttrium oxide and a small amount of another inorganic oxide (other than of rare-earth metal or of scandium) in predetermined ratios, briquetting or pelletising, sintering, milling and then sieving the mixture in order to obtain a powdered end product with desired physical properties (surface area, particle size, density and melting point) which is particularly suitable for specific use.
Application of GIRs 1 (Note 1 (a) to Chapter 28) and 6.
Adoption : 2004

12. **Liquid micronutrient preparation for plants**, containing manganese (14 %), zinc (13 %), copper (0.75 %), water and trace amounts of nitrogen and potassium. It is to be applied on the surface of seeds prior to planting, to assist in seed germination and growth in soils deficient in zinc, copper or manganese.
Application of GIRs 1 and 6.
Adoption : 2005

13. **Emulsifier** in the form of a powder, consisting of diacetyl tartaric acid ester of vegetable mono- and diglycerides and tricalcium phosphate (10 %), intended to be used as volume improver in powdered bread preparations and flour mixes.
Application of GIRs 1 and 6.
Adoption : 2007

14. **Emulsifier** in the form of a powder, consisting of diacetyl tartaric acid ester of monoglycerides and calcium carbonate (20 %), intended to be used as volume improver in powdered bread preparations and flour mixes.
Application of GIRs 1 and 6.
Adoption : 2007

15. **Correction tape,** being a writing or typewriting correction device, consisting of a plastic dispenser which contains a roll of correction ribbon on a supply reel and a take-up reel designed to take up expended ribbon.
The correction ribbon is composed of a white pigment coating film applied on the surface of the ribbon. The coating film is applied by pressing a transfer head protruding from the dispenser firmly against the surface of the part to be corrected and sliding it on the surface until the part is covered; then lifting the transfer head straight up.
Application of GIRs 1 (Note 3 (d) to Chapter 38) and 6.
Adoption : 2008



16. **Liquid nutrient preparation for plants**, presented in containers of 20 litres as a water-soluble, dark brown liquid, containing L-α amino acids (proline, glycine, alanine, arginine) (5 % by weight), water-soluble zinc (4.5 % by weight), and water. It is based on organic molecules and is used in agriculture by either direct application to the soil or to the plant foliage, to replenish some essential amino acids and zinc in certain kinds of crops which can be depleted during adverse climatic conditions (e.g., drought, low temperatures, action of the wind) or during critical periods for crops (e.g., transplanting, start of fruit development). **Application of GIRs 1 and 6.**
Adoption : 2009

17. **Mixture**, in liquid (syrup) form, containing maltitol (50 – 55 % by weight), sorbitol (D-glucitol) (less than 8 % by weight), water and trace amounts of reducing sugars (less than 0.2 % by weight). The mixture is obtained from potato or corn starch by partial catalytic hydrogenation (the reaction being deliberately interrupted) of maltose syrups or high maltose syrups. It is intended to be used as a sugar substitute in the production of, e.g., dietary preparations, pharmaceutical products, cosmetics, or chewing gum. **Application of GIRs 1 and 6.**
Adoption : 2016

18. **Crude palm fatty acid** - Light yellow coloured semisolid with an upper small layer of reddish brown coloured liquid at 28°C. The product consists basically of triglycerides, diglycerides, monoglycerides and free fatty acids (11.8 % - 22.6 %). The glyceride profile is as follows: triglycerides (81.36 %), diglycerides (13.28 %) and monoglycerides (3.63 %). For the main free fatty acids, the average profile is as follows: palmitic acid (40 %), oleic acid (42 %) and linoleic acid (10 %). The product is consistent with a blend of refined, bleached and deodorised (RBD) palm oil with palm fatty acid distillate. It is intended to be subjected to a refining process in order to obtain edible RBD Palm Olein. **Application of GIRs 1 and 6.**
Adoption : 2018

19. **Dental zirconia block**, round, measuring 98 mm in diameter and 14 mm in height. It is composed mainly of zirconium oxide with minor amounts of other metal oxides. After import, the product will be processed through dental laboratories or by dental professionals. Before use in dentistry, the block requires several procedures, such as milling, colouring, sintering and glazing to take its final form as artificial teeth or dental restorations. **Application of GIRs 1 and 6.**
Adoption : 2019



20. **Dental zirconia block,** with measurements of (L x W x H) 89 x 71 x 16 mm. It is composed mainly of zirconium oxide with minor amounts of other metal oxides. The product is mainly used in prosthetic dental treatment. After import, the product will be processed through dental laboratories or by dental professionals. Before use in dentistry, the block requires several procedures, such as milling, sintering, polishing and glazing to take its final form as artificial teeth or dental restorations. **Application of GIRs 1 and 6.** *Adoption : 2019*



Heading 3825

Residual products of the chemical or allied industries, not elsewhere specified or included; municipal waste; sewage sludge; other wastes specified in Note 6 to this Chapter.

EXPLANATORY NOTES

38.25 - Residual products of the chemical or allied industries, not elsewhere specified or included; municipal waste; sewage sludge; other wastes specified in Note 6 to this Chapter.

3825.10 - Municipal waste

3825.20 - Sewage sludge

3825.30 - Clinical waste

- Waste organic solvents :

3825.41 - - Halogenated

3825.49 - - Other

3825.50 - Wastes of metal pickling liquors, hydraulic fluids, brake fluids and anti-freeze fluids

- Other wastes from chemical or allied industries :

3825.61 - - Mainly containing organic constituents

3825.69 - - Other

3825.90 - Other

(A) RESIDUAL PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES,

NOT ELSEWHERE SPECIFIED OR INCLUDED

(1) **Alkaline iron oxide** for the purification of gas (in particular, coal-gas) containing impure ferric oxide, obtained as a by-product from one of the processes of the extraction of aluminium from bauxite. These by-products also contain sodium carbonate, silica, etc.

(2) **Residues from the manufacture of antibiotics** (called "cakes"), with a very low antibiotic content, suitable for use for the preparation of compound animal feeds.

(3) **Ammoniacal gas liquors**, produced as an aqueous portion settling out from the crude coal tar condensed from coal gas, and also by the absorption of ammonia in the waters used for washing coal. They are usually concentrated before transportation. They are brownish liquids and are used for the manufacture of ammonium salts (particularly ammonium sulphate) and purified and concentrated aqueous solutions of ammonia gas.

(4) **Spent oxide**. After the water-extraction of the greater part of its ammonia content, coal gas is chemically purified by passing it through a mass usually composed of bog iron ore or of hydrated iron(III)oxide, sawdust and calcium sulphate. This mass removes from the gas certain impurities (hydrogen sulphide, hydrocyanic acid, etc.). When spent, it contains a mixture of sulphur, Prussian blue, a small quantity of ammonium salts and other substances, and is known as spent oxide. It is usually in the form of powder or granules, greenish to brownish in colour, with a disagreeable odour, and is mainly used as a source of sulphur and cyanides (particularly Prussian blue) and as a fertiliser or an insecticide.

(5) **Residues from the processing of power plant combustion off-gases** by so called limestone gypsum flue gas desulphurisation (LG FGD). These residues are solid or in the form of a slurry and can be further processed and used as a substitute for natural gypsum in plasterboard manufacture. However, purified calcium sulphate isolated from these residues, is **excluded** (**heading 28.33**).

(B) MUNICIPAL WASTE

This heading also covers **municipal waste** of a kind collected from households, hotels, restaurants, hospitals, shops, offices, etc., and road and pavement sweepings, as well as construction and demolition waste. Municipal waste generally contains a large variety of materials such as plastics, rubber, wood, paper, textiles, glass, metals, food materials, broken furniture and other damaged or discarded articles.

Individual materials or articles segregated from the waste (such as wastes of plastics, rubber, wood, paper, textiles, glass or metals and spent batteries) and industrial waste are **excluded** and fall in their appropriate headings of the Nomenclature. (For industrial wastes from chemical or allied industries, see Part (D) below). Such waste materials or articles collected separately should also be classified in their appropriate headings.

(C) SEWAGE SLUDGE

Sewage**sludge** is sludge arising from urban effluent treatment plant and includes pre-treatment waste, scourings and unstabilised sludge.

The heading **does not include** stabilised sewage sludge when suitable for use as fertiliser (**Chapter 31**). However, those containing other materials harmful to agriculture (e.g., heavy metals), which make the stabilised sludge unfit for use as fertiliser, remain classified in this heading.

(D) OTHER WASTES SPECIFIED IN NOTE 6 TO THIS CHAPTER

The heading also covers a wide variety of other wastes specified in Note (6) to this Chapter. They include :

(1) **Clinical waste** which is contaminated waste arising from medical research, diagnosis, treatment or other medical, surgical, dental or veterinary procedures. Such waste often contains pathogens, pharmaceutical substances and body fluids and requires special disposal procedures (e.g., soiled dressings, used gloves and used syringes).

(2) **Waste organic solvents** generally derived from cleaning and washing processes and containing mainly organic solvents, not fit for further use as presented as primary products, whether or not intended for recovery of the solvents.

Wastes containing mainly petroleum oils or oils obtained from bituminous minerals are excluded (heading 27.10).

(3) **Wastes of metal pickling liquors, hydraulic fluids, brake fluids and anti-freezing fluids** not fit for further use as presented as primary products. They are generally used for recovery of the primary products.

However, the heading **excludes** ash and residues from waste of metal pickling liquors of a kind used for the recovery of metals or metal compounds (**heading 26.20**) and wastes of hydraulic fluids and brake fluids containing mainly petroleum oils or oils obtained from bituminous minerals (**heading 27.10**).

(4) **Other wastes from the chemical or allied industries**. This group includes, *inter alia*, **wastes resulting from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnishes, other than municipal waste and waste organic solvents**. They are generally heterogeneous mixtures which can vary from liquid or semi-solid dispersions in aqueous or non-aqueous media, exhibiting a wide range of viscosity. They are not fit for further use as presented as primary products.

However, the heading **excludes** slag, ash and residues from wastes resulting from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnishes, of a kind used for the recovery of metals or their compounds (**heading 26.20**) and wastes containing mainly petroleum oils or oils obtained from bituminous minerals (**heading 27.10**).

The heading also **excludes** :

(a) Slag, ash and residues containing metals, arsenic or their mixtures, of a kind used in industry for the recovery of arsenic or metals or for the manufacture of their compounds (**heading 26.20**).

(b) Ash and residues from the incineration of municipal waste (**heading 26.21**).

(c) Terpenic by-products of the deterpenation of essential oils (**heading 33.01**).

(d) Residual lyes from the manufacture of wood pulp (**heading 38.04**).

3825.10

- Municipal waste

3825.20

- Sewage sludge

3825.30

- Clinical waste

3825.4

- Waste organic solvents :

3825.41

-- Halogenated

3825.49

-- Other

3825.50

- Wastes of metal pickling liquors, hydraulic fluids, brake fluids and anti-freeze fluids

3825.6

- Other wastes from chemical or allied industries :

3825.61

-- Mainly containing organic constituents

3825.69

-- Other

3825.90

- Other

Heading 3826

Biodiesel and mixtures thereof, not containing or containing less than 70 % by weight of petroleum oils or oils obtained from bituminous minerals.

EXPLANATORY NOTES

38.26 - Biodiesel and mixtures thereof, not containing or containing less than 70 % by weight of petroleum oils or oils obtained from bituminous minerals.

Biodiesel consists of mono-alkyl esters of fatty acids of various chain lengths, immiscible with water, with a high boiling point, low vapour pressure and a viscosity similar to that of diesel oil produced from petroleum. Biodiesel is typically made by a chemical process called transesterification, whereby the fatty acids in oils or fats react with an alcohol (usually methanol or ethanol) in the presence of a catalyst to form the desired esters.

It can be obtained from vegetable oils (e.g., rapeseed, soya-bean, palm, sunflower, cotton-seed, jatropha), from animal fats (e.g., lard, tallow) or from used oils or fats (e.g., frying oils, recycled cooking grease).

Biodiesel itself contains neither petroleum oils nor oils obtained from bituminous minerals but can be mixed or blended with distillate fuels obtained from petroleum or bituminous minerals (e.g., diesel, kerosene, heating oil). Biodiesel can be used as fuel for compression-ignition internal combustion piston engines, production of thermal energy or similar uses.

This heading **excludes** :

(a) Mixtures containing, by weight, 70 % or more of petroleum oils or of oils obtained from bituminous minerals (**heading 27.10)**.

(b) Products derived from vegetable oils which have been fully deoxygenated and consist only of aliphatic hydrocarbon chains (**heading 27.10)**.

3826.00

Biodiesel and mixtures thereof, not containing or containing less than 70 % by weight of petroleum oils or oils obtained from bituminous minerals.

Heading 3827

Mixtures containing halogenated derivatives of methane, ethane or propane, not elsewhere specified or included.

EXPLANATORY NOTES

38.27 - Mixtures containing halogenated derivatives of methane, ethane or propane, not elsewhere specified or included.

- Containing chlorofluorocarbons (CFCs), whether or not containing hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs) or hydrofluorocarbons (HFCs); containing hydrobromofluorocarbons (HBFCs); containing carbon tetrachloride; containing 1,1,1-trichloroethane (methyl chloroform) :

3827.11 - - Containing chlorofluorocarbons (CFCs), whether or not containing hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs) or hydrofluorocarbons (HFCs)

3827.12 - - Containing hydrobromofluorocarbons (HBFCs)

3827.13 - - Containing carbon tetrachloride

3827.14 - - Containing 1,1,1-trichloroethane (methyl chloroform)

3827.20 - Containing bromochlorodifluoromethane (Halon-1211), bromotrifluoromethane (Halon-1301) or dibromotetrafluoroethanes (Halon-2402)

- Containing hydrochlorofluorocarbons (HCFCs), whether or not containing perfluorocarbons (PFCs) or hydrofluorocarbons (HFCs), but not containing chlorofluorocarbons (CFCs) :

3827.31 - - Containing substances of subheadings 2903.41 to 2903.48

3827.32 - - Other, containing substances of subheadings 2903.71 to 2903.75

3827.39 - - Other

3827.40 - Containing methyl bromide (bromomethane) or bromochloromethane

- Containing trifluoromethane (HFC-23) or perfluorocarbons (PFCs) but not containing chlorofluorocarbons (CFCs) or hydrochlorofluorocarbons (HCFCs) :

3827.51 - - Containing trifluoromethane (HFC-23)

3827.59 - - Other

- Containing other hydrofluorocarbons (HFCs) but not containing chlorofluorocarbons (CFCs) or hydrochlorofluorocarbons (HCFCs) :

3827.61 - - Containing 15 % or more by mass of 1,1,1-trifluoroethane (HFC-143a)

3827.62 - - Other, not included in the subheading above, containing 55 % or more by mass of pentafluoroethane (HFC- 125) but not containing unsaturated fluorinated derivatives of acyclic hydrocarbons (HFOs)

3827.63 - - Other, not included in the subheadings above, containing 40 % or more by mass of pentafluoroethane (HFC-125)

3827.64 - - Other, not included in the subheadings above, containing 30 % or more by mass of 1,1,1,2-tetrafluoroethane (HFC-134a) but not containing unsaturated fluorinated derivatives of acyclic hydrocarbons (HFOs)

3827.65 - - Other, not included in the subheadings above, containing 20 % or more by mass of difluoromethane (HFC-32) and 20 % or more by mass of pentafluoroethane (HFC-125)

3827.68 - - Other, not included in the subheadings above, containing substances of subheadings 2903.41 to 2903.48

3827.69 - - Other

3827.90 - Other

This heading covers mixtures containing halogenated derivatives of methane, ethane or propane, including mixtures of such halogenated derivatives with other substances.

Trade in mixtures containing halogenated derivatives of methane, ethane and propane is controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer.

In accordance with Note 4 to Section VI, where a product answers to a description in one or more of the headings in Section VI by virtue of being described by name or function and also to heading 38.27, then it is classifiable in a heading that references the product by name or function and not under heading 38.27.

3827.1

- Containing chlorofluorocarbons (CFCs), whether or not containing hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs) or hydrofluorocarbons (HFCs); containing hydrobromofluorocarbons (HBFCs); containing carbon tetrachloride; containing 1,1,1-trichloroethane (methyl chloroform) :

3827.11

-- Containing chlorofluorocarbons (CFCs), whether or not containing hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs) or hydrofluorocarbons (HFCs)

3827.12

-- Containing hydrobromofluorocarbons (HBFCs)

3827.13

-- Containing carbon tetrachloride

3827.14

-- Containing 1,1,1-trichloroethane (methyl chloroform)

3827.20

- Containing bromochlorodifluoromethane (Halon-1211), bromotrifluoromethane (Halon-1301) or dibromotetrafluoroethanes (Halon-2402)

3827.3

- Containing hydrochlorofluorocarbons (HCFCs), whether or not containing perfluorocarbons (PFCs) or hydrofluorocarbons (HFCs), but not containing chlorofluorocarbons (CFCs) :

3827.31

-- Containing substances of subheadings 2903.41 to 2903.48

3827.32

-- Other, containing substances of subheadings 2903.71 to 2903.75

3827.39

-- Other

3827.40

- Containing methyl bromide (bromomethane) or bromochloromethane

3827.5

- Containing trifluoromethane (HFC-23) or perfluorocarbons (PFCs) but not containing chlorofluorocarbons (CFCs) or hydrochlorofluorocarbons (HCFCs) :

3827.51

-- Containing trifluoromethane (HFC-23)

3827.59

-- Other

3827.6

- Containing other hydrofluorocarbons (HFCs) but not containing chlorofluorocarbons (CFCs) or hydrochlorofluorocarbons (HCFCs) :

3827.61

-- Containing 15 % or more by mass of 1,1,1-trifluoroethane (HFC-143a)

3827.62

-- Other, not included in the subheading above, containing 55 % or more by mass of pentafluoroethane (HFC- 125) but not containing unsaturated fluorinated derivatives of acyclic hydrocarbons (HFOs)

3827.63

-- Other, not included in the subheadings above, containing 40 % or more by mass of pentafluoroethane (HFC-125)

3827.64

-- Other, not included in the subheadings above, containing 30 % or more by mass of 1,1,1,2-tetrafluoroethane (HFC-134a) but not containing unsaturated fluorinated derivatives of acyclic hydrocarbons (HFOs)

3827.65

-- Other, not included in the subheadings above, containing 20 % or more by mass of difluoromethane (HFC-32) and 20 % or more by mass of pentafluoroethane (HFC-125)

3827.68

-- Other, not included in the subheadings above, containing substances of subheadings 2903.41 to 2903.48

3827.69

-- Other

3827.90

- Other

Section VII

PLASTICS AND ARTICLES THEREOF; RUBBER AND ARTICLES THEREOF

LEGAL NOTES

Notes.

1.- Goods put up in sets consisting of two or more separate constituents, some or all of which fall in this Section and are intended to be mixed together to obtain a product of Section VI or VII, are to be classified in the heading appropriate to that product, provided that the constituents are :

(a) having regard to the manner in which they are put up, clearly identifiable as being intended to be used together without first being repacked;

(b) presented together; and

(c) identifiable, whether by their nature or by the relative proportions in which they are present, as being complementary one to another.

2.- Except for the goods of heading 39.18 or 39.19, plastics, rubber, and articles thereof, printed with motifs, characters or pictorial representations, which are not merely subsidiary to the primary use of the goods, fall in Chapter 49.

EXPLANATORY NOTES

Section VII

PLASTICS AND ARTICLES THEREOF; RUBBER AND ARTICLES THEREOF

Notes.

1.- Goods put up in sets consisting of two or more separate constituents, some or all of which fall in this Section and are intended to be mixed together to obtain a product of Section VI or VII, are to be classified in the heading appropriate to that product, provided that the constituents are :

(a) having regard to the manner in which they are put up, clearly identifiable as being intended to be used together without first being repacked;

(b) presented together; and

(c) identifiable, whether by their nature or by the relative proportions in which they are present, as being complementary one to another.

2.- Except for the goods of heading 39.18 or 39.19, plastics, rubber, and articles thereof, printed with motifs, characters or pictorial representations, which are not merely subsidiary to the primary use of the goods, fall in Chapter 49.

GENERAL

Section Note 1.

This Note deals with the classification of goods put up in sets consisting of two or more separate constituents, some or all of which fall in Section VII. The Note is, however, limited to sets of which the constituents are intended to be mixed together to obtain a product of Section VI or VII. Such sets are to be classified in the heading appropriate to that product **provided** the constituents meet conditions (a) to (c) of the Note.

It should be noted that goods put up in sets consisting of two or more separate constituents, some or all of which fall in Section VII, intended to be used **successively without prior mixing,** are not covered by Note 1 to this Section. Such goods put up for retail sale are to be classified by application of the General Interpretative Rules (generally Rule 3 (b)); in the case of those not put up for retail sale the constituents are to be classified separately.

Section Note 2.

Goods of heading 39.18 (floor coverings and wall or ceiling coverings of plastics) and heading 39.19 (self-adhesive plates, etc., of plastics), even if printed with motifs, characters or pictorial representations, which are not merely subsidiary to the primary use of the goods, do not fall in Chapter 49 but remain classified in the above-mentioned headings. However, all other goods of plastics or rubber of the kind described in this Section fall in Chapter 49 if the printing on them is not merely subsidiary to their primary use**,** and the plastics or rubber serves only as a medium for the printing.

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Chapter 39

Plastics and articles thereof

LEGAL NOTES

Notes.

1.- Throughout the Nomenclature the expression “plastics” means those materials of headings 39.01 to 39.14 which are or have been capable, either at the moment of polymerisation or at some subsequent stage, of being formed under external influence (usually heat and pressure, if necessary with a solvent or plasticiser) by moulding, casting, extruding, rolling or other process into shapes which are retained on the removal of the external influence.

Throughout the Nomenclature any reference to “plastics” also includes vulcanised fibre. The expression, however, does not apply to materials regarded as textile materials of Section XI.

2.- This Chapter does not cover :

(a) Lubricating preparations of heading 27.10 or 34.03;

(b) Waxes of heading 27.12 or 34.04;

(c) Separate chemically defined organic compounds (Chapter 29);

(d) Heparin or its salts (heading 30.01);

(e) Solutions (other than collodions) consisting of any of the products specified in headings 39.01 to 39.13 in volatile organic solvents when the weight of the solvent exceeds 50 % of the weight of the solution (heading 32.08); stamping foils of heading 32.12;

(f) Organic surface-active agents or preparations of heading 34.02;

(g) Run gums or ester gums (heading 38.06);

(h) Prepared additives for mineral oils (including gasoline) or for other liquids used for the same purposes as mineral oils (heading 38.11);

(ij) Prepared hydraulic fluids based on polyglycols, silicones or other polymers of Chapter 39 (heading 38.19);

(k) Diagnostic or laboratory reagents on a backing of plastics (heading 38.22);

(l) Synthetic rubber, as defined for the purposes of Chapter 40, or articles thereof;

(m) Saddlery or harness (heading 42.01) or trunks, suitcases, handbags or other containers of heading 42.02;

(n) Plaits, wickerwork or other articles of Chapter 46;

(o) Wall coverings of heading 48.14;

(p) Goods of Section XI (textiles and textile articles);

(q) Articles of Section XII (for example, footwear, headgear, umbrellas, sun umbrellas, walking-sticks, whips, riding-crops or parts thereof);

(r) Imitation jewellery of heading 71.17;

(s) Articles of Section XVI (machines and mechanical or electrical appliances);

(t) Parts of aircraft or vehicles of Section XVII;

(u) Articles of Chapter 90 (for example, optical elements, spectacle frames, drawing instruments);

(v) Articles of Chapter 91 (for example, clock or watch cases);

(w) Articles of Chapter 92 (for example, musical instruments or parts thereof);

(x) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings, illuminated signs, prefabricated buildings);

(y) Articles of Chapter 95 (for example, toys, games, sports requisites); or

(z) Articles of Chapter 96 (for example, brushes, buttons, slide fasteners, combs, mouthpieces or stems for smoking pipes, cigarette-holders or the like, parts of vacuum flasks or the like, pens, propelling pencils, and monopods, bipods, tripods and similar articles).

3.- Headings 39.01 to 39.11 apply only to goods of a kind produced by chemical synthesis, falling in the following categories :

(a) Liquid synthetic polyolefins of which less than 60 % by volume distils at 300 °C, after conversion to 1,013 milibars when a reduced-pressure distillation method is used (headings 39.01 and 39.02);

(b) Resins, not highly polymerised, of the coumarone-indene type (heading 39.11);

(c) Other synthetic polymers with an average of at least 5 monomer units;

(d) Silicones (heading 39.10);

(e) Resols (heading 39.09) and other prepolymers.

4.- The expression “copolymers” covers all polymers in which no single monomer unit contributes 95 % or more by weight to the total polymer content.

For the purposes of this Chapter, except where the context otherwise requires, copolymers (including co-polycondensates, co-polyaddition products, block copolymers and graft copolymers) and polymer blends are to be classified in the heading covering polymers of that comonomer unit

which predominates by weight over every other single comonomer unit. For the purposes of this Note, constituent comonomer units of polymers falling in the same heading shall be taken together.

If no single comonomer unit predominates, copolymers or polymer blends, as the case may be, are to be classified in the heading which occurs last in numerical order among those which equally merit consideration.

5.- Chemically modified polymers, that is those in which only appendages to the main polymer chain have been changed by chemical reaction, are to be classified in the heading appropriate to the unmodified polymer. This provision does not apply to graft copolymers.

6.- In headings 39.01 to 39.14, the expression “primary forms” applies only to the following forms :

(a) Liquids and pastes, including dispersions (emulsions and suspensions) and solutions;

(b) Blocks of irregular shape, lumps, powders (including moulding powders), granules, flakes and similar bulk forms.

7.- Heading 39.15 does not apply to waste, parings and scrap of a single thermoplastic material, transformed into primary forms (headings 39.01 to 39.14).

8.- For the purposes of heading 39.17, the expression “tubes, pipes and hoses” means hollow products, whether semi-manufactures or finished products, of a kind generally used for conveying, conducting or distributing gases or liquids (for example, ribbed garden hose, perforated tubes). This expression also includes sausage casings and other lay-flat tubing. However, except for the last-mentioned, those having an internal cross-section other than round, oval, rectangular (in which the length does not exceed 1.5 times the width) or in the shape of a regular polygon are not to be regarded as tubes, pipes and hoses but as profile shapes.

9.- For the purposes of heading 39.18, the expression “wall or ceiling coverings of plastics” applies to products in rolls, of a width not less than 45 cm, suitable for wall or ceiling decoration, consisting of plastics fixed permanently on a backing of any material other than paper, the layer of plastics (on the face side) being grained, embossed, coloured, design-printed or otherwise decorated.

10.- In headings 39.20 and 39.21, the expression “plates, sheets, film, foil and strip” applies only to plates, sheets, film, foil and strip (other than those of Chapter 54) and to blocks of regular geometric shape, whether or not printed or otherwise surface-worked, uncut or cut into rectangles (including squares) but not further worked (even if when so cut they become articles ready for use).

11.- Heading 39.25 applies only to the following articles, not being products covered by any of the earlier headings of sub-Chapter II :

(a) Reservoirs, tanks (including septic tanks), vats and similar containers, of a capacity exceeding 300 l;

(b) Structural elements used, for example, in floors, walls or partitions, ceilings or roofs;

(c) Gutters and fittings thereof;

(d) Doors, windows and their frames and thresholds for doors;

(e) Balconies, balustrades, fencing, gates and similar barriers;

(f) Shutters, blinds (including Venetian blinds) and similar articles and parts and fittings thereof;

(g) Large-scale shelving for assembly and permanent installation, for example, in shops, workshops, warehouses;

(h) Ornamental architectural features, for example, flutings, cupolas, dovecotes; and

(ij) Fittings and mountings intended for permanent installation in or on doors, windows, staircases, walls or other parts of buildings, for example, knobs, handles, hooks, brackets, towel rails, switch-plates and other protective plates.

Subheading Notes.

1.- Within any one heading of this Chapter, polymers (including copolymers) and chemically modified polymers are to be classified according to the following provisions :

(a) Where there is a subheading named “Other” in the same series :

(1) The designation in a subheading of a polymer by the prefix “poly” (for example, polyethylene and polyamide-6,6) means that the constituent monomer unit or monomer units of the named polymer taken together must contribute 95 % or more by weight of the total polymer content.

(2) The copolymers named in subheadings 3901.30, 3901.40, 3903.20, 3903.30 and 3904.30 are to be classified in those subheadings, provided that the comonomer units of the named copolymers contribute 95 % or more by weight of the total polymer content.

(3) Chemically modified polymers are to be classified in the subheading named “Other”, provided that the chemically modified polymers are not more specifically covered by another subheading.

(4) Polymers not meeting (1), (2) or (3) above, are to be classified in the subheading, among the remaining subheadings in the series, covering polymers of that monomer unit which predominates by weight over every other single comonomer unit. For this purpose, constituent monomer units of polymers falling in the same subheading shall be taken together. Only the constituent comonomer units of the polymers in the series of subheadings under consideration are to be compared.

(b) Where there is no subheading named “Other” in the same series :

(1) Polymers are to be classified in the subheading covering polymers of that monomer unit which predominates by weight over every other single comonomer unit. For this purpose, constituent monomer units of polymers falling in the same subheading shall be taken together. Only the constituent comonomer units of the polymers in the series under consideration are to be compared.

(2) Chemically modified polymers are to be classified in the subheading appropriate to the unmodified polymer.

Polymer blends are to be classified in the same subheading as polymers of the same monomer units in the same proportions.

2.- For the purposes of subheading 3920.43, the term “plasticisers” includes secondary plasticisers.

EXPLANATORY NOTES

Chapter 39

Plastics and articles thereof

Notes.

1.- Throughout the Nomenclature the expression “plastics” means those materials of headings 39.01 to 39.14 which are or have been capable, either at the moment of polymerisation or at some subsequent stage, of being formed under external influence (usually heat and pressure, if necessary with a solvent or plasticiser) by moulding, casting, extruding, rolling or other process into shapes which are retained on the removal of the external influence.

Throughout the Nomenclature any reference to “plastics” also includes vulcanised fibre. The expression, however, does not apply to materials regarded as textile materials of Section XI.

2.- This Chapter does not cover :

(a) Lubricating preparations of heading 27.10 or 34.03;

(b) Waxes of heading 27.12 or 34.04;

(c) Separate chemically defined organic compounds (Chapter 29);

(d) Heparin or its salts (heading 30.01);

(e) Solutions (other than collodions) consisting of any of the products specified in headings 39.01 to 39.13 in volatile organic solvents when the weight of the solvent exceeds 50 % of the weight of the solution (heading 32.08); stamping foils of heading 32.12;

(f) Organic surface-active agents or preparations of heading 34.02;

(g) Run gums or ester gums (heading 38.06);

(h) Prepared additives for mineral oils (including gasoline) or for other liquids used for the same purposes as mineral oils (heading 38.11);

(ij) Prepared hydraulic fluids based on polyglycols, silicones or other polymers of Chapter 39 (heading 38.19);

(k) Diagnostic or laboratory reagents on a backing of plastics (heading 38.22);

(l) Synthetic rubber, as defined for the purposes of Chapter 40, or articles thereof;

(m) Saddlery or harness (heading 42.01) or trunks, suitcases, handbags or other containers of heading 42.02;

(n) Plaits, wickerwork or other articles of Chapter 46;

(o) Wall coverings of heading 48.14;

(p) Goods of Section XI (textiles and textile articles);

(q) Articles of Section XII (for example, footwear, headgear, umbrellas, sun umbrellas, walking-sticks, whips, riding-crops or parts thereof);

(r) Imitation jewellery of heading 71.17;

(s) Articles of Section XVI (machines and mechanical or electrical appliances);

(t) Parts of aircraft or vehicles of Section XVII;

(u) Articles of Chapter 90 (for example, optical elements, spectacle frames, drawing instruments);

(v) Articles of Chapter 91 (for example, clock or watch cases);

(w) Articles of Chapter 92 (for example, musical instruments or parts thereof);

(x) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings, illuminated signs, prefabricated buildings);

(y) Articles of Chapter 95 (for example, toys, games, sports requisites); or

(z) Articles of Chapter 96 (for example, brushes, buttons, slide fasteners, combs, mouthpieces or stems for smoking pipes, cigarette-holders or the like, parts of vacuum flasks or the like, pens, propelling pencils, and monopods, bipods, tripods and similar articles).

3.- Headings 39.01 to 39.11 apply only to goods of a kind produced by chemical synthesis, falling in the following categories :

(a) Liquid synthetic polyolefins of which less than 60 % by volume distils at 300 °C, after conversion to 1,013 milibars when a reduced-pressure distillation method is used (headings 39.01 and 39.02);

(b) Resins, not highly polymerised, of the coumarone-indene type (heading 39.11);

(c) Other synthetic polymers with an average of at least 5 monomer units;

(d) Silicones (heading 39.10);

(e) Resols (heading 39.09) and other prepolymers.

4.- The expression “copolymers” covers all polymers in which no single monomer unit contributes 95 % or more by weight to the total polymer content.

For the purposes of this Chapter, except where the context otherwise requires, copolymers (including co-polycondensates, co-polyaddition products, block copolymers and graft copolymers) and polymer blends are to be classified in the heading covering polymers of that comonomer unit which predominates by weight over every other single comonomer unit. For the purposes of this Note, constituent comonomer units of polymers falling in the same heading shall be taken together.

If no single comonomer unit predominates, copolymers or polymer blends, as the case may be, are to be classified in the heading which occurs last in numerical order among those which equally merit consideration.

5.- Chemically modified polymers, that is those in which only appendages to the main polymer chain have been changed by chemical reaction, are to be classified in the heading appropriate to the unmodified polymer. This provision does not apply to graft copolymers.

6.- In headings 39.01 to 39.14, the expression “primary forms” applies only to the following forms :

(a) Liquids and pastes, including dispersions (emulsions and suspensions) and solutions;

(b) Blocks of irregular shape, lumps, powders (including moulding powders), granules, flakes and similar bulk forms.

7.- Heading 39.15 does not apply to waste, parings and scrap of a single thermoplastic material, transformed into primary forms (headings 39.01 to 39.14).

8.- For the purposes of heading 39.17, the expression “tubes, pipes and hoses” means hollow products, whether semi-manufactures or finished products, of a kind generally used for conveying, conducting or distributing gases or liquids (for example, ribbed garden hose, perforated tubes). This expression also includes sausage casings and other lay-flat tubing. However, except for the last-mentioned, those having an internal cross-section other than round, oval, rectangular (in which the length does not exceed 1.5 times the width) or in the shape of a regular polygon are not to be regarded as tubes, pipes and hoses but as profile shapes.

9.- For the purposes of heading 39.18, the expression “wall or ceiling coverings of plastics” applies to products in rolls, of a width not less than 45 cm, suitable for wall or ceiling decoration, consisting of plastics fixed permanently on a backing of any material other than paper, the layer of plastics (on the face side) being grained, embossed, coloured, design-printed or otherwise decorated.

10.- In headings 39.20 and 39.21, the expression “plates, sheets, film, foil and strip” applies only to plates, sheets, film, foil and strip (other than those of Chapter 54) and to blocks of regular geometric shape, whether or not printed or otherwise surface-worked, uncut or cut into rectangles (including squares) but not further worked (even if when so cut they become articles ready for use).

11.- Heading 39.25 applies only to the following articles, not being products covered by any of the earlier headings of sub-Chapter II :

(a) Reservoirs, tanks (including septic tanks), vats and similar containers, of a capacity exceeding 300 l;

(b) Structural elements used, for example, in floors, walls or partitions, ceilings or roofs;

(c) Gutters and fittings thereof;

(d) Doors, windows and their frames and thresholds for doors;

(e) Balconies, balustrades, fencing, gates and similar barriers;

(f) Shutters, blinds (including Venetian blinds) and similar articles and parts and fittings thereof;

(g) Large-scale shelving for assembly and permanent installation, for example, in shops, workshops, warehouses;

(h) Ornamental architectural features, for example, flutings, cupolas, dovecotes; and

(ij) Fittings and mountings intended for permanent installation in or on doors, windows, staircases, walls or other parts of buildings, for example, knobs, handles, hooks, brackets, towel rails, switch-plates and other protective plates.

Subheading Notes.

1.- Within any one heading of this Chapter, polymers (including copolymers) and chemically modified polymers are to be classified according to the following provisions :

(a) Where there is a subheading named “Other” in the same series :

(1) The designation in a subheading of a polymer by the prefix “poly” (for example, polyethylene and polyamide-6,6) means that the constituent monomer unit or monomer units of the named polymer taken together must contribute 95 % or more by weight of the total polymer content.

(2) The copolymers named in subheadings 3901.30, 3901.40, 3903.20, 3903.30 and 3904.30 are to be classified in those subheadings, provided that the comonomer units of the named copolymers contribute 95 % or more by weight of the total polymer content.

(3) Chemically modified polymers are to be classified in the subheading named “Other”, provided that the chemically modified polymers are not more specifically covered by another subheading.

(4) Polymers not meeting (1), (2) or (3) above, are to be classified in the subheading, among the remaining subheadings in the series, covering polymers of that monomer unit which predominates by weight over every other single comonomer

unit. For this purpose, constituent monomer units of polymers falling in the same subheading shall be taken together. Only the constituent comonomer units of the polymers in the series of subheadings under consideration are to be compared.

(b) Where there is no subheading named "Other" in the same series :

(1) Polymers are to be classified in the subheading covering polymers of that monomer unit which predominates by weight over every other single comonomer unit. For this purpose, constituent monomer units of polymers falling in the same subheading shall be taken together. Only the constituent comonomer units of the polymers in the series under consideration are to be compared.

(2) Chemically modified polymers are to be classified in the subheading appropriate to the unmodified polymer.

Polymer blends are to be classified in the same subheading as polymers of the same monomer units in the same proportions.

2.- For the purposes of subheading 3920.43, the term "plasticisers" includes secondary plasticisers.

GENERAL

In general, this Chapter covers substances called polymers and semi-manufactures and articles thereof, **provided** they are not excluded by Note 2 to the Chapter.

Polymers

Polymers consist of molecules which are characterised by the repetition of one or more types of monomer units.

Polymers may be formed by reaction between several molecules of the same or of different chemical constitution. The process by which polymers are formed is termed polymerisation. In its broad sense, this term includes the following principal types of reactions :

(1) **Addition polymerisation**, in which single molecules with ethylenic unsaturation react with each other by simple addition, without the formation of water or other by-products, to form a polymer chain containing only carbon-carbon bonds, e.g., production of polyethylene from ethylene or of ethylene-vinyl acetate copolymers from ethylene and vinyl acetate. This type of polymerisation is sometimes called simple polymerisation or copolymerisation, i.e., polymerisation or copolymerisation in the strict sense.

(2) **Rearrangement polymerisation**, in which molecules with functional groups containing atoms such as oxygen, nitrogen or sulphur react with each other by intramolecular rearrangement and addition, without the formation of water or other by-products, to form a polymer chain in which the monomer units are held together by ether, amide, urethane or other linkages, e.g., production of poly(oxymethylene) (polyformaldehyde) from formaldehyde, of polyamide-6 from caprolactam, or of polyurethanes from a polyol and a di-isocyanate. This type of polymerisation is also called polyaddition.

(3) **Condensation polymerisation**, in which molecules with functional groups containing atoms such as oxygen, nitrogen or sulphur react with each other by a condensation reaction, with the formation of water or other by-products, to form a polymer chain in which the monomer units are held together by ether, ester amide or other linkages, e.g., production of poly(ethylene terephthalate) from ethylene glycol and terephthalic acid, or of polyamide-6,6 from hexamethylenediamine and adipic acid. This type of polymerisation is also called condensation or polycondensation.

Polymers may be chemically modified as, for example, in the chlorination of polyethylene or poly(vinyl chloride), the chlorosulphonation of polyethylene, the acetylation or nitration of cellulose, or the hydrolysis of poly(vinyl acetate).

Abbreviations for polymers

Many polymers described in this Chapter are also known by their abbreviations. The following is a list of some of the more commonly used abbreviations :

ABS	Acrylonitrile-butadiene-styrene copolymer
CA	Cellulose acetate
CAB	Cellulose acetate butyrate
CP	Cellulose propionate
CMC	Carboxymethyl cellulose
CPE	Chlorinated polyethylene
EVA	Ethylene-vinyl acetate copolymer
HDPE	High-density polyethylene
LDPE	Low-density polyethylene
LLDPE	Linear low-density polyethylene
PBT	Poly(butylene terephthalate)

PDMS	Polydimethylsiloxane
PE	Polyethylene
PEOX	Poly(ethylene oxide) (polyoxyethylene)
PET	Poly(ethylene terephthalate)
PIB	Polyisobutylene
PMMA	Poly(methyl methacrylate)
PP	Polypropylene
PPO	Poly(phenylene oxide)
PPOX	Polypropylene oxide (polyoxypropylene)
PPS	Poly(phenylene sulphide)
PS	Polystyrene
PTFE	Polytetrafluoroethylene
PVAC	Poly(vinyl acetate)
PVAL	Poly(vinyl alcohol)
PVB	Poly(vinyl butyral)
PVC	Poly(vinyl chloride)

PVDF	Poly(vinylidene fluoride)
PVP	Poly(vinyl pyrrolidone)
SAN	Styrene-acrylonitrile copolymer

It should be noted that commercial polymers sometimes contain more monomer units than those represented by their abbreviations (e.g., linear low-density polyethylene (LLDPE), which is essentially a polymer of ethylene, containing small amounts (often more than 5 %) of alpha-olefin monomer units). Furthermore, the relative amounts of monomer units in a polymer need not be in the same order as that represented by its abbreviation (e.g., acrylonitrile-butadiene-styrene (ABS) copolymer containing styrene as the predominant monomer unit).

Polymer abbreviations should therefore be used only as a guide. Classification, in all cases, should be by application of the relevant Chapter Note and Subheading Note and on the basis of the relative composition of the monomer units in a polymer (see Note 4 and Subheading Note 1 to this Chapter).

Plastics

The expression “plastics” is defined in Note 1 to this Chapter as meaning those materials of headings 39.01 to 39.14 which are or have been capable, either at the moment of polymerisation or at some subsequent stage, of being formed under external influence (usually heat and pressure, if necessary with a solvent or plasticiser) by moulding, casting, extruding, rolling or other process into shapes which are retained on the removal of the external influence. Throughout the Nomenclature, the expression “plastics” also includes vulcanised fibre.

The expression, however, does not apply to materials regarded as textile materials of Section XI. It should be noted that this definition of “plastics” is applicable throughout the Nomenclature.

The term “polymerisation” is used in this definition in a wide sense and denotes any method of forming a polymer, including addition polymerisation, rearrangement polymerisation (polyaddition) and condensation polymerisation (polycondensation).

If material of this Chapter can be softened repeatedly by heat treatment and shaped into articles, e.g., by moulding, and then hardened by cooling, it is termed “thermoplastic”. If it can be or has already been transformed into an infusible product by chemical or physical means (e.g., by heat), it is termed “thermosetting”.

Plastics have almost unlimited applications but many articles made therefrom are classified elsewhere (see Note 2 to this Chapter).

General arrangement of the Chapter

The Chapter is divided into two sub-Chapters. Sub-Chapter I covers polymers in primary forms and sub-Chapter II covers waste, parings and scrap, and semi-manufactures and articles.

In sub-Chapter I, relating to primary forms, the products of headings 39.01 to 39.11 are obtained by chemical synthesis and those of headings 39.12 and 39.13 are either natural polymers or are obtained therefrom by chemical treatment. Heading 39.14 covers ion-exchangers based on polymers of headings 39.01 to 39.13.

In sub-Chapter II, heading 39.15 relates to waste, parings and scrap of plastics. Headings 39.16 to 39.25 cover semi-manufactures or specified articles of plastics. Heading 39.26 is a residual heading which covers articles, not elsewhere specified or included, of plastics or of other materials of headings 39.01 to 39.14.

Scope of headings 39.01 to 39.11

The scope of these headings is governed by Note 3 to this Chapter. These headings apply only to goods of a kind produced by chemical synthesis, falling in the following categories :

(a) **Liquid synthetic polyolefins**, which are polymers obtained from ethylene, propene, butenes or other olefins. They are classified in heading 39.01 or 39.02 **provided** that less than 60 % by volume distils at 300 °C, after conversion to 1,013 millibars when a reduced-pressure distillation method is used.

(b) **Resins**, not highly polymerised, of the **coumarone-indene type** obtained by the copolymerisation of mixed monomers (including coumarone or indene) derived from coal tar (heading 39.11).

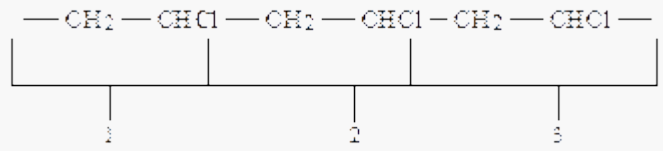
(c) **Other synthetic polymers with an average of at least 5 monomer units** which are structured in an uninterrupted sequence. These include plastics as defined in Note 1 to this Chapter.

For the purpose of calculating the average number of monomer units under Chapter Note 3 (c), polycondensates and certain rearrangement polymers may have more than one monomer unit, each having a different chemical constitution. A monomer unit is the largest constitutional unit contributed by a single monomer molecule in a polymerisation process. It should not be confused with the constitutional repeating unit, which is the smallest constitutional unit which, by repetition, describes the polymer, nor with the term monomer which is a single molecule from which polymers may be formed.

Examples :

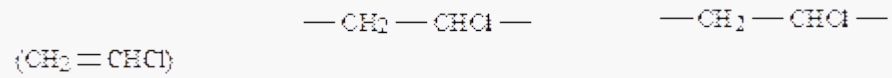
(a) Poly(vinyl chloride)

The following chain represents three monomer units :



monomer monomer unit constitutional repeating unit

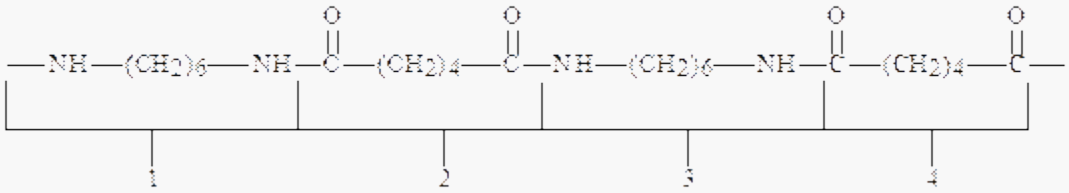
vinyl chloride



(In this case the monomer unit and the constitutional repeating unit are the same).

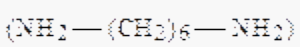
(b) Polyamide-6,6

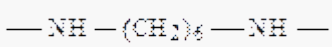
The following chain represents four monomer units :



monomers monomer units

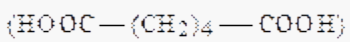
hexamethylenediamine

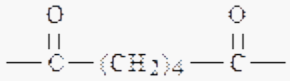




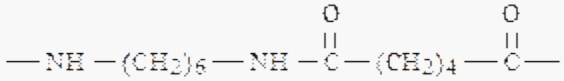
and and

adipic acid



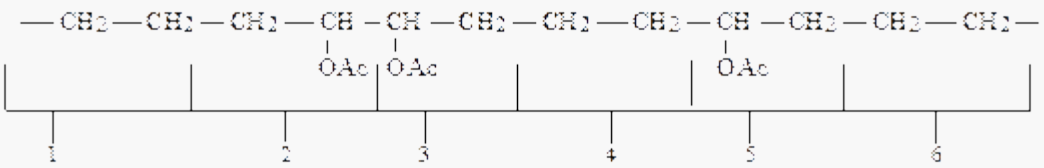


constitutional repeating unit

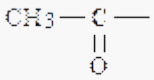


(c) Ethylene-vinyl acetate copolymer

The following chain represents six monomer units :



(where Ac is equal to)



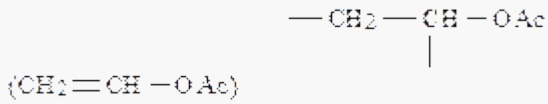
monomers monomer units constitutional repeating unit



ethylene

and and (*)

vinyl acetate



(d) **Silicones** which are non-chemically defined products containing in the molecule more than one silicon-oxygen-silicon linkage, and containing organic groups connected to the silicon atoms by direct silicon-carbon bonds (heading 39.10).

(e) **Resols** (heading 39.09) **and other prepolymers**. Prepolymers are products which are characterised by some repetition of monomer units altough they may contain unreacted monomers. Prepolymers are not normally used as such but are intended to be transformed into higher molecular weight polymers by further polymerisation. Therefore the term **does not cover** finished products, such as di-isobutylenes (**heading 27.10**) or poly(oxyethylene) (polyethylene glycol) with very low molecular weight (**heading 38.24**). Examples of prepolymers are epoxides based on bisphenol-A or phenol-formaldehyde, epoxidised with epichlorohydrin, and polymeric isocyanates.

Copolymers and polymer blends

The term “copolymers” is defined in Note 4 to the Chapter as polymers in which no single monomer unit contributes 95 % or more by weight to the total polymer content.

Thus, for example, a polymer consisting of 96 % of the propylene monomer unit and 4 % other olefin monomer units is not regarded as a copolymer.

Copolymers include co-polycondensation products, co-polyaddition products, block copolymers and graft copolymers.

Block copolymers are copolymers composed of at least two connected polymeric sequence having different monomer unit compositions (e.g., a copolymer of ethylene and propylene containing alternating segments of polyethylene and polypropylene).

Graft copolymers are copolymers composed of main polymer chains which have side polymer chains with a different monomer unit composition. Examples are styrene-butadiene copolymer-*graft*-polystyrene (a polystyrene grafted to a styrene-butadiene copolymer) and polybutadiene-*graft*-styrene-acrylonitrile copolymer.

The classification of copolymers (including co-polycondensates, co-polyaddition products, block copolymers and graft copolymers) and polymer blends is governed by Note 4 to the Chapter. Unless the context otherwise requires, these products are to be classified in the heading covering polymers of that comonomer unit which predominates by weight over every other single comonomer unit. For this purpose, constituent comonomer units of polymers falling in the same heading are to be taken together, as if they were a single comonomer unit.

If no single comonomer unit (or group of constituent comonomer units whose polymers fall in the same heading) predominates, copolymers or polymer blends, as the case may be, are to be classified in the heading which occurs last in numerical order among those which equally merit consideration.

Thus, for example, a vinyl chloride-vinyl acetate copolymer containing 55 % of the vinyl chloride monomer unit falls in heading 39.04, but one which contains 55 % of the vinyl acetate monomer unit falls in heading 39.05.

Similarly, a copolymer consisting of 45 % ethylene, 35 % propylene and 20 % isobutylene monomer units is classified in heading 39.02 since the propylene and isobutylene monomer units, whose polymers fall in heading 39.02, constitute 55 % of the copolymer and, when taken together, predominate over the ethylene monomer unit.

A polymer blend composed of 55 % polyurethane based on toluene diisocyanate and a polyether polyol, and 45 % poly(oxyxylylene) is to be classified in heading 39.09 since the monomer units of polyurethane predominate over those of the poly(oxyxylylene) polyether. In the context of the definition of polyurethanes, all of the monomer units of a polyurethane, including those of the polyether polyol that form part of the polyurethane, are to be taken together as monomer units falling in heading 39.09.

Chemically modified polymers

Chemically modified polymers, that is those in which only appendages to the main polymer chain have been changed by chemical reaction, are to be classified in the heading appropriate to the unmodified polymer (see Note 5 to this Chapter). This provision does not apply to graft copolymers.

Thus, for example, chlorinated polyethylene and chlorosulphonated polyethylene are classified in heading 39.01.

Polymers that are chemically modified to form reactive epoxide groups such that they become epoxide resins (see the Explanatory Note to heading 39.07) are to be classified under heading 39.07. For example, phenolic resins chemically modified by epichlorohydrin would be classified as epoxide resins and not as chemically modified phenolic resins in heading 39.09.

A polymer blend in which any one of the constituent polymers has been chemically modified is considered to be chemically modified in its entirety.

Primary forms

Headings 39.01 to 39.14 cover goods in primary forms only. The expression “primary forms” is defined in Note 6 to this Chapter. It applies only to the following forms :

(1) **Liquids and pastes.** These may be the basic polymer which requires “curing” by heat or otherwise to form the finished material, or may be dispersions (emulsions and suspensions) or solutions of the uncured or partly cured materials. In addition to substances necessary for “curing” (such as hardeners (cross-linking agents) or other co-reactants and accelerators), these liquids or pastes may contain other materials such as plasticisers, stabilisers, fillers and colouring matter, chiefly intended to give the finished products special physical properties or other desirable characteristics. The liquids and pastes are used for casting, extrusion, etc., and also as impregnating materials, surface coatings, bases for varnishes and paints, or as glues, thickeners, flocculants, etc.

When as a result of the addition of certain substances, the resultant products answer to the description in a more specific heading elsewhere in the Nomenclature, they are **excluded** from Chapter 39; this is, for example, the case with :

(a) Prepared glues - see exclusion (b) at the end of this General Explanatory Note.

(b) Prepared additives for mineral oils (**heading 38.11**).

It should also be noted that solutions (other than collodions) consisting of any of the products specified in headings 39.01 to 39.13 in volatile organic solvents, when the weight of the solvent exceeds 50 % of the weight of the solution, are **excluded** from this Chapter and fall in **heading 32.08** (see Note 2 (e) to this Chapter).

Liquid polymers without solvent, clearly identifiable as being intended for use solely as varnishes, (in which the formation of the film depends on heat, atmospheric humidity or oxygen and not on the addition of a hardener), are classified in **heading 32.10**. When not so identifiable, they fall in this Chapter.

Polymers in primary forms further formulated with additives, which make the products suitable for their expressed use as mastics, are to be classified in heading 32.14.

(2) **Powder, granules and flakes.** In these forms they are employed for moulding, for the manufacture of varnishes, glues, etc. and as thickeners, flocculants, etc. They may consist of the unplasticised materials which become plastic in the moulding and curing process, or of materials to which plasticisers have been added; these materials may incorporate fillers (e.g., wood flour, cellulose, textile fibres, mineral substances, starch), colouring matter or other substances cited in Item (1) above. Powders may be used, for example, to coat objects by the application of heat with or without static electricity.

(3) **Blocks of irregular shape, lumps and similar bulk forms**, whether or not containing fillers, colouring matter or other substances cited in Item (1) above. Blocks of regular geometric shape are not primary forms and are covered by the expression “plates, sheets, film, foil and strip” (see Note 10 to this Chapter).

Waste, parings and scrap of a single thermoplastic material transformed into primary forms are classified in headings 39.01 to 39.14 (according to the material) and **not** in heading 39.15 (see Note 7 to this Chapter).

Tubes, pipes and hoses

The expression “tubes, pipes and hoses”, used in heading 39.17, is defined in Note 8 to this Chapter.

Plates, sheets, film, foil and strip of heading 39.20 or 39.21

The expression “plates, sheets, film, foil and strip”, used in headings 39.20 and 39.21 is defined in Note 10 to the Chapter.

Such plates, sheets, etc., whether or not surface-worked (including squares and other rectangles cut therefrom), with ground edges, drilled, milled, hemmed, twisted, framed or otherwise worked or cut into shapes other than rectangular (including square), are generally classified in **headings 39.18, 39.19** or **39.22 to 39.26**.

Cellular plastics

Cellular plastics are plastics having many cells (either open, closed or both), dispersed throughout their mass. They include foam plastics, expanded plastics and microporous or microcellular plastics. They may be either flexible or rigid.

Cellular plastics are produced by a variety of methods. These include incorporating a gas into plastics (e.g., by mechanical mixing, evaporation of a low boiling point solvent, degradation of a gas producing material), mixing plastics with hollow micro-spheres (e.g., of glass or phenolic resin), sintering granules of plastics and mixing plastics with water or solvent-soluble material which are leached out of plastics leaving voids.

Plastics and textile combinations

Wall or ceiling coverings which comply with Note 9 to this Chapter are classified in heading 39.18. Otherwise, the classification of plastics and textile combinations is essentially governed by Note 1 (h) to Section XI, Note 3 to Chapter 56 and Note 2 to Chapter 59. The following products are also covered by this Chapter :

(a) Felt impregnated, coated, covered or laminated with plastics, containing 50 % or less by weight of textile material or felt completely embedded in plastics;

(b) Textile fabrics and nonwovens, either completely embedded in plastics or entirely coated or covered on both sides with such material, provided that such coating or covering can be seen with the naked eye with no account being taken of any resulting change of colour;

(c) Textile fabrics, impregnated, coated, covered or laminated with plastics, which cannot, without fracturing, be bent manually around a cylinder of a diameter of 7 mm, at a temperature between 15 °C and 30 °C;

(d) Plates, sheets and strip of cellular plastics combined with textile fabrics (as defined in Note 1 to Chapter 59), felt or nonwovens, where the textile is present merely for reinforcing purposes.

In this respect, unfigured, unbleached, bleached or uniformly dyed textile fabrics, felt or nonwovens, when applied to one face only of these plates, sheets or strip, are regarded as serving merely for reinforcing purposes. Figured, printed or more elaborately worked textiles (e.g., by raising) and special products, such as pile fabrics, tulle and lace and textile products of heading 58.11, are regarded as having a function beyond that of mere reinforcement.

Plates, sheets and strip of cellular plastics combined with textile fabric on both faces, whatever the nature of the fabric, are **excluded** from this Chapter (generally **heading 56.02, 56.03** or **59.03**).

Combinations of plastics and materials other than textiles

This Chapter also covers the following products, whether they have been obtained by a single operation or by a number of successive operations **provided** that they retain the essential character of articles of plastics :

(a) Plates, sheets, etc., incorporating a reinforcement or a supporting mesh of another material (wire, glass fibres, etc.) embedded in the body of the plastics.

(b) Plates, sheets, etc., of plastics, separated by a layer of another material such as metal foil, paper, paperboard.

Products consisting of paper or paperboard covered with a thin protective sheet of plastics on both faces are **excluded** from this Chapter **provided** they retain the essential character of paper or paperboard (generally **heading 48.11**).

(c) Paper-reinforced stratified sheeting of plastics, and products consisting of one layer of paper or paperboard coated or covered with a layer of plastics, the latter constituting more than half the total thickness, **other than** wall coverings of **heading 48.14**.

(d) Products consisting of glass fibres or sheets of paper, impregnated with plastics and compressed together, **provided** they have a hard, rigid character. (If having more the character of paper or of articles of glass fibres they are classified in **Chapter 48** or **70**, as the case may be.)

The provisions of the preceding paragraph also apply, *mutatis mutandis*, to monofilaments, rods, sticks, profile shapes, tubes, pipes and hoses and articles.

It should be noted that gauze and netting of base metal simply dipped in plastics are **excluded** (**Section XV**), even if the meshes are filled in by the dipping process.

In the case of plates or sheets composed of plies of wood and plastics, those in which the wood constitutes only a support or reinforcement of the plastics are classified in the present Chapter; those in which the plastics have a merely **subsidiary** function (e.g., when they form the foundation for a fine veneer) are **excluded** (**Chapter 44**). It should be noted in this regard that building panels composed of layers of wood and plastics are classified, as a general rule, in Chapter 44 (see the General Explanatory Note to that Chapter).

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In addition to the exclusions mentioned in Note 2, the Chapter **excludes** :

(a) Concentrated dispersions of colouring matter in plastics having the character of products of **Chapter 32**; see, for example, the Explanatory Notes to **heading 32.04** (paragraph (I) (C) regarding concentrated dispersions of colouring matter in plastics, and paragraph (II) (2) concerning organic luminophores, e.g., rhodamine B in plastics), **heading 32.05** (seventh paragraph concerning concentrated dispersions of colour lakes in plastics) and **heading 32.06** (Part A), sixth paragraph, subparagraph (I) concerning concentrated dispersions of other colouring matter in plastics).

(b) Preparations specially formulated for use as adhesives, consisting of polymers or blends thereof of headings 39.01 to 39.13 which, apart from any permitted additions to the products of this Chapter (fillers, plasticisers, solvents, pigments, etc.), contain other added substances not falling in this Chapter (e.g., waxes, rosin esters, unmodified natural shellac) and products of headings 39.01 to 39.13 put up for retail sale as glues or adhesives, not exceeding a net weight of 1 kg (**heading 35.06**).

(c) Plastics and articles thereof (**other than** the goods of heading 39.18 or 39.19), printed with motifs, characters or pictorial representations, which are not merely subsidiary to the primary use of the goods (**Chapter 49**).

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Subheading Explanatory Note.

Subheading Note 1

This Note governs the classification of polymers (including copolymers), chemically modified polymers and polymer blends at subheading level. Before these products can be classified at subheading level, however, they must first be classified in the proper heading under the provisions of Notes 4 and 5 to this Chapter (see the General Explanatory Note to this Chapter).

Classification of polymers (including copolymers) and chemically modified polymers

According to Subheading Note 1, polymers (including copolymers) and chemically modified polymers are to be classified in accordance with the provisions of **subparagraph (a)** of the Note or **subparagraph (b)** of the Note, depending upon whether or not there is a subheading named “Other” in the same series of subheadings.

A subheading named “Other” does not include subheadings such as “Other polyesters” and “Of other plastics”.

The expression “in the same series” applies to subheadings of the same level, namely, one-dash subheadings (level 1) or two-dash subheadings (level 2) (see the Explanatory Note to General Interpretative Rule 6).

It should be noted that some headings (e.g., heading 39.07) contain both types of series of subheadings.

(A) **Classification when there is a subheading named "Other" in the same series**

(1) **Subparagraph (a) (1)** of Subheading Note 1 defines polymers with the prefix "poly" (e.g., polyethylene and polyamide-6,6) as being those in which the constituent monomer unit or monomer units of the named polymer taken together contribute 95 % or more by weight of the total polymer content. In the case of named classes of polymers designated with the prefix "poly" (e.g., polyterpenes of subheading 3911.10), all of the monomer units falling in the same class (e.g., different terpene monomer units in the case of polyterpenes) must comprise 95 % or more by weight of the polymer.

It should be stressed that this definition applies **only** to polymers of subheadings which have a subheading named "Other" in the same series.

Thus, for example, a polymer consisting of 96 % of the ethylene monomer unit and 4 % of the propylene monomer unit and having a specific gravity of 0.94 or more (being a polymer of heading 39.01 by application of Note 4 to this Chapter), should be classified as polyethylene in subheading 3901.20 because the ethylene monomer unit contributes more than 95 % of the total polymer content and there is a subheading named "Other" in the same series.

The above definition of polymers with the prefix "poly", when applied to poly(vinyl alcohol), does not require that 95 % or more by weight of the monomer units are the named "vinyl alcohol". However, it does require that the vinyl acetate and vinyl alcohol monomer units taken together represent 95 % or more by weight of the polymer.

(2) **Subparagraph (a) (2)** of Subheading Note 1 deals with the classification of the products of subheadings 3901.30, 3901.40, 3903.20, 3903.30 and 3904.30.

Copolymers classified in these subheadings must have 95 % or more by weight of the constituent monomer units of the polymers named in the subheading.

Thus, for example, a copolymer consisting of 61 % vinyl chloride, 35 % vinyl acetate and 4 % maleic anhydride monomer units (being a polymer of heading 39.04) should be classified as a vinyl chloride-vinyl acetate copolymer of subheading 3904.30 because vinyl chloride and vinyl acetate monomer units taken together contribute 96 % of the total polymer content.

On the other hand, a copolymer consisting of 60 % styrene, 30 % acrylonitrile and 10 % vinyl toluene monomer units (being a polymer of heading 39.03) should be classified in subheading 3903.90 (named "Other") and **not** in subheading 3903.20 because the styrene and acrylonitrile monomer units taken together contribute only 90 % of the total polymer content.

(3) **Subparagraph (a) (3)** of Subheading Note 1 deals with the classification of chemically modified polymers. These polymers are to be classified in the subheading named "Other", provided that the chemically modified polymers are not more specifically covered by another subheading. The consequence of this Note is that chemically modified polymers are not classified in the same subheading as unmodified polymer, unless the unmodified polymer itself is classifiable in a subheading named "Other".

Thus, for example, chlorinated or chlorosulphonated polyethylene, being chemically modified polyethylene of heading 39.01, should be classified in subheading 3901.90 ("Other").

On the other hand, poly(vinyl alcohol), which is obtained by the hydrolysis of poly(vinyl acetate), should be classified in subheading 3905.30 which specifically covers it.

(4) **Subparagraph (a) (4)** : Polymers which cannot be classified according to the provisions of paragraphs (a) (1), (a) (2) or (a) (3) are classified in the subheading named "Other", unless there is a **more specific subheading** in the series under consideration, which covers polymers of that monomer unit which predominates by weight over every other monomer unit. For this purpose, constituent monomer units of polymers falling in the same subheading shall be taken together. Only the constituent monomer units of the polymers in the same series of subheadings under consideration are to be compared.

The texts of **such specific subheadings** have the format "polymers of x", "x copolymers" or "x polymers" (e.g., propylene copolymers (**subheading 3902.30**), fluoro-polymers (**subheadings 3904.61 and 3904.69**).

To be classified in these subheadings it is only necessary for the monomer unit named in the subheading to predominate over every other single monomer unit in the series under consideration. That is, the monomer unit named in the subheading does not have to represent more than 50 % of the total polymer content of the series under consideration.

Thus, for example, an ethylene-propylene copolymer consisting of 40 % ethylene and 60 % propylene monomer units (being a polymer of heading 39.02) should be classified in subheading 3902.30 as a propylene copolymer because propylene is the only constituent monomer unit to be taken into consideration.

Likewise, a copolymer consisting of 45 % ethylene, 35 % propylene and 20 % isobutylene monomer units (being a polymer of heading 39.02) is to be classified in subheading 3902.30 because only the propylene and isobutylene monomer units are to be compared (the ethylene monomer unit being ignored) and the propylene monomer unit predominates over the isobutylene monomer unit.

On the other hand, a copolymer consisting of 45 % ethylene, 35 % isobutylene and 20 % propylene monomerunits (being a polymer of heading 39.02) is to be classified in subheading 3902.90 because only the isobutylene and propylene monomer units are to be compared and the isobutylene monomer unit predominates over the propylene monomer unit.

(B) **Classification when there is no subheading named "Other" in the same series**

(1) **Subparagraph (b) (1)** of Subheading Note 1 directs classification of polymers to the subheading covering polymers of that monomer unit which predominates by weight over every other single comonomer unit, when there is no subheading named "Other" in the same series. For this purpose, constituent monomer units of polymers falling in the same subheading are to be taken together.

This is similar to the method of classification specified in Note 4 to this Chapter for the classification of polymers at heading level.

The concept of predominance of one monomer unit applies, except when polymers contain monomer units falling outside the series of subheadings under consideration. In such circumstances, only the monomer units relating to the polymers in the series of subheadings under consideration are to be compared.

Thus, for example, copolycondensates of urea and phenol with formaldehyde (being polymers of heading 39.09) are to be classified in subheading 3909.10 if the urea monomer unit predominates over the phenol monomer unit, and in subheading 3909.40 if the phenol monomer unit predominates, since there is no subheading named “Other” in the same series of subheadings.

It should be remembered that the definition of polymers with the prefix “poly” under paragraph (a) (1) of Subheading Note 1 **does not** apply to the subheadings falling in this category.

Thus, for example, copolymers having constituent monomer units of both polycarbonate and poly(ethyleneterephthalate) are to be classified in subheading 3907.40 if the former predominates and in subheading 3907.61 or3907.69 if the latter predominates, since there is no subheading named “Other” in the same series of subheadings.

(2) **Subparagraph (b) (2)** of Subheading Note 1 deals with the classification of chemically modified polymers. These are to be classified in the same subheading as the unmodified polymer when there is no subheading named “Other” in the same series of subheadings under consideration.

Thus, for example, acetylated phenolic resins (being polymers of heading 39.09) are to be classified in subheading 3909.40 as phenolic resins, since there is no subheading named “Other” in the same series.

Classification of polymer blends

The last paragraph of Subheading Note 1 directs the classification of polymer blends. These are to be classified in the same subheading as if they were polymers of the same monomer units in the same proportions.

The following examples illustrate the classification of polymer blends :

- A polymer blend with a specific gravity of more than 0.94 consisting of 96 % polyethylene and 4 % polypropylene is to be classified in subheading 3901.20 as polyethylene because the ethylene monomer unit contributes more than 95 % of the polymer content.

- A polymer blend consisting of 60 % polyamide-6 and 40 % polyamide-6,6 is to be classified in subheading 3908.90 (“Other”) since the constituent monomer units of neither of the polymers contribute 95 % or more by weight of the total polymer content.

- A blend of polypropylene (45 %), poly(butylene terephthalate) (42 %) and poly(ethylene isophthalate) (13 %) is to be classified in heading 39.07 since the constituent monomer units of the two polyesters together predominate over the propylene monomer unit. The monomer units of poly(butylene terephthalate) and poly(ethylene isophthalate).are to be considered without regard to how they may have been combined in individual polymers in the blend. In this example, one of the monomer units of poly(ethylene isophthalate) and another of poly(butylene terephthalate) are the **same** monomer units as the constituent monomer units of poly(ethylene terephthalate). However, the blend is to be classified in subheading 3907.99 since, considering the polyester monomer units only, the constituent monomer units of “other polyester”, **in the correct stoichiometric ratio**, predominate over the monomer units of poly(ethylene terephthalate).

_____

(*) In this case, the monomer units are randomly oriented and the constitutional repeating unit concept does not apply.

I.-

PRIMARY FORMS
EXPLANATORY NOTES

Sub-Chapter I

PRIMARY FORMS

Heading 3901

Polymers of ethylene, in primary forms.
EXPLANATORY NOTES

Sub-Chapter I

PRIMARY FORMS

39.01 - Polymers of ethylene, in primary forms

3901.10 - Polyethylene having a specific gravity of less than 0.94

3901.20 - Polyethylene having a specific gravity of 0.94 or more

3901.30 - Ethylene-vinyl acetate copolymers

3901.40 - Ethylene-alpha-olefin copolymers, having a specific gravity of less than 0.94

3901.90 - Other

This heading covers polyethylene and chemically modified polyethylene (for example, chlorinated polyethylene and chlorosulphonated polyethylene). It also covers ethylene copolymers (for example, ethylene-vinyl acetate copolymers and ethylene-propylene copolymers) in which ethylene is the predominant comonomer unit. For the classification of polymers (including copolymers), chemically modified polymers and polymer blends, see the General Explanatory Note to this Chapter.

Polyethylene is a translucent material having a very wide range of applications. Low-density polyethylene (LDPE), i.e., polyethylene having a specific gravity at 20 °C of less than 0.94 (calculated on an additive-free polymer basis), is used largely as a packaging film especially for food products, as coating for paper, fibreboard, aluminium foil, etc., as an electric insulator, and for the manufacture of various household articles, toys, etc. High-density polyethylene (HDPE) is polyethylene having a specific gravity at 20 °C of 0.94 or more (calculated on an additive-free polymer basis). It is used in the manufacture of a variety of blow-moulded and injection-moulded articles, woven sacks, gasoline and oil containers, for the extrusion of pipes, etc. Applications of ethylene-vinyl acetate copolymers include snap-on caps, the lining of bag-in-box containers and stretch wrapping. The heading also

includes linear low-density ethylene-alpha-olefin copolymers (LLDPE) as well as other copolymers (plastomers), having a specific gravity of less than 0.94 and with a content of alpha-olefin monomers of 25 % or more but less than 50 % by weight.

The heading **excludes** :

(a) Liquid synthetic polyethylene not meeting the requirements of Note 3 (a) to the Chapter (**heading 27.10**).

(b) Polyethylene waxes (**heading 34.04**).

3901.10

- Polyethylene having a specific gravity of less than 0.94

3901.20

- Polyethylene having a specific gravity of 0.94 or more

3901.30

- Ethylene-vinyl acetate copolymers

3901.40

- Ethylene-alpha-olefin copolymers, having a specific gravity of less than 0.94

CLASSIFICATION OPINIONS

1. White granules consisting of 80 % linear low-density polyethylene and 20 % natural silica, having a specific gravity of 0.92. The product is obtained by an extrusion process after mixing and melting the two raw materials. The extruded material is cooled and cut into granules. It is presented in bags of 25 kg.
The product is used as an additive in the manufacture of articles of plastics to reduce the contact surface between two polyethylene films used mainly in the manufacture of supermarket bags.
Application of GIRs 1 and 6
Adoption : 2016

3901.90

- Other

Heading 3902

Polymers of propylene or of other olefins, in primary forms.

EXPLANATORY NOTES

39.02 - Polymers of propylene or of other olefins, in primary forms.

3902.10 - Polypropylene

3902.20 - Polyisobutylene

3902.30 - Propylene copolymers

3902.90 - Other

This heading covers polymers of all olefins (i.e. acyclic hydrocarbons having one or more double bonds) except ethylene. The important polymers of this heading are polypropylene, polyisobutylene

and propylene copolymers. For the classification of polymers (including copolymers), chemically modified polymers and polymer blends, see the General Explanatory Note to this Chapter.

The general physical properties of polypropylene are similar to those of high-density polyethylene. Polypropylene and propylene copolymers also have a very wide range of applications, for example, packaging film, moulded parts for automobiles, appliances, housewares, etc., wire and cable coating, food container closures, coated and laminated products, bottles, trays and containers for storing precision equipment, ducting, tank linings, piping for chemical plant, tufted carpet backing.

Polyisobutylene when sufficiently polymerised resembles rubber but is not classified in Chapter 40 as it does not conform to the definition of synthetic rubber. It is used for waterproof coatings and for modifying other plastics.

Polyisobutylene, slightly polymerised and meeting the requirements of Note 3 (a) to this Chapter, is also included in this heading. It is a viscous liquid used to modify the properties of lubricating oils.

The heading, however, **does not cover** liquid synthetic polyisobutylene or other liquid synthetic polyolefins **not meeting** the requirements of Note 3 (a) to this Chapter (**heading 27.10**).

3902.10

- Polypropylene

3902.20

- Polyisobutylene

3902.30

- Propylene copolymers

3902.90

- Other

Heading 3903

Polymers of styrene, in primary forms.

EXPLANATORY NOTES

39.03 - Polymers of styrene, in primary forms.

- Polystyrene :

3903.11 - - Expansible

3903.19 - - Other

3903.20 - Styrene-acrylonitrile (SAN) copolymers

3903.30 - Acrylonitrile-butadiene-styrene (ABS) copolymers

3903.90 - Other

This heading covers polystyrene and copolymers of styrene. The most important copolymers of styrene are styrene-acrylonitrile (SAN) copolymers, acrylonitrile-butadiene-styrene (ABS) copolymers and styrene-butadiene copolymers. Most of the styrene-butadiene copolymers with substantial

amounts of butadiene comply with the requirements of Note 4 to Chapter 40 and are therefore classified in **Chapter 40** as synthetic rubber. For the classification of polymers (including copolymers), chemically modified polymers and polymer blends, see the General Explanatory Note to this Chapter.

Unexpanded polystyrene is a colourless, transparent, thermoplastic material which finds extensive use in the electrical and radio industries. It also has packaging applications, for example, in the packaging of foodstuffs and cosmetics. It is also used in the manufacture of toys, clock cabinets and gramophone records.

Expanded (cellular) polystyrene contains gases from the expanding process and has a low bulk-density. It is extensively used as a thermal insulent for refrigerator doors, air-conditioner housings, cold storage facilities, freezer display cabinets, and in the construction industry. It is also used in disposable packaging and in food serving articles.

Certain chemically modified copolymers of styrene are ion-exchangers (**heading 39.14**).

Styrene-acrylonitrile (SAN) copolymers, which have high tensile strength, good mouldability and chemical resistance, are used for making cups, tumblers, typewriter keys, refrigerator parts, oil-filter bowls and certain kitchen equipment. Acrylonitrile-butadiene-styrene (ABS) copolymers, which have high shock and weather resistance, are used in the manufacture of parts and accessories of bodies for motor vehicles, of refrigerator doors, of telephones, of bottles, of shoe heels, of cases for machines, of water pipes, of building panels, of vessels, etc.

3903.1

- Polystyrene :
3903.11

-- Expansible
3903.19

-- Other
3903.20

- Styrene-acrylonitrile (SAN) copolymers
3903.30

- Acrylonitrile-butadiene-styrene (ABS) copolymers
3903.90

- Other
Heading 3904

Polymers of vinyl chloride or of other halogenated olefins, in primary forms.
EXPLANATORY NOTES

39.04 - Polymers of vinyl chloride or of other halogenated olefins, in primary forms.

3904.10 - Poly(vinyl chloride), not mixed with any other substances

- Other poly(vinyl chloride) :

3904.21 - - Non-plasticised

3904.22 - - Plasticised

3904.30 - Vinyl chloride-vinyl acetate copolymers

3904.40 - Other vinyl chloride copolymers

3904.50 - Vinylidene chloride polymers

- Fluoro-polymers :

3904.61 - - Polytetrafluoroethylene

3904.69 - - Other

3904.90 - Other

This heading covers poly(vinyl chloride) (PVC), vinyl chloride copolymers, vinylidene chloride polymers, fluoropolymers and polymers of other halogenated olefins. For the classification of polymers (including copolymers), chemically modified polymers and polymer blends, see the General Explanatory Note to this Chapter.

PVC is a rigid colourless material with limited heat stability and with a tendency to adhere to metallic surfaces when heated. For these and other reasons, it is often necessary to add stabilisers, plasticisers, extenders, fillers, etc. to make useful plastics. In flexible sheet form PVC is used widely as a waterproof material for curtains, aprons, raincoats, etc., and as high grade imitation leather for upholstery and interior decoration in all types of passenger transportation. Rigid PVC sheets find application in the fabrication of covers, ducts, tank linings and many other items of chemical plant equipment. PVC floor tiles are also common.

The most important copolymers of vinyl chloride are vinyl chloride-vinyl acetate copolymers which are mainly used for gramophone records and flooring.

Copolymers of vinylidene chloride are used largely for packaging of food products, for upholstery, fibres, bristles and latex coatings and in the manufacture of pipes for chemical processing equipment.

Polytetrafluoroethylene (PTFE), one of the most important fluoro-polymers, has very wide-ranging applications in the electrical, chemical and engineering industries. Because of its high working temperature it is an excellent insulating material and due to its resistance to chemicals it is almost indestructible.

Other fluoro-polymers include polymers of chlorotrifluoroethylene, poly(vinylidene fluoride), etc.

3904.10

- Poly(vinyl chloride), not mixed with any other substances

3904.2

- Other poly(vinyl chloride) :

3904.21

-- Non-plasticised

3904.22

-- Plasticised

3904.30

- Vinyl chloride-vinyl acetate copolymers

3904.40

- Other vinyl chloride copolymers

3904.50

- Vinylidene chloride polymers

3904.6

- Fluoro-polymers :

3904.61

-- Polytetrafluoroethylene

3904.69

-- Other

3904.90

- Other

Heading 3905

Polymers of vinyl acetate or of other vinyl esters, in primary forms; other vinyl polymers in primary forms.

EXPLANATORY NOTES

39.05 - Polymers of vinyl acetate or of other vinyl esters, in primary forms; other vinyl polymers in primary forms.

- Poly(vinyl acetate) :

3905.12 - - In aqueous dispersion

3905.19 - - Other

- Vinyl acetate copolymers :

3905.21 - - In aqueous dispersion

3905.29 - - Other

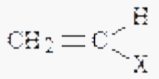
3905.30 - Poly(vinyl alcohol), whether or not containing unhydrolysed acetate groups

- Other :

3905.91 - - Copolymers

3905.99 - - Other

This heading covers all vinyl polymers **other than** those of **heading 39.04**. A vinyl polymer is one whose monomer has the formula

	, where the C—X bond is neither a carbon-carbon bond nor a carbon-hydrogen bond. Polyvin the C—X bond is a carbon-carbon bond are, therefore, **excluded** (**heading 39.11**).

Polymers of vinyl acetate or of other vinyl esters, of which poly(vinyl acetate) is by far the most important, are not suitable for the manufacture of articles as they are too soft and elastic. They are generally used for the preparation of lacquers, paints, adhesives, finishing or impregnating agents for textiles, etc. Solutions and dispersions (emulsions and suspensions) of poly(vinyl acetate) are used, e.g., as adhesives.

Poly(vinyl alcohol) is usually prepared by the hydrolysis of poly(vinyl acetate). Poly(vinyl alcohol) is available in a number of grades depending upon the content of unhydrolysed vinyl acetate groups. These are excellent emulsifiers and dispersing agents and are used as protective colloids, adhesives, binders and thickeners in paints, pharmaceuticals and cosmetics and in textiles. Fibres produced from poly(vinyl alcohol) are suitable for making underwear, blankets, clothing, etc.

Polyvinyl acetals can be prepared by reacting poly(vinyl alcohol) with an aldehyde such as formaldehyde or butyraldehyde, or by reacting poly(vinyl acetate) with an aldehyde.

Other vinyl polymers include polyvinyl ethers, poly(vinyl carbazole) and poly(vinyl pyrrolidone).

For the classification of polymers (including copolymers), chemically modified polymers and polymer blends, see the General Explanatory Note to this Chapter.

3905.1

- Poly(vinyl acetate) :

3905.12

-- In aqueous dispersion

3905.19

-- Other

3905.2

- Vinyl acetate copolymers :

3905.21

-- In aqueous dispersion

3905.29

-- Other

3905.30

- Poly(vinyl alcohol), whether or not containing unhydrolysed acetate groups

3905.9

- Other :

3905.91

-- Copolymers

CLASSIFICATION OPINIONS

1. Granules, light yellow, consisting mainly of ethylene-vinyl alcohol copolymer (about 40 % by weight) and pregelatinised starch as a filler (about 45 % by weight); in the copolymer, the

vinyl alcohol comonomer unit (74 % by weight) predominates over the ethylene comonomer unit (26 % by weight); used for making biodegradable film, sheets or moulded articles.
Adoption : 1995

3905.99

-- Other

Heading 3906

Acrylic polymers in primary forms.

EXPLANATORY NOTES

39.06 - Acrylic polymers in primary forms.

3906.10 - Poly(methyl methacrylate)

3906.90 - Other

The expression “acrylic polymers” covers polymers of acrylic or methacrylic acid, of their salts or esters, or of the corresponding aldehydes, amides or nitriles.

Poly(methyl methacrylate) is the most important polymer of this category. It is used, because of its excellent optical properties and its physical strength, as a glazing material, in outdoor signs and other display articles, and in the manufacture of artificial eyes, contact lenses and artificial dentures.

Polymers of acrylonitrile may be used in the manufacture of synthetic fibres.

For the classification of polymers (including copolymers), chemically modified polymers and polymer blends, see the General Explanatory Note to this Chapter.

This heading **excludes** :

(a) Acrylic polymers which are ion-exchangers (**heading 39.14**).

(b) Copolymers of acrylonitrile which comply with the requirements of Note 4 to Chapter 40 (**Chapter 40**).

3906.10

- Poly(methyl methacrylate)

3906.90

- Other

CLASSIFICATION OPINIONS

1. Copolymer of an acrylic ester and an acrylic amide, modified with formaldehyde, in aqueous dispersion stabilised by the addition of a small quantity of sulphoricinoleate.
Adoption : 1964

Heading 3907

Polyacetals, other polyethers and epoxide resins, in primary forms; polycarbonates, alkyd resins, polyallyl esters and other polyesters, in primary forms.

EXPLANATORY NOTES

39.07 - Polyacetals, other polyethers and epoxide resins, in primary forms; polycarbonates, alkyd resins, polyallyl esters and other polyesters, in primary forms.

3907.10 - Polyacetals

- Other polyethers :

3907.21 - - Bis (polyoxyethylene) methylphosphonate

3907.29 - - Other

3907.30 - Epoxide resins

3907.40 - Polycarbonates

3907.50 - Alkyd resins

- Poly(ethylene terephthalate) :

3907.61 - - Having a viscosity number of 78 ml/g or higher

3907.69 - - Other

3907.70 - Poly(lactic acid)

- Other polyesters :

3907.91 - - Unsaturated

3907.99 - - Other

This heading covers :

(1) **Polyacetals**. Polymers obtained from an aldehyde, normally formaldehyde, and characterised by the presence of acetalfunctions in the polymer chain. They are not to be confused with the polyvinyl acetals of **heading 39.05**, in which the acetal-functions are substituents on the polymer chain. This family of plastics includes acetal copolymers and is regarded as engineering plastics, being used for ring bearings, cams, automobile instrument housings, doorknobs, pump and air impellers, shoe heels, mechanical toys, plumbing fittings, etc.

(2) **Other polyethers**. Polymers obtained from epoxides, glycols or similar materials and characterised by the presence of ether-functions in the polymer chain. They are not to be confused with the polyvinyl ethers of **heading 39.05**, in which the ether-functions are substituents on the polymer chain. The most important members of this group are poly(oxyethylene) (polyethylene glycol), polyoxypropylene and polyphenylene oxide (PPO) (more correctly named poly(dimethylphenylene-oxide)). These products have a variety of uses, PPO being used, like the polyacetals, as engineering plastics, polyoxypropylene as an intermediate for polyurethane foam.

This heading also covers pegylated (polyethylene glycol (or PEGs) polymers) derivatives of products of Chapter 29 (Sub-Chapters I to X and headings 29.40 and 29.42).

Pegylated products whose non-pegylated forms are classified either in Chapter 29 (headings 29.36 to 29.39 and 29.41) or in Chapter 30 are excluded and in general remain classified in the same heading as their non-pegylated forms.

(3) **Epoxide resins**. Polymers made, for example, by condensing epichlorohydrin (1-chloro-2,3-epoxypropane) with bisphenol A (4,4'-isopropylidenediphenol), novolak (phenolic) resins or other polyhydroxy compounds or by epoxidising unsaturated polymers. Whatever the basic structure of the polymer, these resins are characterised by the presence of reactive epoxide groups which allow them to be readily cross-linked at the time of use, e.g. by the addition of an amino compound, an organic acid or anhydride, a boron trifluoride complex or an organic polymer.

Epoxide resins range from low viscosity liquids to high melting solids; they are used as surface-coatings, as adhesives, as moulding or casting resins, etc.

Epoxidised animal or vegetable oils are classified in **heading 15.18**.

(4) **Polycarbonates**. Polymers obtained, for example, by condensing bisphenol A with phosgene (carbonyl chloride) or diphenyl carbonate and characterised by the presence of carbonic ester-functions in the polymer chain. These have a number of industrial applications, particularly in moulded articles and as glazing.

(5) **Polyesters**. These polymers are characterised by the presence of carboxylic ester functions in the polymer chain and are obtained, for example, by condensation of a polyhydric alcohol and a polycarboxylic acid. They are thus distinguished from polyvinyl esters of **heading 39.05** and polyacrylic esters of **heading 39.06**, in which the ester groups are substituents on the polymer chain. Polyesters include :

(a) **Alkyd resins**. Polycondensation products of polyfunctional alcohols and polyfunctional acids or their anhydrides, one of which at least must be partly or wholly tri- or higher functional, modified with other substances such as fatty acids or animal or vegetable oils, monofunctional acids or alcohols, rosin. They do not include oil-free alkyds (see Item (e) below). These resins are used mainly as coatings and in high grade varnishes and are supplied usually in viscous form or solution.

(b) **Polyallyl esters**. A special class of unsaturated polyesters (for the term "unsaturated" see Item (e) below) derived from esters of allyl alcohol with dibasic acids, for example, diallyl phthalate. They are used as laminating adhesives, coatings, varnishes and in applications requiring microwave transparency.

(c) **Poly(ethylene terephthalate) (PET)**. Polymer generally formed by the esterification of terephthalic acid with ethylene glycol or obtained from the reaction of dimethyl terephthalate with ethylene glycol. Apart from its very important use in textiles, it finds application, for example, in packaging films, recording tapes, soft-drink bottles. Poly(ethylene terephthalate) having a viscosity number of 78 ml/g or higher is generally used for the production of bottles.

The viscosity number of 78 ml/g or higher corresponds to an intrinsic viscosity value of 0.7 dl/g or higher.

The viscosity number is calculated according to ISO Standard 1628-5.

(d) **Poly(lactic acid)**, also known as **polylactide**. It is usually produced from lactic acid obtained synthetically or by fermentation (this method uses raw materials consisting predominantly of hexoses or compounds which can be easily split into hexoses, e.g., sugars, molasses, sugar beet juice, sulphite liquors, whey or starches). The lactic acid is converted to a cyclic lactide dimer, the ring structure of which is opened during the final polymerisation step. Its applications include textile fibres, packaging materials and materials for medical use.

(e) **Other polyesters**. These may be unsaturated or saturated.

Unsaturated polyesters are those which possess sufficient ethylenic unsaturation that they can readily be (or already have been) cross-linked with monomers containing ethylenic unsaturation to form thermosetting products. Unsaturated polyesters include polyallyl esters (see Item (b) above) and other polyesters (including oil-free alkyds) based on an unsaturated acid, for example, maleic or fumaric acid. These products, which are usually in the form of liquid prepolymers, are mainly used for producing glass fibre reinforced laminates and cast transparent thermosetting products.

Saturated polyesters include polymers based on terephthalic acid, for example, poly(butylene terephthalate), and saturated oil-free alkyd resins. They are largely used for textile fibres and films.

For the classification of polymers (including copolymers), chemically modified polymers and polymer blends, see the General Explanatory Note to this Chapter.

3907.10

- Polyacetals

3907.2

- Other polyethers :

3907.21

-- Bis(polyoxyethylene) methylphosphonate

3907.29

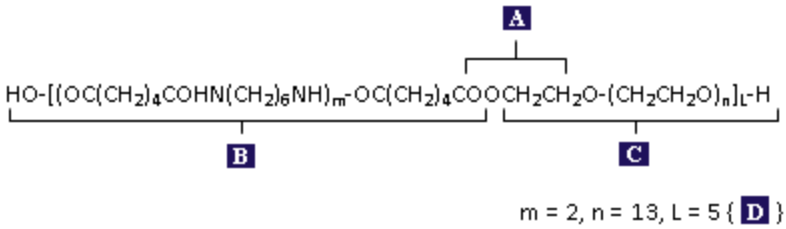
-- Other

CLASSIFICATION OPINIONS

1. **Polyamide-polyether polycondensate,** a block copolymer, obtained by the polymerisation of a polyamide with carboxylic terminals (Polyamide-6,6 polymerised with an excess of adipic acid) and a polyether which has hydroxyl terminals (poly(oxyethylene) (polyethylene glycol)), in which the weight of the monomer units derived from ethylene oxide is greater than the weight of the monomer units derived from hexamethylenediamine and adipic acid taken together.
   Application of GIRs 1 and 6
   Adoption : 1992

The polymer in question has the following structure :

A ester linkage**B** polyamide**C** polyether**D** average values



2. Polyether polyol copolymer, in a clear colourless liquid form, composed of the monomer units of oxypropylene and oxyethylene in a ratio of about three to one, and having an average molecular weight of about 2,000, used as an intermediate product in the manufacture of polyurethane.
Application of GIRs 1 and 6
Adoption : 1996

3907.30

- Epoxide resins

3907.40

- Polycarbonates

3907.50

- Alkyd resins

3907.6

- Poly(ethylene terephthalate) :

3907.61

-- Having a viscosity number of 78 ml/g or higher

3907.69

-- Other

3907.70

- Poly(lactic acid)

3907.9

- Other polyesters :

3907.91

-- Unsaturated

3907.99

-- Other

Heading 3908

Polyamides in primary forms.

EXPLANATORY NOTES

39.08 - Polyamides in primary forms.

3908.10 - Polyamide-6, -11, -12, -6,6, -6,9, -6,10 or -6,12

3908.90 - Other

This heading covers polyamides and copolymers thereof. Linear polyamides are known as nylons.

Polyamides are obtained by condensation polymerisation of dibasic organic acids (for example, adipic acid, sebacic acid) with diamines or of certain amino-acids (e.g., 11-aminoundecanoic acid) or by rearrangement polymerisation of lactams (e.g., epsilon-caprolactam).

Some of the important nylon type polyamides are polyamide-6, polyamide-11, polyamide-12, polyamide-6,6, polyamide-6,9, polyamide-6,10 and polyamide-6,12. Examples of non-linear polyamides are the condensation products of dimerised vegetable oil acids with amines.

Polyamides have a high tensile strength and resistance to shock. They also have excellent chemical resistance, especially to aromatic and aliphatic hydrocarbons, ketones and esters.

Apart from their use as textiles, polyamides have a wide application as thermoplastics in moulding. They are also used as coatings, adhesives, packaging films. In solvents, they have a specialised use as lacquers.

For the classification of polymers (including copolymers), chemically modified polymers and polymer blends, see the General Explanatory Note to this Chapter.

3908.10

- Polyamide-6, -11, -12, -6,6, -6,9, -6,10 or -6,12

3908.90

- Other

Heading 3909

Amino-resins, phenolic resins and polyurethanes, in primary forms.

EXPLANATORY NOTES

39.09 - Amino-resins, phenolic resins and polyurethanes, in primary forms.

3909.10 - Urea resins; thiourea resins

3909.20 - Melamine resins

- Other amino-resins :

3909.31 - - Poly(methylene phenyl isocyanate) (crude MDI, polymeric MDI)

3909.39 - - Other

3909.40 - Phenolic resins

3909.50 - Polyurethanes

This heading covers :

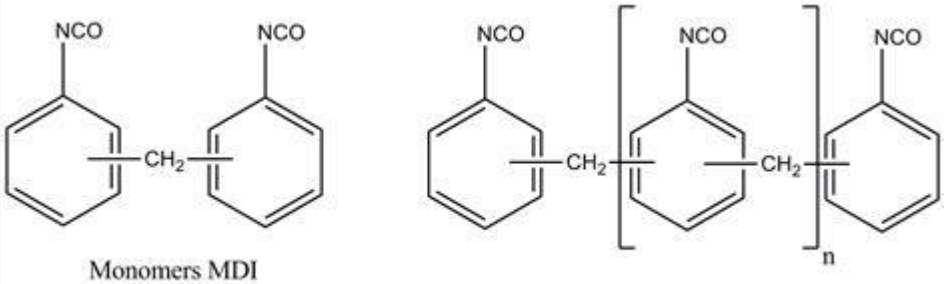
(1) **Amino-resins**

These are formed by the condensation of amines or amides with aldehydes (formaldehyde, furfuraldehyde, etc.). The most important are urea resins (for example, urea-formaldehyde),

thiourea resins (for example, thiourea-formaldehyde), melamine resins (for example, melamine-formaldehyde) and aniline resins (for example, aniline-formaldehyde).

These resins are used for the manufacture of transparent, translucent or brightly coloured articles of plastics and are much used for moulding table and fancy ware and electrical goods. In solutions and dispersions (emulsions and suspensions), (whether or not modified with oils, fatty acids, alcohols, or other synthetic polymers) they are employed as glues and as textile dressings, etc. (See the General Explanatory Note to this Chapter, exclusion (b), for the classification of glues.)

Poly(methylene phenyl isocyanate) (often referred to as "crude MDI", "polymeric MDI" or "poly(diphenylmethane) diisocyanate") is an opaque, dark brown to clear, light brown liquid and is synthesised by reaction of aniline and formaldehyde to form a mixture of (methylene phenylamine) oligomers, which is subsequently reacted with phosgene and heat to form free isocyanate functions. The product is a chemically modified polymer of aniline and formaldehyde (a chemically modified amino-resin). It contains pure MDI and MDI oligomer mixtures. See chemical structures below :



Polyamine resins, such as poly(ethyleneamines), are **not** amino-resins and fall in **heading 39.11** when complying with the requirements of Note 3 to this Chapter.

(2) **Phenolic resins**

This group comprises a wide range of resinous materials derived from the condensation of phenol or its homologues (cresol, xylenol, etc.), or substituted phenols, with aldehydes such as formaldehyde, acetaldehyde, furfuraldehyde, etc. The nature of the products varies according to the conditions under which the reaction is conducted and whether it is modified by the introduction of other substances.

Thus the group includes :

(a) **Resins** (novolaks), which are permanently **fusible and soluble** in alcohol or other organic solvents, and which are produced under acid conditions. These are used in the preparation of varnishes and moulding powders, etc.

(b) **Thermosetting phenolic resins**, which are obtained under alkaline conditions. In the processing, a continuous range of products is obtained. Firstly, the resols in the form of liquids, pastes or solids which are used as varnish bases, impregnants, etc. Secondly, the resitols which are in the form of moulding powders, and finally, after complete reaction, resites which are most often in finished forms such as plates, sheets, rods, tubes or other articles generally classified in headings 39.16 to 39.26.

Certain resins of this kind are ion-exchangers and fall in **heading 39.14**.

(c) **Oil-soluble phenolic resins** (soluble in drying oils) prepared from butylphenol, amylphenol, parahydroxydiphenyl or other substituted phenols. They are used mainly in the preparation of varnishes.

(d) **Products** based on the resins referred to at (a), (b) and (c) above **modified** by the incorporation of rosin or other natural resins, synthetic resins (especially alkyd resins), vegetable oils, alcohols, organic acids or other chemicals which affect their solubility in drying oils. These products are used in the preparation of varnishes and paints, as surface-coatings or impregnants.

(3) **Polyurethanes**

This class includes all polymers produced by the reaction of polyfunctional isocyanates with polyhydroxy compounds, such as, castor oil, butane-1,4-diol, polyether polyols, polyester polyols. Polyurethanes exist in various forms, of which the most important are the foams, elastomers, and coatings. They are also used as adhesives, moulding compounds and fibres. These products are often traded as one part of a multi-component system or set.

This group also includes mixtures of polyurethane and unreacted polyfunctional diisocyanate (e.g., toluene diisocyanate).

For the classification of polymers (including copolymers), chemically modified polymers and polymer blends, see the General Explanatory Note to this Chapter.

3909.10

- Urea resins; thiourea resins

3909.20

- Melamine resins

3909.3

- Other amino-resins :

3909.31

-- Poly(methylene phenyl isocyanate) (crude MDI, polymeric MDI)

3909.39

-- Other

3909.40

- Phenolic resins

3909.50

- Polyurethanes

Heading 3910

Silicones in primary forms.

EXPLANATORY NOTES

39.10 - Silicones in primary forms.

The silicones of this heading are non-chemically defined products containing in the molecule more than one silicon-oxygen-silicon linkage, and containing organic groups connected to the silicon atoms by direct silicon-carbon bonds.

They have a high stability and may be either liquid, semi-liquid or solid. The products include silicone oils, greases, resins and elastomers.

(1) Silicone oils and greases are used as lubricants remaining stable at high or low temperatures, as water-repellent impregnating products, as dielectric products, as foam inhibitors, as mould release agents, etc. Lubricating preparations consisting of mixtures containing silicone greases or oils fall in **heading 27.10** or **34.03** as the case may be (see corresponding Explanatory Notes).

(2) Silicone resins are used mainly in the manufacture of varnishes, insulating or waterproof coatings, etc., where stability at high temperature is required. They are also used in the preparation of laminates with glass fibre, asbestos or mica as the reinforcing material, as flexible moulds and for electrical encapsulation.

(3) Silicone elastomers, although not covered by the definition of synthetic rubber in Chapter 40, have some extensibility which is not changed by high or low temperatures. This property renders them suitable for manufacture into washers or other packings for appliances submitted to high or low temperatures. An application in the medical field is the manufacture of automatic brain valves used in cases of hydrocephalus.

For the classification of polymers (including copolymers), chemically modified polymers and polymer blends, see the General Explanatory Note to this Chapter.

The heading **excludes** silicones complying with the conditions of Note 3 to Chapter 34 (**heading 34.02**).

3910.00

Silicones in primary forms.

Heading 3911

Petroleum resins, coumarone-indene resins, polyterpenes, polysulphides, polysulphones and other products specified in Note 3 to this Chapter, not elsewhere specified or included, in primary forms.

EXPLANATORY NOTES

39.11 - Petroleum resins, coumarone-indene resins, polyterpenes, polysulphides, polysulphones and other products specified in Note 3 to this Chapter, not elsewhere specified or included, in primary forms.

3911.10 - Petroleum resins, coumarone, indene or coumarone-indene resins and polyterpenes

3911.20 - Poly (1,3-phenylene methylphosphonate)

3911.90 - Other

This heading covers the following products :

(1) **Petroleum resins, coumarone, indene or coumarone-indene resins and polyterpenes** constitute a group of resins, not highly polymerised, made by polymerising more or less impure fractions obtained, respectively, from deeply cracked petroleum distillates, from coal tar or from turpentine or other sources of terpenes. They are used in adhesives and coatings and are often incorporated as softeners in rubber or plastics, for example, for use in floor tiles.

(2) **Polysulphides** are polymers characterised by the presence of monosulphide linkages in the polymer chain, for example, poly(phenylene sulphide). In polysulphides each sulphur atom is bound on both sides by carbon atoms, as opposed to the thioplasts of Chapter 40, which contain sulphur-sulphur linkages. Polysulphides are used in coatings and in moulded articles, for example, aircraft and automobile parts, pump impellers.

(3) **Polysulphones** are polymers characterised by the presence of sulphone linkages in the polymer chain, for example, the product obtained by reacting the sodium salt of bisphenol A (4,4'-isopropylidene-diphenol) with bis (4-chlorophenyl) sulphone. They are used in electrical parts, domestic appliances, etc.

(4) **Polymers with isocyanate groups**, not elsewhere specified or included, such as :

(a) **Polyureas based on hexamethylene diisocyanate (HDI)**, synthesised by the reaction of HDI with water to produce prepolymers with an average number of monomer units of between 3 and 4. The products are used in the manufacture of paints and varnishes.

(b) **Polyisocyanurates based on hexamethylene diisocyanate (HDI)**, synthesised by the reaction of HDI to produce prepolymers with isocyanurate links between monomer units. The prepolymers have an average number of monomer units of between 3 and 5. The products are used in the manufacture of paints and varnishes.

(5) **Other products specified in Note 3 to the Chapter** include polyxylene resins, poly (1,4-diisopropylbenzene), polyvinyl ketones, polyethyleneimines and polyimides.

For the classification of polymers (including copolymers), chemically modified polymers and polymer blends, see the General Explanatory Note to this Chapter.

3911.10

- Petroleum resins, coumarone, indene or coumarone-indene resins and polyterpenes

3911.20

- Poly(1,3-phenylene methylphosphonate)

3911.90

- Other

CLASSIFICATION OPINIONS

1. **Polymers of cashew nutshell liquid (CNSL),** being viscous products obtained by polymerising only the unsaturated olefinic chain of the CNSL utilizing acid catalysis and heat; the manufacturing process did not involve the phenol group contained in the structure of the components of the CNSL; used as part of the binder system in friction formulations for brake shoes and clutch facings. *Adoption : 1989*

2. **Friction particles consisting of polymers of cashew nutshell liquid (CNSL),** obtained by a manufacturing process involving two different types of reactions, namely an addition polymerisation

process (olefinic in nature) and a cross-linking process (phenolic in nature) using chemicals, such as paraformaldehyde or hexamethylenetetramine, capable of forming methylene bridges; the presence of a long cross-linked aliphatic chain gives these polymers unique physical properties different from those of phenolic resins; used mainly in the manufacture of brake linings and clutch facings.
Adoption : 1989

Heading 3912

Cellulose and its chemical derivatives, not elsewhere specified or included, in primary forms.
EXPLANATORY NOTES

39.12 - Cellulose and its chemical derivatives, not elsewhere specified or included, in primary forms.

- Cellulose acetates :

3912.11 - - Non-plasticised

3912.12 - - Plasticised

3912.20 - Cellulose nitrates (including collodions)

- Cellulose ethers :

3912.31 - - Carboxymethylcellulose and its salts

3912.39 - - Other

3912.90 - Other

(A) CELLULOSE

Cellulose is a carbohydrate of high molecular weight, forming the solid structure of vegetable matter. It is contained in cotton in almost a pure state. Cellulose not elsewhere specified or included, in primary forms, falls in this heading.

Regenerated cellulose is a glossy, transparent material usually obtained by precipitation and coagulation when an alkaline solution of cellulose xanthate is extruded into an acid bath. It is usually in the form of thin, transparent sheets which are classified in **heading 39.20** or **39.21**, or of textile filaments of **Chapter 54** or **55**.

Vulcanised fibre, which is produced by treating paper or sheets of cellulose pulp with zinc chloride, is generally in the form of rods, tubes, sheets, plates or strip and is therefore also **excluded** (generally **heading 39.16**, **39.17**, **39.20** or **39.21**).

(B) CHEMICAL DERIVATIVES OF CELLULOSE

This group includes chemical derivatives of cellulose which serve as a basis in the manufacture of plastics as well as for other purposes.

The principal chemical derivatives of cellulose, whether or not plasticised, are :

(1) **Cellulose acetates**. These are prepared by treating cellulose (usually cotton linters or dissolving grades of chemical wood pulp) with acetic anhydride and acetic acid in the presence of a catalyst (e.g., sulphuric acid). With the addition of plasticisers they can form plastics which are non-inflammable and suitable for injection moulding. They are commonly presented in the form of powders, granules or solutions. Cellulose acetates presented in the form of sheets, film, rods, tubes, etc., are **excluded** (generally **heading 39.16**, **39.17**, **39.20** or **39.21**).

(2) **Cellulose nitrates (nitrocellulose)**. These products are prepared by treating cellulose (usually cotton linters) with a mixture of nitric and sulphuric acids. They are highly inflammable and the more highly nitrated varieties (gun-cottons) are used in explosives; for safety reasons they must be transported damped with alcohol, generally ethyl, isopropyl or butyl alcohol, or dampened or plasticised with phthalate esters. Cellulose nitrate plasticised with camphor in the presence of alcohol forms celluloid. Celluloid is usually in the form of sheets, film, rods or tubes, or other extruded forms, and is then **excluded** from this heading (generally **heading 39.16**, **39.17**, **39.20** or **39.21**); it is not suitable for injection moulding and is therefore not put up as a moulding powder.

Cellulose nitrate mixed with other kinds of plasticisers is widely used as the basis for varnishes, and for this purpose may be presented in the form of dry or pasty extracts. Solutions consisting of nitrocellulose in a mixture of ether (diethyl ether) and alcohol (ethanol) are collodions which are also included here. If the solution is partly evaporated celloidin is obtained in a solid form.

(3) **Cellulose acetate butyrate and cellulose propionate**. These are cellulose esters forming plastics of the same general character as those formed with cellulose acetate.

(4) **Cellulose ethers**. The most important are carboxymethylcellulose, methylcellulose, and hydroxyethylcellulose. These are water-soluble and are used as thickeners or as glues (see the General Explanatory Note to this Chapter, exclusion (b), for the classification of glues). Other cellulose ethers of commercial importance include ethyl cellulose which is a lightweight plastics.

Plastics chemically derived from cellulose generally need the addition of plasticisers.

For the classification of polymers (including copolymers), chemically modified polymers and polymer blends, see the General Explanatory Note to this Chapter.

3912.1

- Cellulose acetates :

3912.11

-- Non-plasticised

3912.12

-- Plasticised

3912.20

- Cellulose nitrates (including collodions)

3912.3

- Cellulose ethers :

3912.31

-- Carboxymethylcellulose and its salts
3912.39

-- Other
3912.90

- Other

CLASSIFICATION OPINIONS

1. Cellulose powder, microcrystalline,white, obtained from alphacellulose by acid hydrolysis which breaks up the fibres, used as an excipient in the pharmaceutical industry or in the manufacture of dietetic low-calory preparations, as an adsorbant in column and thin layer chromatography, etc.
Adoption : 1965

Heading 3913

Natural polymers (for example, alginic acid) and modified natural polymers (for example, hardened proteins, chemical derivatives of natural rubber), not elsewhere specified or included, in primary forms.

EXPLANATORY NOTES

39.13 - Natural polymers (for example, alginic acid) and modified natural polymers (for example, hardened proteins, chemical derivatives of natural rubber), not elsewhere specified or included, in primary forms.

3913.10 - Alginic acid, its salts and esters

3913.90 - Other

The following are some of the principal natural or modified natural polymers of this heading.

(1) **Alginic acid, its salts and esters**

Alginic acid, a poly(uronic acid), is extracted from brown algae (*Phaeophyta*) by maceration in an alkaline solution. It may be produced by precipitating the extract with a mineral acid or by treating the extract to obtain an impure calcium alginate which on treatment with a mineral acid is transformed into alginic acid of high purity.

Alginic acid is insoluble in water but its ammonium and alkali metal salts dissolve readily in cold water to form viscous solutions. The property of forming viscous solutions varies with the origin and degree of purity of the alginates. Water-soluble alginates are used as thickeners, stabilisers, gelling and film-forming agents in, for example, the pharmaceutical, food, textile and paper industries.

These products may contain preservatives (e.g., sodium benzoate) and be standardised by the addition of gelling agents (e.g., calcium salts), retarders (e.g., phosphates, citrates), accelerators (e.g., organic acids), and regulators (e.g., sucrose, urea). Any such additions should not render the product particularly suitable for specific use rather than for general use.

Among the esters is propylene glycol alginate which is used in foodstuffs, etc.

(2) **Hardened proteins**

Proteins are nitrogenous compounds of very high molecular weight of vegetable or animal origin. They are suitable for processing into plastics. The heading covers only proteins which have been chemically processed to harden them. Only a few are of commercial importance.

Hardened proteins are generally in the form of blocks of regular shape, sheets, rods or tubes. In these forms they are **excluded** from this heading (generally **heading 39.16**, **39.17**, **39.20** or **39.21**).

(3) **Chemical derivatives of natural rubber**

Natural rubber, which is a high polymer, forms, on chemical treatment, certain substances having the characteristic of plasticity.

These include :

(a) **Chlorinated rubber**. This is usually produced in the form of small white granules. It is used in the preparation of paints and varnishes which after application form a film resistant to atmospheric and chemical deterioration.

(b) **Rubber hydrochloride**. Generally used in packaging, and, when plasticised, for protective clothing.

(c) **Oxidised rubber**, obtained by oxidising heated rubber in the presence of a catalyst. It is a resinous material used in certain types of varnishes.

(d) **Cyclised rubber**, obtained by treating rubber with, e.g., sulphuric, chlorosulphuric or chlorostannic acids. This gives a range of products of varying hardness, used as a basis in the preparation of paints, for waterproof coatings, and to some extent in the manufacture of moulded products.

(4) **Dextran, glycogen ("animal starch") and chitin and plastics produced from lignin**

This heading also includes isolated amylopectin and isolated amylose obtained by the fractionation of starch.

For the classification of polymers (including copolymers), chemically modified polymers and polymer blends, see the General Explanatory Note to this Chapter.

The heading **excludes** :

(a) Unmodified natural resins (**heading 13.01**).

(b) Etherified or esterified endosperm flour of locust beans or guar seeds (**heading 13.02**).

(c) Linoxyn (**heading 15.18**).

(d) Heparin (**heading 30.01**).

(e) Starch ethers and esters (**heading 35.05**).

(f) Rosin, resin acids and their derivatives (including ester gums and run gums) (**heading 38.06**).

3913.10

- Alginic acid, its salts and esters

3913.90

- Other

CLASSIFICATION OPINIONS

1. Polysaccharide, in the form of gum (xanthan gum), produced by the fermentation of glucose, sucrose, lactose or starch by the *Xanthomonas campestris* bacterium.
After a fermentation period, the polysaccharide is precipitated from a growth medium with isopropyl alcohol, dried, ground into a fine powder and added to a liquid medium to form the gum.
It is used as a food additive or rheology modifier, such as a food thickening agent or a stabiliser.
Application of GIRs 1 and 6.
Adoption : 2014

Heading 3914

Ion-exchangers based on polymers of headings 39.01 to 39.13, in primary forms.

EXPLANATORY NOTES

39.14 - Ion-exchangers based on polymers of headings 39.01 to 39.13, in primary forms.

Ion-exchangers of this heading are cross-linked polymers, generally in granular form, containing active ionic groups (usually sulphonic, carboxylic, phenolic or amino groups). These active ionic groups enable the polymers, when brought into contact with a solution of an electrolyte, to exchange one of their own types of ions for one of those (of the same sign, positive or negative) contained in the solution. These are used in water-softening, milk-softening, chromatography, for recovery of uranium from acid solutions and of streptomycin from broths and for various other industrial purposes.

The most common ion-exchangers are chemically modified styrene-divinylbenzene copolymers, acrylic polymers or phenolic resins.

This heading **does not cover** ion-exchange columns filled with ion-exchangers of this heading (**heading 39.26**).

3914.00

Ion-exchangers based on polymers of headings 39.01 to 39.13, in primary forms.

II.-

WASTE, PARINGS AND SCRAP; SEMI-MANUFACTURES; ARTICLES

EXPLANATORY NOTES

Sub-Chapter II

WASTE, PARINGS AND SCRAP; SEMI-MANUFACTURES; ARTICLES

Heading 3915

Waste, parings and scrap, of plastics.

EXPLANATORY NOTES

Sub-Chapter II

WASTE, PARINGS AND SCRAP; SEMI-MANUFACTURES; ARTICLES

39.15 - Waste, parings and scrap, of plastics.

3915.10 - Of polymers of ethylene

3915.20 - Of polymers of styrene

3915.30 - Of polymers of vinyl chloride

3915.90 - Of other plastics

The products of this heading may consist of broken or worn articles of plastics, clearly not usable for their original purposes, or of manufacturing waste (shavings, dust, trimmings, etc.). Some waste can be reused as moulding material, varnish base, fillers, etc.

The heading, however, **does not apply** to waste, parings and scrap of a single thermoplastic material, transformed into primary forms (**headings 39.01 to 39.14**).

Waste, parings and scrap of a single thermosetting material or of two or more thermoplastic materials mixed together, even if transformed into primary forms, are covered by the heading.

The heading **also excludes** waste, parings and scrap, of plastics, containing precious metal or precious metal compounds, of a kind used principally for the recovery of precious metal (**heading 71.12**).

3915.10

- Of polymers of ethylene

3915.20

- Of polymers of styrene

3915.30

- Of polymers of vinyl chloride

3915.90

- Of other plastics

Heading 3916

Monofilament of which any cross-sectional dimension exceeds 1 mm, rods, sticks and profile shapes, whether or not surface-worked but not otherwise worked, of plastics.

EXPLANATORY NOTES

39.16 - Monofilament of which any cross-sectional dimension exceeds 1 mm, rods, sticks and profile shapes, whether or not surface-worked but not otherwise worked, of plastics.

3916.10 - Of polymers of ethylene

3916.20 - Of polymers of vinyl chloride

3916.90 - Of other plastics

This heading covers monofilament of which any cross-sectional dimension exceeds 1 mm, rods, sticks, and profile shapes. These are obtained in the length in a single operation (generally extrusion), and they have a constant or repetitive cross-section, from one end to the other. Hollow profile shapes have a cross-section different from that of tubes, pipes and hoses of heading 39.17 (see Note 8 to this Chapter).

The heading also includes such products which have been merely cut to a length exceeding the maximum cross-sectional dimension or surface-worked (polished, matt-finished, etc.), but not otherwise worked. Profile shapes with an adhesive surface, used for sealing window frames, are classified in this heading.

Products which have been cut down to the point where the length does not exceed the maximum cross-sectional dimension, or which have been otherwise worked (drilled, milled, assembled by glueing or sewing, etc.) are **excluded** from this heading. They are classified as articles in **headings 39.18 to 39.26** unless they are more specifically covered by some other heading in the Nomenclature.

For the classification of monofilament, rods, sticks and profile shapes of plastics combined with other materials, see the General Explanatory Note to this Chapter.

3916.10

- Of polymers of ethylene

3916.20

- Of polymers of vinyl chloride

CLASSIFICATION OPINIONS

1. Tubular profile shapes of poly(vinyl chloride), incorporating a fillister groove and a watertight sealing strip, reinforced internally by a core consisting of a steel tube (of a kind used for weather-stripping window-, door-, partition-, etc., frames).
Adoption : 1959

3916.90

- Of other plastics

CLASSIFICATION OPINIONS

1. Refill Monofilament of ABS (Acrylonitrile-butadiene-styrene) manufactured for additive manufacturing machines (3D printers). It consists of two separate items, a filled thermoplastic monofilament spool and a chip and is presented with a desiccant pouch for moisture and an instruction sheet.
The refill contains 600 g of monofilament. It has a 1.75 mm diameter monofilament with various types of colours available and is presented in a cardboard box.
It is designed for the monofilament cartridge which supports certain 3D printers.
Application of GIRs 1, 3 (b) and 6.
Adoption : 2022

Heading 3917

Tubes, pipes and hoses, and fittings therefor (for example, joints, elbows, flanges), of plastics.

EXPLANATORY NOTES

39.17 - Tubes, pipes and hoses, and fittings therefor (for example, joints, elbows, flanges), of plastics.

3917.10 - Artificial guts (sausage casings) of hardened protein or of cellulosic materials

- Tubes, pipes and hoses, rigid :

3917.21 - - Of polymers of ethylene

3917.22 - - Of polymers of propylene

3917.23 - - Of polymers of vinyl chloride

3917.29 - - Of other plastics

- Other tubes, pipes and hoses :

3917.31 - - Flexible tubes, pipes and hoses, having a minimum burst pressure of 27.6 MPa

3917.32 - - Other, not reinforced or otherwise combined with other materials, without fittings

3917.33 - - Other, not reinforced or otherwise combined with other materials, with fittings

3917.39 - - Other

3917.40 - Fittings

According to Note 8 to the Chapter, the expression “tubes, pipes and hoses” means :

(i) hollow products, whether semi-manufactures or finished products, of a kind generally used for conveying, conducting or distributing gases or liquids (for example, ribbed garden hose, perforated tubes), provided that they have an internal cross-section which is round, oval, rectangular (in which the length does not exceed 1.5 times the width) or in the shape of a regular polygon; and

(ii) sausage casings (whether or not tied or otherwise further worked) and other lay-flat tubing.

This heading also includes fittings of plastics for tubes, pipes and hoses (for example, joints, elbows, flanges).

Tubes, pipes and hoses and fittings therefor may be rigid or flexible and may be reinforced or otherwise combined with other materials. (For the classification of tubes, pipes, etc., of plastics combined with other materials, see the General Explanatory Note to this Chapter.)

3917.10

- Artificial guts (sausage casings) of hardened protein or of cellulosic materials

CLASSIFICATION OPINIONS

1. Edible collagen casings for sausages. Flexible tubular casings, obtained by extruding collagen from hides of swine, bovine or other animals through an outlet slot with a closed geometric shape (curved, oval or annular), hardened by chemical or physical processes. The product is presented in corrugated tubes of variable lengths. **Application of GIRs 1 (Note 8 to Chapter 39) and 6.** *Adoption : 2022*



3917.2

- Tubes, pipes and hoses, rigid :

3917.21

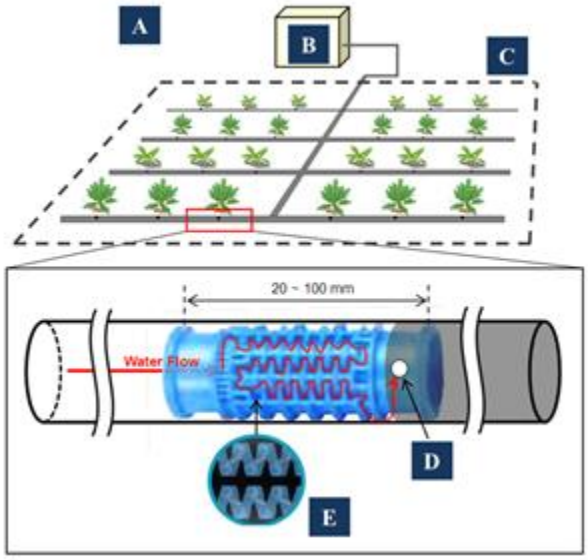
-- Of polymers of ethylene

CLASSIFICATION OPINIONS

Perforated tube of plastics (polyethylene), with a round internal cross section, with holes at specific intervals and equipped with built-in plastic drippers. The drippers have a special structure for pressure-compensation. The tube is specially designed and equipped to be used as a surface network in drip irrigation systems.
Application of GIRs 1 and 6.
Adoption : 2016

A Drip Irrigation System
B Control Station
C Surface Network
D Outlet Hole

E Cascade Labyrinth







3917.22

-- Of polymers of propylene

3917.23

-- Of polymers of vinyl chloride

3917.29

-- Of other plastics

3917.3

- Other tubes, pipes and hoses :

3917.31

-- Flexible tubes, pipes and hoses, having a minimum burst pressure of 27.6 MPa

3917.32

-- Other, not reinforced or otherwise combined with other materials, without fittings

3917.33

-- Other, not reinforced or otherwise combined with other materials, with fittings

3917.39

-- Other

3917.40

- Fittings

Heading 3918

Floor coverings of plastics, whether or not self-adhesive, in rolls or in the form of tiles; wall or ceiling coverings of plastics, as defined in Note 9 to this Chapter.

EXPLANATORY NOTES

39.18 - Floor coverings of plastics, whether or not self-adhesive, in rolls or in the form of tiles; wall or ceiling coverings of plastics, as defined in Note 9 to this Chapter.

3918.10 - Of polymers of vinyl chloride

3918.90 - Of other plastics

The first part of the heading covers plastics of the types normally used as floor coverings, in rolls or in the form of tiles. It should be noted that self-adhesive floor coverings are classified in this heading.

The second part of the heading, the scope of which is defined in Note 9 to this Chapter, covers wall or ceiling coverings of plastics, including those with a textile backing. Wallpaper or similar wall coverings of paper coated or covered with plastics are **excluded** (**heading 48.14**).

It should be noted that this heading includes articles printed with motifs, characters or pictorial representations, which are not merely subsidiary to the primary use of the goods (see Note 2 to Section VII).

3918.10

- Of polymers of vinyl chloride

3918.90

- Of other plastics

Heading 3919

Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics, whether or not in rolls.

EXPLANATORY NOTES

39.19 - Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics, whether or not in rolls.

3919.10 - In rolls of a width not exceeding 20 cm

3919.90 - Other

This heading covers all self-adhesive flat shapes of plastics, whether or not in rolls, **other than** floor, wall or ceiling coverings of **heading 39.18**. The heading is, however, limited to flat shapes which are pressure-sensitive, i.e., which at room temperature, without wetting or other addition, are permanently tacky (on one or both sides) and which firmly adhere to a variety of dissimilar surfaces upon mere contact, without the need for more than finger or hand pressure.

It should be noted that this heading includes articles printed with motifs, characters or pictorial representations, which are not merely subsidiary to the primary use of the goods (see Note 2 to Section VII).

3919.10

- In rolls of a width not exceeding 20 cm

CLASSIFICATION OPINIONS

1. **Self-adhesive strips** (105 cm x 27 mm x 1.8 mm) consisting of cellular plastics, combined with a single-coloured felt of synthetic textile fibres applied to one face of the strip, in which the felt is present merely for reinforcing purposes. These strips are bevelled, have tapered ends and an adhesive film on the textile side (1 cm wide) covered with protective paper. They are intended for covering tennis racket handles but are also suitable for improving the grip of tool handles, bicycle

handlebars, etc.
Adoption : 1996

2. Self-adhesive reflective sheeting, consisting of a film of plastics embedded or sprinkled on the surface with small glass balls (microspheres) and coated on one face with an adhesive protected by a sheet of paper to be removed immediately prior to use; for the manufacture of sign posts or panels, advertising media or ornamental motifs, etc.
Adoption :1963 + 1977

3919.90

- Other

CLASSIFICATION OPINIONS

1. Self-adhesive reflective sheeting, consisting of a film of plastics embedded or sprinkled on the surface with small glass balls (microspheres) and coated on one face with an adhesive protected by a sheet of paper to be removed immediately prior to use; for the manufacture of sign posts or panels, advertising media or ornamental motifs, etc.
Adoption :1963 + 1977

Heading 3920

Other plates, sheets, film, foil and strip, of plastics, non-cellular and not reinforced, laminated, supported or similarly combined with other materials.

EXPLANATORY NOTES

39.20 - Other plates, sheets, film, foil and strip, of plastics, non-cellular and not reinforced, laminated, supported or similarly combined with other materials (+).

3920.10 - Of polymers of ethylene

3920.20 - Of polymers of propylene

3920.30 - Of polymers of styrene

- Of polymers of vinyl chloride :

3920.43 - - Containing by weight not less than 6 % of plasticizers

3920.49 - - Other

- Of acrylic polymers :

3920.51 - - Of poly(methyl methacrylate)

3920.59 - - Other

- Of polycarbonates, alkyd resins, polyallyl esters or other polyesters :

3920.61 - - Of polycarbonates

3920.62 - - Of poly(ethylene terephthalate)

3920.63 - - Of unsaturated polyesters

3920.69 - - Of other polyesters

- Of cellulose or its chemical derivatives :

3920.71 - - Of regenerated cellulose

3920.73 - - Of cellulose acetate

3920.79 - - Of other cellulose derivatives

- Of other plastics :

3920.91 - - Of poly(vinyl butyral)

3920.92 - - Of polyamides

3920.93 - - Of amino-resins

3920.94 - - Of phenolic resins

3920.99 - - Of other plastics

This heading covers plates, sheets, film, foil and strip of plastics (which are **not** reinforced, laminated, supported or similarly combined with other materials), **other than** those of **heading 39.18** or **39.19**.

This heading also covers synthetic paper pulp consisting of sheets of non-coherent polyethylene or polypropylene fibres (fibrils) of an average length of about 1 mm and generally containing 50 % moisture.

This heading **does not cover** products which have been reinforced, laminated, supported or similarly combined with materials **other than plastics** (**heading 39.21**). For this purpose “similarly combined” must be combinations of plastics with materials, other than plastics, which enhance the strength of the plastic material (e.g., embedded metal mesh and woven glass fabric, as well as mineral fibres, whiskers and filaments).

However, products made out of plastics compounded with fillers in the form of powders, granules, spheres or flakes are classified in this heading. Further, minor surface treatments such as coloration, printing (subject to Note 2 to Section VII), vacuum deposition of metal are **not** to be regarded as reinforcements or similar combinations for the purposes of this heading.

This heading also **excludes** cellular products (**heading 39.21**) and strip of plastics, of an apparent width not exceeding 5 mm (**Chapter 54**).

According to Note 10 to this Chapter, the expression “plates, sheets, film, foil and strip” applies only to plates, sheets, film, foil and strip and to blocks of regular geometric shape, whether or not printed

or otherwise surface-worked (for example, polished, embossed, coloured, merely curved or corrugated), uncut or cut into rectangles (including squares) but not further worked (even if when so cut they become articles ready for use, for example, tablecloths).

Plates, sheets, etc., whether or not surface-worked (including squares and other rectangles cut therefrom), with ground edges, drilled, milled, hemmed, twisted, framed or otherwise worked or cut into shapes other than rectangular (including square) are generally classified as articles of **headings 39.18**, **39.19** or **39.22 to 39.26**.

°

° °

Subheading Explanatory Note.

Subheadings 3920.43 and 3920.49

Products of these subheadings are distinguished on the basis of their plasticiser content. For this purpose, primary plasticisers and secondary plasticisers must be taken together (see Subheading Note 2 to this Chapter).

Primary plasticisers are materials of low volatility which, when added to a polymer, generally cause an increase in its flexibility (e.g., phthalate esters, adipate esters, trimellitate esters, phosphate esters, sebacate esters, azelate esters).

Secondary plasticisers, also known as extenders, are seldom used alone as plasticisers. When present in combination with primary plasticisers, the primary plasticising action will be modified or enhanced. Secondary plasticisers also act as fire retardants, (e.g., chlorinated paraffins) or lubricants (e.g., epoxidised soybean oil, epoxidised linseed oil).

3920.10

- Of polymers of ethylene

3920.20

- Of polymers of propylene

3920.30

- Of polymers of styrene

3920.4

- Of polymers of vinyl chloride :

3920.43

-- Containing by weight not less than 6 % of plasticisers

3920.49

-- Other

3920.5

- Of acrylic polymers :

3920.51

-- Of poly(methyl methacrylate)

CLASSIFICATION OPINIONS

1. "Artificial marble", rectangular sheets (thickness 1.27 cm or 1.91 cm, width 63.5 cm or 76.2 cm, length 307.3 cm or 368.3 cm), consisting, mainly, of poly(methyl metha-crylate) (33 % by weight) and aluminium hydroxide (66 % by weight).
Adoption : 1982

3920.59

-- Other
3920.6

- Of polycarbonates, alkyd resins, polyallyl esters or other polyester :
3920.61

-- Of polycarbonates
3920.62

-- Of poly(ethylene terephthalate)
3920.63

-- Of unsaturated polyesters
3920.69

-- Of other polyesters
3920.7

- Of cellulose or its chemical derivatives :
3920.71

-- Of regenerated cellulose
3920.73

-- Of cellulose acetate
3920.79

-- Of other cellulose derivatives
3920.9

- Of other plastics :
3920.91

-- Of poly(vinyl butyral)
3920.92

-- Of polyamides
3920.93

-- Of amino-resins
3920.94

-- Of phenolic resins
3920.99

-- Of other plastics
CLASSIFICATION OPINIONS

1. Rectangular sheets of hardened casein, made by moulding in a press, clearly having the character of semi-products designed for transformation into other products (e.g., cutting- or stamping-out of button blanks), with slight bevel produced during moulding solely to facilitate removal from the mould.
Adoption : 1961

Heading 3921

Other plates, sheets, film, foil and strip, of plastics.

EXPLANATORY NOTES

39.21 - Other plates, sheets, film, foil and strip, of plastics.

- Cellular :

3921.11 - - Of polymers of styrene

3921.12 - - Of polymers of vinyl chloride

3921.13 - - Of polyurethanes

3921.14 - - Of regenerated cellulose

3921.19 - - Of other plastics

3921.90 - Other

This heading covers plates, sheets, film, foil and strip, of plastics, **other than** those of **heading 39.18, 39.19** or **39.20** or of **Chapter 54**. It therefore covers only cellular products or those which have been reinforced, laminated, supported or similarly combined with other materials. (For the classification of plates, etc. combined with other materials, see the General Explanatory Note.)

According to Note 10 to this Chapter, the expression “plates, sheets, film, foil and strip” applies only to plates, sheets, film, foil and strip and to blocks of regular geometric shape, whether or not printed or otherwise surface-worked (for example, polished, embossed, coloured, merely curved or corrugated), uncut or cut into rectangles (including squares) but not further worked (even if when so cut they become articles ready for use).

Plates, sheets, etc., whether or not surface-worked (including squares and other rectangles cut therefrom), with ground edges, drilled, milled, hemmed, twisted, framed or otherwise worked or cut into shapes other than rectangular (including square) are generally classified as articles of **headings 39.18**, **39.19** or **39.22 to 39.26**.

3921.1

- Cellular :

3921.11

-- Of polymers of styrene

3921.12

-- Of polymers of vinyl chloride

3921.13

-- Of polyurethane

3921.14

-- Of regenerated cellulose

3921.19

-- Of other plastics

3921.90

- Other

CLASSIFICATION OPINIONS

1. Transmission or conveyor belts or belting, consisting of a band (composed of one layer, or of a number of superimposed layers glued together) of plastics, covered on one or both faces with a band of chrome leather serving solely to increase the adhesion.
Adoption : 1962 + 1964

2. Sheets, consisting of paper heavily impregnated with melamine resin, which fracture on folding due to their brittle nature and which have lost the essential character of paper, used in the manufacture of laminates.
Adoption : 1986

3. Laminated product made of textile and plastics, consisting of two sheets of transparent polyethylene film that make up the two outer layers of the laminated product and one inner fabric layer or core.
The inner fabric layer consists of four plies of Ultra High Molecular Weight Polyethylene (UHMW-PE) fibre tapes cross-plied at right angles.
The product is put up in rolls and is used for the production of ballistic (bulletproof) vests.
Application of GIRs 1 (Note 1 (h) to Section XI) and 6.
Adoption : 2019

4. Trilaminated sheets, consisting of two outer layers of plastics and a middle layer of thin aluminium foil. Each layer has been fixed to the adjacent layer by adhesives. The plastics are non-cellular.
The sheets, presented in rolls, are used to manufacture flexible containers (sachets) for food, such as seasoning sauces.
One plastic layer is printed with images and information on the food, and the other plastic layer, in contact with the food, is transparent.
Application of GIRs 1 and 6.
Adoption : 2019

Heading 3922

Baths, shower-baths, sinks, wash-basins, bidets, lavatory pans, seats and covers, flushing cisterns and similar sanitary ware, of plastics.

EXPLANATORY NOTES

39.22 - Baths, shower-baths, sinks, wash-basins, bidets, lavatory pans, seats and covers, flushing cisterns and similar sanitary ware, of plastics.

3922.10 - Baths, shower-baths, sinks and wash-basins

3922.20 - Lavatory seats and covers

3922.90 - Other

This heading covers fittings designed to be permanently fixed in place, in houses, etc., normally by connection to the water or sewage systems. It also covers other sanitary ware of similar dimensions and uses, such as portable bidets, baby baths and camping toilets.

Flushing cisterns of plastics remain classified in this heading, whether or not equipped with their mechanisms.

However, the heading **excludes** :

(a) Small portable sanitary articles such as bed pans and chamber-pots (**heading 39.24**).

(b) Soap dishes, towel rails, tooth-brush holders, toilet paper holders, towel hooks and similar articles for bathrooms, toilets or kitchens; these articles fall in **heading 39.25** if intended for permanent installation in or on walls or other parts of buildings, otherwise in **heading 39.24**.

3922.10

- Baths, shower-baths, sinks and wash-basins

3922.20

- Lavatory seats and covers

3922.90

- Other

Heading 3923

Articles for the conveyance or packing of goods, of plastics; stoppers, lids, caps and other closures, of plastics.

EXPLANATORY NOTES

39.23 - Articles for the conveyance or packing of goods, of plastics; stoppers, lids, caps and other closures, of plastics.

3923.10 - Boxes, cases, crates and similar articles

- Sacks and bags (including cones) :

3923.21 - - Of polymers of ethylene

3923.29 - - Of other plastics

3923.30 - Carboys, bottles, flasks and similar articles

3923.40 - Spools, cops, bobbins and similar supports

3923.50 - Stoppers, lids, caps and other closures

3923.90 - Other

This heading covers all articles of plastics commonly used for the packing or conveyance of all kinds of products. The articles covered include :

(a) Containers such as boxes, cases, crates, sacks and bags (including cones and refuse sacks), casks, cans, carboys, bottles and flasks.

The heading also covers :

(i) Cups without handles having the character of containers used for the packing or conveyance of certain foodstuffs, whether or not they have a secondary use as tableware or toilet articles;

(ii) Bottle preforms of plastics being intermediate products having tubular shape, with one closed end and one open end threaded to secure a screw type closure, the portion below the threaded end being intended to be expanded to a desired size and shape.

(b) Spools, cops, bobbins and similar supports, including video or audio cassettes without magnetic tape.

(c) Stoppers, lids, caps and other closures.

The heading **excludes**, *inter alia*, household articles such as dustbins and mobile garbage bins (including those for outside use), and cups which are used as tableware or toilet articles and do not have the character of containers for the packing or conveyance of goods, whether or not sometimes used for such purposes (**heading 39.24**), containers of **heading 42.02** and flexible intermediate bulk containers of **heading 63.05**.

3923.10

- Boxes, cases, crates and similar articles

CLASSIFICATION OPINIONS

1. **Display container** consisting of a combination of a tray of plastics and a dome lid of plastics, used for the display, packing or transport of food. This type of container can come in a variety of shapes.
Application of GIRs 1 and 6.
Adoption : 2014



2. **Container**, of plastics, used for the display, packing or transport of food. It is closed along one edge and open on the other edges. This type of container can come in a variety of shapes.
Application of GIRs 1 and 6.
Adoption : 2014



3. **Box for chicken eggs**, of plastics. It is closed along one edge and open on the other three edges.
Application of GIRs 1 and 6.
Adoption : 2014



4. **Disposable plastic cosmetic container** made by injection moulding and intended for liquid colour cosmetics which are a mixture of oil with powder. Outer container: acrylonitrile-butadiene-styrene resin (ABS). Internal container: polypropylene (PP). A mirror is attached to the inside of the lid of the outer container.
Application of GIRs 1 and 6.
Adoption : 2018



3923.2

- Sacks and bags (including cones) :
3923.21

-- Of polymers of ethylene
3923.29

-- Of other plastics
3923.30

- Carboys, bottles, flasks and similar articles
3923.40

- Spools, cops, bobbins and similar supports

CLASSIFICATION OPINIONS

1. Video or audio cassettes without magnetic tape, in the form of a plastic box containing two plastic spools, placed side by side.
The box and the spools form a whole in which the spools are functional : the winding and unwinding of the recording tape are effected totally by the recorder mechanism and the spools. The box merely serves as a container.
Application of Note 1 (c) to Section XVI.
Adoption : 1994

3923.50

- Stoppers, lids, caps and other closures

3923.90

- Other

CLASSIFICATION OPINIONS

1. Tubular containers with caps, made of plastics, of different lengths, diameters, colours and capacities, with one open end threaded and secured with a screw type cap and the other end also open but intended to be sealed with clamps, using a thermal process, after the containers are filled with the intended products. These containers are commonly used for packing cosmetic preparations for retail sale. Their outer surfaces present printed information about the products with which they will be filled, such as their brand names, ingredients, properties, licenses, etc.
Application of GIRs 1 and 6.
Adoption : 2009



2. Tray, of plastics, with compartments to hold items fast. The article is without a lid and used for packing, e.g., of hard disk drives or electronic components.
Application of GIRs 1 and 6.
Adoption : 2014



3. Tray, of plastics, without a lid, used for the packing of food. **Application of GIRs 1 and 6.** *Adoption : 2014*



Heading 3924

Tableware, kitchenware, other household articles and hygienic or toilet articles, of plastics.

EXPLANATORY NOTES

39.24 - Tableware, kitchenware, other household articles and hygienic or toilet articles, of plastics.

3924.10 - Tableware and kitchenware

3924.90 - Other

This heading covers the following articles of plastics :

(A) Tableware such as tea or coffee services, plates, soup tureens, salad bowls, dishes and trays of all kinds, coffee-pots, teapots, sugar bowls, beer mugs, cups, sauce-boats, fruit bowls, cruets, salt cellars, mustard pots, egg-cups, teapot stands, table mats, knife rests, serviette rings, knives, forks and spoons.

(B) Kitchenware such as basins, jelly moulds, kitchen jugs, storage jars, bins and boxes (tea caddies, bread bins, etc.), funnels, ladles, kitchen-type capacity measures and rolling-pins.

(C) Other household articles such as ash trays, hot water bottles, matchbox holders, dustbins and mobile garbage bins (including those for outside use), buckets, watering cans, food storage containers, curtains, drapes, table covers and fitted furniture dust covers (slipovers).

(D) Hygienic and toilet articles (whether for domestic or non-domestic use) such as toilet sets (ewers, bowls, etc.), sanitary pails, bed pans, urinals, chamber-pots, spittoons, douche cans, eye baths; teats for baby bottles (nursing nipples) and finger-stalls; soap dishes, towel rails, tooth-brush holders, toilet paper holders, towel hooks and similar articles for bathrooms, toilets or kitchens, not intended for permanent installation in or on walls. However, such articles intended for permanent installation in or on walls or other parts of buildings (e.g., by screws, nails, bolts or adhesives) are **excluded** (**heading 39.25**).

*

* *

The heading also covers cups (without handles) for table or toilet use, not having the character of containers for the packing or conveyance of goods, whether or not sometimes used for such purposes. It **excludes**, however, cups without handles having the character of containers used for the packing or conveyance of goods (**heading 39.23**).

3924.10

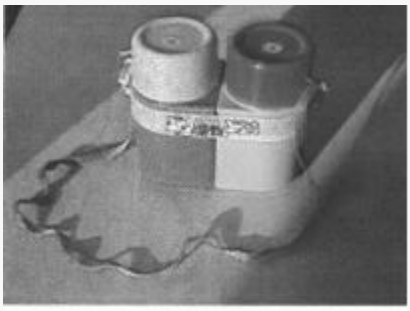
- Tableware and kitchenware

3924.90

- Other

CLASSIFICATION OPINIONS

1. Article of plastics consisting of two bottles, fitted with screw-top closures, detachable drinking cups which can be screwed on, flexible tubes or straws and a carrying ring fitted with a strap and designed to keep the two bottles together. The article is intended to carry beverages. *Adoption : 1999*



2. Drinking bottles of plastics, designed for insertion into a bottle clip on bicycles. They are fitted with screw-top closures, generally have a round base, and a capacity of between 600 and 750 ml. They may be double-layered with foil blanket-style insulating material in the air cavity which can maintain the temperature of the content during a certain period of time. Some bottles have a concave shape in order to facilitate their grip. **Application of GIRs 1 and 6.** *See also Opinions 3924.90/3 and 3924.90/4. Adoption : 2013*



3. Drinking bottle of plastics, having a dual chamber, fitted with screw-top closures, flexible tubes or straws and specially designed to be used on a bicycle. The main chamber has a capacity of 1,100 ml. The smaller inner chamber has a capacity of 470 ml and is removable for cleaning or freezing.

Application of GIRs 1 and 6.
See also Opinions 3924.90/2 and 3924.90/4.
Adoption : 2013



4. Container of plastics, of a triangular prism shape, having a capacity of 1,200 ml, fitted with a screw-top closure and a flexible tube or a straw for drinking, specially designed to be used on a bicycle. A mounting kit (not presented) is required to fit the drinking container on a bicycle.
Application of GIRs 1 and 6.
See also Opinions 3924.90/2 and 3924.90/3.
Adoption : 2013



5. Waste collection bin made entirely of plastics, in the form of a bucket with a capacity of 6.5 litres. It has a lid with an opening lined with strips through which the waste is thrown, and a handle. This article is intended for the collection of sharp hospital waste (needles, scalpels, etc.).
Application of GIRs 1 and 6.
Adoption : 2016

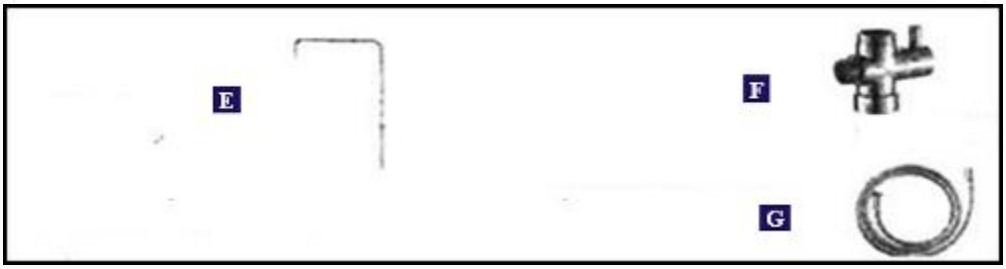


6. Shower set (pipes, hand shower, shower head, round soap support, washer with filter, chromed hose, water divert and all the parts needed for the functioning of the shower) put up together in the

same packaging for retail sale. Some of these parts are made of plastics and others are made of metal. The plastic shower head imparts the essential character to the set. **Application of GIRs 1, 3 (b) and 6.** *Adoption : 2017*

Parts made of plastics :**A** Hand shower**B** Round soap dish**C** Shower head**D** SliderParts made of metal :**E** Bar (pipe)**F** Water diverter (*which diverts water between the hand shower and the shower head*)**G** Chromed hose (Tube of plastics coated with metal to strengthen)





7. Mobile garbage bins made of plastics for the temporary storage of garbage, rubbish and waste. The bins are constructed of high-density polyethylene (HDPE) with a lid, a handle, two wheels on a metal axle and a capacity of 120 or 240 litres. They are designed for outside use for storage of waste until collection for transportation to waste disposal or recycling facilities. **Application of GIRs 1 and 6.** *See also Opinion 7323.99/1.* *Adoption : 2019*



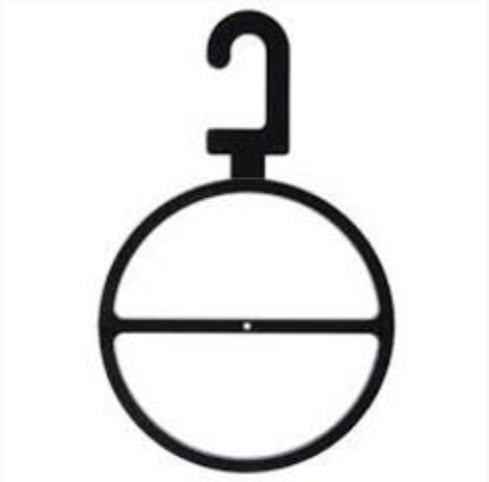
8. Plastic clothes hangers, used to hang clothes in households as well as commercial environments. **Application of GIRs 1 and 6** *Adoption : 2022*





9. Plastic clothes hangers, of a kind used for the retail display of items such as socks, underpants and brassieres and other items that are not commonly hung in households. **Application of GIRs 1 and 6.** *Adoption : 2022*





Heading 3925

Builders' ware of plastics, not elsewhere specified or included.

EXPLANATORY NOTES

39.25 - Builders' ware of plastics, not elsewhere specified or included (+).

3925.10 - Reservoirs, tanks, vats and similar containers, of a capacity exceeding 300 l

3925.20 - Doors, windows and their frames and thresholds for doors

3925.30 - Shutters, blinds (including Venetian blinds) and similar articles and parts thereof

3925.90 - Other

This heading applies only to the articles mentioned in Note 11 to this Chapter.

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Subheading Explanatory Note.

Subheading 3925.20

Subheading 3925.20 covers doors which are hinged or sliding barriers of the type used for closing the entrance of buildings, rooms, etc. It **does not cover** barriers for closing the entrance of fields, gardens, courtyards, etc. (which are called “gates”) (**subheading 3925.90**).

3925.10

- Reservoirs, tanks, vats and similar containers, of a capacity exceeding 300 l

3925.20

- Doors, windows and their frames and thresholds for doors

3925.30

- Shutters, blinds (including Venetian blinds) and similar articles and parts thereof

3925.90

- Other

Heading 3926

Other articles of plastics and articles of other materials of headings 39.01 to 39.14.

EXPLANATORY NOTES

39.26 - Other articles of plastics and articles of other materials of headings 39.01 to 39.14.

3926.10 - Office or school supplies

3926.20 - Articles of apparel and clothing accessories (including gloves, mittens and mitts)

3926.30 - Fittings for furniture, coachwork or the like

3926.40 - Statuettes and other ornamental articles

3926.90 - Other

This heading covers articles, not elsewhere specified or included, of plastics (as defined in Note 1 to the Chapter) or of other materials of headings 39.01 to 39.14.

They include :

(1) Articles of apparel and clothing accessories (**other than** toys) made by sewing or sealing sheets of plastics, e.g., aprons, belts, babies’ bibs, raincoats, dress-shields, etc. Detachable plastic hoods remain classified in this heading if presented with the plastic raincoats to which they belong.

(2) Fittings for furniture, coachwork or the like.

(3) Statuettes and other ornamental articles.

(4) Dust-sheets, protective bags, awnings, file-covers, document-jackets, book covers and reading jackets, and similar protective goods made by sewing or glueing together sheets of plastics.

(5) Paperweights, paper-knives, blotting-pads, pen-rests, bookmarks, etc.

(6) Screws, bolts, washers and similar fittings of general use.

(7) Transmission, conveyor or elevator belts, endless, or cut to length and joined end to end, or fitted with fasteners.

Transmission, conveyor or elevator belts or belting of any kind, presented with the machines or apparatus for which they are designed, whether or not actually mounted, are classified with that machine or apparatus (e.g., **Section XVI**). In addition, this heading **does not cover** transmission or conveyor belts or belting, of textile material, impregnated, coated, covered or laminated with plastics (**Section XI,** e.g., **heading 59.10).**

(8) Ion-exchange columns filled with polymers of heading 39.14.

(9) Plastic containers filled with carboxymethylcellulose (used as ice-bags).

(10) Tool boxes or cases, not specially shaped or internally fitted to contain particular tools with or without their accessories (see the Explanatory Note to heading 42.02).

(11) Pacifiers (or "baby's dummies"); ice-bags; douche bags, enema bags, and fittings therefor; invalid and similar nursing cushions; pessaries; sheath contraceptives (prophylactics); bulbs for syringes.

(12) Various other articles such as fasteners for handbags, corners for suit-cases, suspension hooks, protective cups and glides for placing under furniture, handles (of tools, knives, forks, etc.), beads, watch "glasses", figures and letters, luggage label-holders.

(13) Artificial fingernails.

The heading **excludes** household articles such as dustbins and mobile garbage bins (including those for outside use).

3926.10

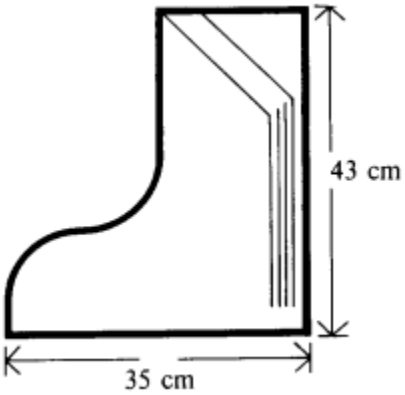
- Office or school supplies

3926.20

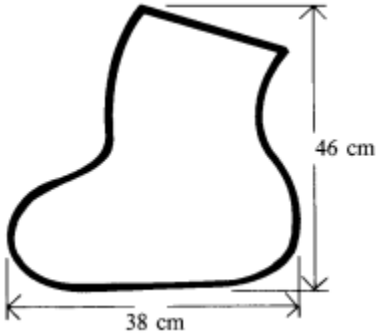
- Articles of apparel and clothing accessories (including gloves, mittens and mitts)

CLASSIFICATION OPINIONS

1. **Protective covering** made of a single sheet of coloured, printed plastics which is folded in half and then bonded along two edges to form a cover for the lower part of the leg. This article is intended to be worn over normal footwear on wet or muddy ground, for example. *Adoption : 1986*



2. Protective covering made of two equal-sized transparent sheets of plastics, cut more or less in the shape of a foot and bonded together to leave an opening in the top through which the foot (including footwear) can be slipped.
Adoption : 1986



3926.30

- Fittings for furniture, coachwork or the like

3926.40

- Statuettes and other ornamental articles

3926.90

- Other

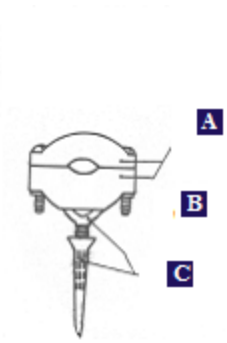
CLASSIFICATION OPINIONS

1. Transmission or conveyor belts or belting, consisting of a band (composed of one layer, or of a number of superimposed layers glued together) of plastics, covered on one or both faces with a band of chrome leather serving solely to increase the adhesion.
Adoption : 1962 + 1964

1. Extruded netting of plastics, tubular or flat.
Adoption : 1961

2. Cable clamps for supporting insulated electrical conductors, comprising a collar of plastics and a metal fixing spike.
Adoption : 1961

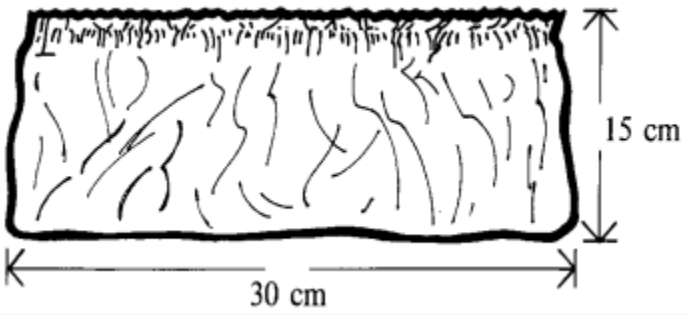
A Plastic material**B** Collar-type cable clamp**C** Metal spike



3. Triangular sign plates for reflectors, of red plastics, unmounted, with pyramidshaped bosses to improve their reflecting properties. *See also Opinion 8716.90/1.*
Adoption : 1965

4. Knobs, general purpose, of plastics, equally suitable for use on radio or television apparatus or recorders of Section XVI or on measuring instruments, etc., of Section XVIII.
Adoption : 1977

5. Protective covering consisting of a single rectangular piece of plastics folded in half and bonded together at the sides. The opening in the top is fitted with tight elastic. This product takes the form of a stretchable envelope which can be worn over footwear.
Adoption : 1986

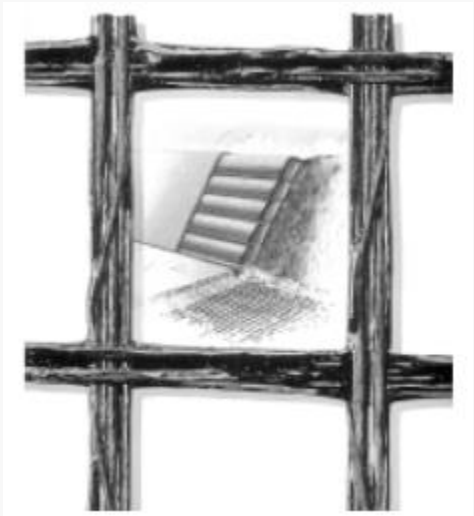


6. Ring-binder, (3cm x 13cm x 19cm in size), made of plastic sheeting and reinforced with an inner layer of paperboard (except for the spine), fastened by a loop and snap fastener and having, on the inside, pockets for holding currency, cards and the like and a plastic loop for holding a pen.
Adoption : 1993



7. Non-self-adhesive strips (105cm x 27mm x 0.7mm) consisting of cellular plastics, combined with a single-coloured nonwoven of synthetic textile fibres applied to one face of the strip, in which the nonwoven is present merely for reinforcing purposes. These strips have tapered ends and are intended for covering tennis racket handles but are also suitable for improving the grip of tool handles, bicycle handlebars, etc.
Adoption :1996

8. Flexible reinforcement grid, in rolls, made of high-strength polyester fibres (or yarns) woven and covered on all sides with a protective layer of poly(vinyl chloride) visible to the naked eye, used to reinforce earth fill structures. Each element of the grid takes the form of a narrow fabric made of parallel yarns, with the "weft" inserted at right angles between the yarns of the "warp", forming mesh openings measuring 35 x 40 mm. The polymer coating bonds (reinforces) the grid's elements and protects the yarn from UV and mechanical damage. **Application of GIRs 1 and 6.**
Adoption :2002



9. A photo album (dimensions : approximately 14 cm x 17.5 cm x 8 cm) having a back cover made of fibreboard covered with imitation suede, and a front cover consisting of a wooden photo frame with a glass protective shield, glued onto paperboard, which is also covered with imitation suede. The inside of the front cover has an opening to enable the user to insert a photograph into the photo frame. The album contains 50 plastic sleeves for photos. These sleeves are fixed to the back of the album by two screws of plastics, which also hold the front cover.

Application of GIR 3 (b).
Adoption : 2005




10. A photo album (dimensions : approximately 16 cm x 18.5 cm x 6.5 cm) having a back cover made of fibreboard covered with imitation suede, and a front cover consisting of a metal photo frame with a glass protective shield, glued onto paperboard, which is also covered with imitation suede. The inside of the front cover has an opening to enable the user to insert a photograph into the photo frame. The album contains 50 plastic sleeves for photos. These sleeves are fixed to the back of the album by two screws of plastics, which also hold the front cover.
Application of GIR 3 (b).
Adoption : 2005





11. Sterile, graduated urinary drainage bag made of plastics, used for collection, measurement and direct sampling of urine output through an indwelling catheter. The bag is opaque white on one side and transparent on the other with a graduated fluid scale printed on it. It is fitted with drainage tubing, catheter adapter, valve/port for taking urine samples and a hook for attachment to a bed or mobile holder.
Application of GIRs 1 and 6.
Adoption : 2006



12. Sterile, graduated urinary drainage meter made of plastics, used for collection, measurement and direct sampling of urine output through an indwelling catheter. The meter comprises a sterile bag and a rigid plastic collection compartment. The bag is opaque white on one side and transparent on the other with a graduated fluid scale printed on it. The transparent rigid compartment has a separate meter scale printed on it. The article is fitted with drainage tubing connected directly to the rigid compartment, catheter adapter, valve/port for taking urine samples and a hook for attachment to a bed or mobile holder. **Application of GIRs 1 and 6.** *Adoption : 2006*



13. Artificial fingernails of plastics, also known as "false nails", of varying or identical sizes, put up in sets and designed to be applied directly onto the natural nail using an adhesive, then trimmed and shaped into the appropriate form. They may be natural in appearance or decorated and may remain in place for approximately 7 to 10 days before being removed. **Application of GIRs 1 and 6.** *Adoption : 2016*



14. Dual-use paddle for kayaks and Stand Up Paddleboards (SUP), consisting of 3 pieces made of plastics: two break-apart paddles and one handle. It may be used with a single blade to paddle an SUP and may be converted into a paddle with two blades and used to paddle a kayak. **Application of GIRs 1 and 6.** *Adoption : 2018*



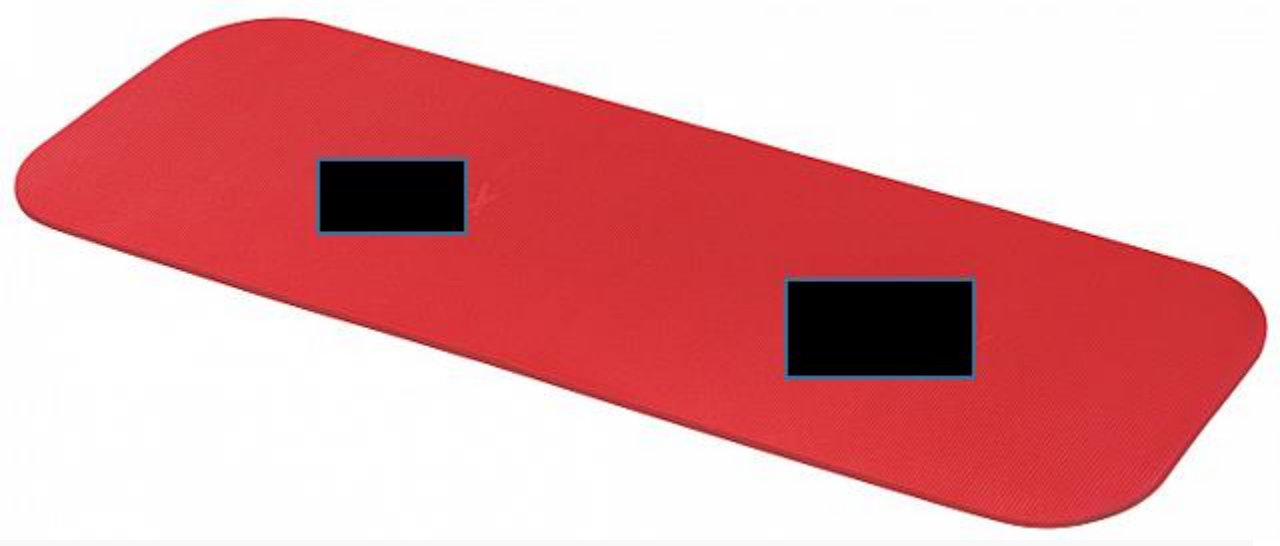
15. Garbage containers used by local authorities to enable towns, cities and neighbourhoods to bring household waste from such areas together before it is collected by municipal garbage trucks. Their technical specifications are as follows:

– UV-stabilized high-density polyethylene (HDPE).
– Frontal or lateral gripping with kit.
– 160 mm diameter wheels with flexible rubber tyre.
– Drain plug.
– Dimensions (mm): H. 1165 x W. 1265 x D. 775.
– Weight: 38 kg
– load capacity 250 kg.
– Conform to Standards EN 840-1, 5 and 6.
– Optional: lateral gripping kit
– reinforced spring coupling.



Application of GIRs 1 and 6.
See also Opinions 3924.90/7 and 7323.99/1
Adoption : 2021

16. Floor mat, rollable, rectangular with rounded edges (dimensions in cm (length x width x thickness) : 185 x 60 x 1.5), made from closed cell or cellular plastic.
The product is used indoors and outdoors, during sports activities such as fitness training, aerobics, gymnastics, pilates and yoga.
Application of GIRs 1 and 6.
Adoption : 2022



Chapter 40

Rubber and articles thereof

LEGAL NOTES

Notes.

1.- Except where the context otherwise requires, throughout the Nomenclature the expression “rubber” means the following products, whether or not vulcanised or hard : natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, synthetic rubber, factice derived from oils, and such substances reclaimed.

2.- This Chapter does not cover :

(a) Goods of Section XI (textiles and textile articles);

(b) Footwear or parts thereof of Chapter 64;

(c) Headgear or parts thereof (including bathing caps) of Chapter 65;

(d) Mechanical or electrical appliances or parts thereof of Section XVI (including electrical goods of all kinds), of hard rubber;

(e) Articles of Chapter 90, 92, 94 or 96; or

(f) Articles of Chapter 95 (other than sports gloves, mittens and mitts and articles of headings 40.11 to 40.13).

3.- In headings 40.01 to 40.03 and 40.05, the expression “primary forms” applies only to the following forms :

(a) Liquids and pastes (including latex, whether or not pre-vulcanised, and other dispersions and solutions);

(b) Blocks of irregular shape, lumps, bales, powders, granules, crumbs and similar bulk forms.

4.- In Note 1 to this Chapter and in heading 40.02, the expression “synthetic rubber” applies to :

(a) Unsaturated synthetic substances which can be irreversibly transformed by vulcanisation with sulphur into non-thermoplastic substances which, at a temperature between 18 °C and 29 °C, will not break on being extended to three times their original length and will return, after being extended to twice their original length, within a period of five minutes, to a length not greater than one and a half times their original length. For the purposes of this test, substances necessary for the cross-linking, such as vulcanising activators or accelerators, may be added; the presence of substances as provided for by Note 5 (B) (ii) and (iii) is also permitted. However, the presence of any substances not necessary for the cross-linking, such as extenders, plasticisers and fillers, is not permitted;

(b) Thioplasts (TM); and

(c) Natural rubber modified by grafting or mixing with plastics, depolymerised natural rubber, mixtures of unsaturated synthetic substances with saturated synthetic high polymers provided that all the above-mentioned products comply with the requirements concerning vulcanisation, elongation and recovery in (a) above.

5.- (A)Headings 40.01 and 40.02 do not apply to any rubber or mixture of rubbers which has been compounded, before or after coagulation, with :

(i) vulcanising agents, accelerators, retarders or activators (other than those added for the preparation of pre-vulcanised rubber latex);

(ii) pigments or other colouring matter, other than those added solely for the purpose of identification;

(iii) plasticisers or extenders (except mineral oil in the case of oil-extended rubber), fillers, reinforcing agents, organic solvents or any other substances, except those permitted under (B);

(B) The presence of the following substances in any rubber or mixture of rubbers shall not affect its classification in heading 40.01 or 40.02, as the case may be, provided that such rubber or mixture of rubbers retains its essential character as a raw material :

(i) emulsifiers or anti-tack agents;

(ii) small amounts of breakdown products of emulsifiers;

(iii) very small amounts of the following : heat-sensitive agents (generally for obtaining thermosensitive rubber latexes), cationic surface-active agents (generally for obtaining electropositive rubber latexes), antioxidants, coagulants, crumbling agents, freeze-resisting agents, peptisers, preservatives, stabilisers, viscosity-control agents, or similar special-purpose additives.

6.- For the purposes of heading 40.04, the expression “waste, parings and scrap” means rubber waste, parings and scrap from the manufacture or working of rubber and rubber goods definitely not usable as such because of cutting-up, wear or other reasons.

7.- Thread wholly of vulcanised rubber, of which any cross-sectional dimension exceeds 5 mm, is to be classified as strip, rods or profile shapes, of heading 40.08.

8.- Heading 40.10 includes conveyor or transmission belts or belting of textile fabric impregnated, coated, covered or laminated with rubber or made from textile yarn or cord impregnated, coated, covered or sheathed with rubber.

9.- In headings 40.01, 40.02, 40.03, 40.05 and 40.08, the expressions “plates”, “sheets” and “strip” apply only to plates, sheets and strip and to blocks of regular geometric shape, uncut or simply cut to rectangular (including square) shape, whether or not having the character of articles and whether or not printed or otherwise surface-worked, but not otherwise cut to shape or further worked.

In heading 40.08 the expressions “rods” and “profile shapes” apply only to such products, whether or not cut to length or surface-worked but not otherwise worked.

EXPLANATORY NOTES

Chapter 40

Rubber and articles thereof

Notes.

1.- Except where the context otherwise requires, throughout the Nomenclature the expression “rubber” means the following products, whether or not vulcanised or hard : natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, synthetic rubber, factice derived from oils, and such substances reclaimed.

2.- This Chapter does not cover :

(a) Goods of Section XI (textiles and textile articles);

(b) Footwear or parts thereof of Chapter 64;

(c) Headgear or parts thereof (including bathing caps) of Chapter 65;

(d) Mechanical or electrical appliances or parts thereof of Section XVI (including electrical goods of all kinds), of hard rubber;

(e) Articles of Chapter 90, 92, 94 or 96; or

(f) Articles of Chapter 95 (other than sports gloves, mittens and mitts and articles of headings 40.11 to 40.13).

3.- In headings 40.01 to 40.03 and 40.05, the expression “primary forms” applies only to the following forms :

(a) Liquids and pastes (including latex, whether or not pre-vulcanised, and other dispersions and solutions);

(b) Blocks of irregular shape, lumps, bales, powders, granules, crumbs and similar bulk forms.

4.- In Note 1 to this Chapter and in heading 40.02, the expression “synthetic rubber” applies to :

(a) Unsaturated synthetic substances which can be irreversibly transformed by vulcanisation with sulphur into non-thermoplastic substances which, at a temperature between 18 °C and 29 °C, will not break on being extended to three times their original length and will return, after being extended to twice their original length, within a period of five minutes, to a length not greater than one and a half times their original length. For the purposes of this test, substances necessary for the cross-linking, such as vulcanising activators or accelerators, may be added; the presence of substances as provided for by Note 5 (B) (ii) and (iii) is also permitted. However, the presence of

any substances not necessary for the cross-linking, such as extenders, plasticisers and fillers, is not permitted;

(b) Thioplasts (TM); and

(c) Natural rubber modified by grafting or mixing with plastics, depolymerised natural rubber, mixtures of unsaturated synthetic substances with saturated synthetic high polymers provided that all the above-mentioned products comply with the requirements concerning vulcanisation, elongation and recovery in (a) above.

5.- (A)Headings 40.01 and 40.02 do not apply to any rubber or mixture of rubbers which has been compounded, before or after coagulation, with :

(i) vulcanising agents, accelerators, retarders or activators (other than those added for the preparation of pre-vulcanised rubber latex);

(ii) pigments or other colouring matter, other than those added solely for the purpose of identification;

(iii) plasticisers or extenders (except mineral oil in the case of oil-extended rubber), fillers, reinforcing agents, organic solvents or any other substances, except those permitted under (B);

(B) The presence of the following substances in any rubber or mixture of rubbers shall not affect its classification in heading 40.01 or 40.02, as the case may be, provided that such rubber or mixture of rubbers retains its essential character as a raw material :

(i) emulsifiers or anti-tack agents;

(ii) small amounts of breakdown products of emulsifiers;

(iii) very small amounts of the following : heat-sensitive agents (generally for obtaining thermosensitive rubber latexes), cationic surface-active agents (generally for obtaining electropositive rubber latexes), antioxidants, coagulants, crumbling agents, freeze-resisting agents, peptisers, preservatives, stabilisers, viscosity-control agents, or similar special-purpose additives.

6.- For the purposes of heading 40.04, the expression “waste, parings and scrap” means rubber waste, parings and scrap from the manufacture or working of rubber and rubber goods definitely not usable as such because of cutting-up, wear or other reasons.

7.- Thread wholly of vulcanised rubber, of which any cross-sectional dimension exceeds 5 mm, is to be classified as strip, rods or profile shapes, of heading 40.08.

8.- Heading 40.10 includes conveyor or transmission belts or belting of textile fabric impregnated, coated, covered or laminated with rubber or made from textile yarn or cord impregnated, coated, covered or sheathed with rubber.

9.- In headings 40.01, 40.02, 40.03, 40.05 and 40.08, the expressions “plates”, “sheets” and “strip” apply only to plates, sheets and strip and to blocks of regular geometric shape, uncut or simply cut

to rectangular (including square) shape, whether or not having the character of articles and whether or not printed or otherwise surface-worked, but not otherwise cut to shape or further worked.

In heading 40.08 the expressions “rods” and “profile shapes” apply only to such products, whether or not cut to length or surface-worked but not otherwise worked.

GENERAL

Definition of rubber

The expression “rubber” is defined in Note 1 to this Chapter. Where this expression is used without qualification in this and other Chapters of the Nomenclature, it means the following products :

(1) **Natural rubber, balata, gutta-percha, guayule, chicle and similar** (i.e., rubber-like) **natural gums** (see the Explanatory Note to heading 40.01).

(2) **Synthetic rubber** as defined in Note 4 to this Chapter. For the purpose of the test required by Note 4, a sample of the unsaturated synthetic substance or a substance of a kind specified in Note 4 (c) (in the condition of unvulcanised raw material) is to be vulcanised with sulphur and then subjected to the elongation and recovery test (see the Explanatory Note to heading 40.02). Accordingly, in the case of substances containing materials not permitted by Note 4, such as mineral oil, the test is to be carried out on a sample which does not contain such materials or from which such materials have been removed. In the case of vulcanised rubber articles, which cannot be tested as such, it is necessary to obtain a sample of the unvulcanised raw material from which the articles are made, in order to perform the test. No test is, however, required for thioplasts which are regarded as synthetic rubber by definition.

(3) **Factice derived from oils** (see the Explanatory Note to heading 40.02).

(4) **Reclaimed rubber** (see the Explanatory Note to heading 40.03).

The expression “rubber” covers the foregoing products whether unvulcanised, vulcanised or hard.

The term “vulcanised” refers in general to rubber (including synthetic rubber) which has been cross-linked with sulphur or any other vulcanising agent (such as, sulphur chloride, certain oxides of polyvalent metals, selenium, tellurium, thiuram di- and tetrasulphides, certain organic peroxides and certain synthetic polymers), whether or not using heat or pressure, or by high energy, radiation so that it passes from a mainly plastic state to a mainly elastic one. It should be noted that the criterion concerning vulcanisation with sulphur is relevant only for the purposes of Note 4, i.e., for determining whether a substance is synthetic rubber or not. Once a substance has been determined to be synthetic rubber, products made therefrom are considered as vulcanised rubber products for the purpose of headings 40.07 to 40.17, whether they have been vulcanised with sulphur or with some other vulcanising agent.

For the purpose of vulcanisation, in addition to vulcanising agents, certain other substances are also normally added, such as accelerators, activators, retarders, plasticisers, extenders, fillers, reinforcing agents or any of the additives mentioned in Note 5 (B) to this Chapter. Such vulcanisable mixtures are regarded as compounded rubber and are classified in heading 40.05 or 40.06 depending upon the form in which they are presented.

Hard rubber, (for example, ebonite) is obtained by vulcanising rubber with a high proportion of sulphur to the point where it becomes practically inflexible and inelastic.

Scope of the Chapter

This Chapter covers rubber, as defined above, in the raw or semi-manufactured states, whether or not vulcanised or hard, and articles wholly of rubber or whose essential character derives from rubber, other than products excluded by Note 2 to this Chapter.

The general arrangement of the headings is as follows :

(a) Subject to Note 5, headings 40.01 and 40.02 essentially cover raw rubber in primary forms or in plates, sheets or strip.

(b) Headings 40.03 and 40.04 cover reclaimed rubber in primary forms or in plates, sheets or strip, and waste, parings and scrap of rubber (other than hard rubber) and powders and granules obtained therefrom.

(c) Heading 40.05 covers compounded rubber, unvulcanised, in primary forms or in plates, sheets or strip.

(d) Heading 40.06 covers other forms and articles of unvulcanised rubber, whether or not compounded.

(e) Headings 40.07 to 40.16 cover semi-manufactures and articles of vulcanised rubber other than hard rubber.

(f) Heading 40.17 covers hard rubber, in all forms, including waste and scrap and articles of hard rubber.

Primary forms (headings 40.01 to 40.03 and 40.05)

The expression “primary forms” is defined in Note 3 to this Chapter. It should be noted that pre-vulcanised latex is specifically included in the definition of “primary forms” and is therefore to be regarded as unvulcanised. Since headings 40.01 and 40.02 do not cover rubber or mixtures of rubbers to which an organic solvent has been added (see Note 5), the expression “other dispersions and solutions” in Note 3 applies to heading 40.05 only.

Plates, sheets and strip (headings 40.01, 40.02, 40.03, 40.05 and 40.08)

These expressions are defined in Note 9 to this Chapter and include blocks of regular geometric shape. Plates, sheets and strip may be surface-worked (printed, embossed, grooved, channelled, ribbed, etc.) or simply cut to rectangular (including square) shape, whether or not having the character of articles, but may not be otherwise cut to shape or further worked.

Cellular rubber

Cellular rubber is rubber having many cells (either open, closed, or both), dispersed throughout its mass. It includes sponge or foam rubber, expanded rubber and microporous or microcellular rubber. It may be either flexible or rigid (e.g., ebonite sponge).

Note 5

Note 5 to this Chapter provides criteria to distinguish rubber or mixtures of rubber in primary forms, plates, sheets or strip, which have not been compounded (headings 40.01 and 40.02) from those which have been compounded (heading 40.05). This Note does not make any distinction on the basis of whether compounding has been done before or after coagulation. It, however, permits the presence of certain substances in the rubber or mixtures of rubbers of headings 40.01 and 40.02 provided that the rubber or mixture of rubbers retains its essential character as a raw material. Such substances include mineral oil, emulsifiers or anti-tack agents, small amounts (generally not exceeding 5 %) of breakdown products of emulsifiers and very small amounts (generally less than 2 %) of special purpose additives.

Rubber and textile combinations

The classification of rubber and textile combinations is essentially governed by Note 1 (ij) to Section XI, Note 3 to Chapter 56 and Note 5 to Chapter 59, and as regards conveyor or transmission belts or belting by Note 8 to Chapter 40 and Note 7 (b) to Chapter 59. The following products are covered by this Chapter :

(a) Felt impregnated, coated, covered or laminated with rubber, containing 50 % or less by weight of textile material, and felt completely embedded in rubber;

(b) Nonwovens, either completely embedded in rubber or entirely coated or covered on both sides with such material, provided that such coating or covering can be seen with the naked eye with no account being taken of any resulting change of colour;

(c) Textile fabrics (as defined in Note 1 to Chapter 59) impregnated, coated, covered or laminated with rubber, weighing more than 1,500 g/m^2 and containing 50 % or less by weight of textile material;

(d) Plates, sheets or strip of cellular rubber, combined with textile fabrics (as defined in Note 1 to Chapter 59), felt or nonwovens, where the textile is present merely for reinforcing purposes.

*

* *

This Chapter **does not cover** articles mentioned in Note 2 to this Chapter. Additional exclusions are referred to in the Explanatory Notes to certain headings of this Chapter.

Heading 4001

Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, in primary forms or in plates, sheets or strip.

EXPLANATORY NOTES

40.01 - Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, in primary forms or in plates, sheets or strip.

4001.10 - Natural rubber latex, whether or not pre-vulcanised

- Natural rubber in other forms :

4001.21 - - Smoked sheets

4001.22 - - Technically specified natural rubber (TSNR)

4001.29 - - Other

4001.30 - Balata, gutta-percha, guayule, chicle and similar natural gums

This heading includes :

(A) **Natural rubber latex (whether or not pre-vulcanised)**.

Natural rubber latex is the liquid secreted principally by rubber trees and, in particular, by the species *Hevea brasiliensis*. This liquid consists of an aqueous solution of organic and mineral substances (proteins, fatty acids and their derivatives, salts, sugars and glycosides) containing in suspension 30 % to 40 % of rubber (i.e., polyisoprene of high molecular weight).

This part includes :

(1) **Stabilised or concentrated natural rubber latex**. Rubber latex tends to coagulate spontaneously a few hours after tapping; it must therefore be stabilised in order to ensure preservation and to prevent putrefaction or coagulation. This is usually done by adding ammonia to latex in the proportion of 5 to 7 grams per litre of latex, which produces a product known as “full ammonia” or FA type. A second stabilising method which produces “low ammonia” or LA type is to add a very small quantity (1 to 2 grams per litre of latex) of a low concentration mixture of ammonia and substances such as tetramethylthiuramdisulphide and zinc oxide.

There are also **freeze-resistant natural rubber latexes** stabilised by the addition, in particular, of minute quantities of sodium salicylate or formaldehyde and intended for use in cold countries.

Natural rubber latexes are concentrated (mainly for transport purposes) by various methods (e.g., by centrifuging, evaporating, creaming).

The rubber content of commercial latexes is usually between 60 % and 62 %; higher concentrations are also found and in some cases the solid content may exceed 70 %.

(2) **Thermosensitive (heat-sensitive) natural rubber latexes**. These are obtained by adding heat-sensitive agents. When heated these types of latexes gel faster than non-thermosensitive latex. They are generally used for the manufacture of dipped or moulded articles or for the production of foam or sponge rubber.

(3) **Electropositive latexes**. These latexes are also known as “reversed electric charge latexes”, because they are obtained by reversing the charge of the particles of a normal concentrated latex. This is usually achieved by adding cationic surface-active agents.

The use of such latexes counters the tendency of most textile fibres to resist rubber impregnation (because like ordinary latex, the electrostatic charge of the fibres in an alkaline environment is negative).

(4) **Pre-vulcanised natural rubber latex**. This is obtained by the reaction of vulcanising agents on latex under heat-treatment at a temperature generally below 100 °C.

The rubber particles contained in the latex are vulcanised by adding an excess of precipitated or colloidal sulphur, zinc oxide and accelerators (e.g., dithiocarbamate). The degree of vulcanisation of the finished product can be altered at will, by varying the temperature, the heating time or the proportions of the ingredients used. Normally, only the outer walls of the rubber particles are vulcanised. In order to avoid over-vulcanisation of the latex, excess ingredients are removed, by centrifugation, after heating.

The appearance of pre-vulcanised latex is the same as that of normal latex. Their combined sulphur content is usually of the order of 1 %.

The use of pre-vulcanised latex allows a number of operations (e.g., grinding, compounding) to be by-passed. It is used in the manufacture of dipped and cast articles (pharmaceutical and surgical goods) and, increasingly, in the textile industry and as an adhesive. It is also used in the manufacture of certain grades of paper and of composition leather, and gives a rubber having excellent electrical insulation properties (because of its low content of proteins and soluble substances).

Natural rubber latex is shipped either in internally coated drums (containing about 200 l) or in bulk.

(B) **Natural rubber in other forms**.

For the purpose of this heading, the term “natural rubber” applies to *Hevea* rubber as traditionally shipped from the place of production, generally after it has been treated in plantation factories either for the purposes of transport and preservation or to give the natural rubber certain special characteristics which will facilitate its subsequent use or improve the quality of the finished products. To remain classified here, the rubber so treated must not, however, have lost its essential character as a raw material; further, it must not contain any added carbon black, silica or any other substance of a kind forbidden by Note 5 (A).

Coagulation of natural rubber latex takes place in tanks of various shapes, which may be fitted with movable partitions. In order to separate the rubber globules from the aqueous serum, the latex is coagulated by slight acidification with, for example, 1 % acetic acid or 0.5 % formic acid. At the end of the coagulation process the coagulum is removed either as slabs or as a continuous strip.

Subsequent treatment differs according to whether smoked sheets or pale or brown crepes, re-agglomerated granules or free-flowing powders are being produced.

(1) **Rubber sheets and crepes**.

For the manufacture of sheets, the rubber strip is fed into a rolling mill in which the final set of embossed rolls leave the surface with characteristic markings (to facilitate drying by increasing the evaporation area). As the rubber strip (about 3 to 4 mm thick) emerges from the mill it is sliced into sheets. These are then placed in either a drying shed or a smoke house. The purpose of smoking is to dry the rubber and to impregnate it with creosotic substances which serve as anti-oxidants and antiseptics.

For the manufacture of pale crepe, the rubber coagulum is fed into a battery of creping machines. The first machines have grooved rollers whereas the last machines have smooth rollers, rotating at different speeds. This operation takes place under a constant stream of water so that the rubber is thoroughly washed. It is then dried, at room temperature or in hot air, in a ventilated drying shed. Two or more plies of crepe may be superimposed to form slabs of sole crepe.

Sheets are also made by the following process : after the latex has been coagulated in cylindrical tanks, the coagulum is sliced, by sawing, into a long strip which is cut into sheets and dried (generally without smoking).

Some types of rubber (in particular crepe other than pale crepe) are not manufactured directly by the coagulation of latex, but are produced by the subsequent re-agglomeration and washing in “creping machines” of the coagula obtained during tapping or factory processing. The resulting sheets, of varying thicknesses, are dried in the same way as pale crepe.

Natural rubber as described above is usually marketed according to its appearance in the forms and grades corresponding to international standards set up by the concerned international organisations.

The most common types are **smoked sheets and cuttings thereof, pale crepes and cuttings thereof, brown crepes and ribbed and air dried sheets**.

(2) **Technically specified natural rubber (TSNR)**.

This is dry raw natural rubber which has been processed, tested and graded into five general grades (5L, 5, 10, 20 and 50) according to the specifications in the following table :

Table : Grade of TSNR and maximum allowable limits for each parameter					
GRADE	5L	5	10	20	50
PARAMETER					
Dirt retained on 325 mesh (max. % wt.)	0.05	0.05	0.10	0.20	0.50
Ash content (max. % wt.)	0.60	0.60	0.75	1.00	1.50
Nitrogen content (max. % wt.)	0.70	0.70	0.70	0.70	0.70
Volatile matter (max. % wt.)	1.00	1.00	1.00	1.00	1.00

Wallace rapid plasticity - min. initial value (P_0)	30	30	30	30	30
Plasticity retention index, PRI (min. %)	60	60	50	40	30
Colour limit (Lovibond scale, max.)	6.00	-	-	-	-

TSNR must be accompanied by a test certificate, issued by the competent authorities of the producing country, specifying the grade, specifications and test results of the rubber. Certain producing countries may have grades with more stringent specifications than those stated in the table above. TSNR is packed in bales of 33 1/3 kg and wrapped in polyethylene. Normally 30 or 36 such bales are either palletised and covered by polyethylene liners on the inside or shrink-wrapped with polyethylene. Each bale or pallet has specific markings to show the grade, weight, producer code, etc.

(3) **Re-agglomerated rubber granules**.

The techniques used for processing granulated rubber are designed to give cleaner products with constant properties and a better appearance than rubber sheets or crepes.

The manufacturing process comprises granulation of the coagulum, particularly thorough cleaning, drying and compression into bales. A wide range of machines may be used for granulation, such as rotary blade choppers, cross hammer mills, pelleting machines and creping machines. The purely mechanical action of these may be reinforced by the addition of very small quantities (0.2 to 0.7 %) of castor oil, zinc stearate or other crumbling agents, incorporated in the latex before coagulation. These crumbling agents have no effect on the subsequent use or properties of the rubber.

The granules are dried in semi-continuous trolley-type dryers, conveyor belt tunnel dryers or extruder-dryers.

The dried granules are finally compressed, under high pressure, into parallelepipedal bales weighing from 32 to 36 kg. Re-agglomerated rubber granules are usually sold with guaranteed technical specifications.

(4) **Free-flowing powders of natural rubber**.

These are prepared as indicated in paragraph (3) above but without compression.

In order to prevent the granules from re-agglomerating under the action of their own weight, they are blended during preparation with powdered inert substances such as talc or other anti-tack agents.

Rubber powders can also be obtained by injecting into the drying chambers, with the latex, an inert substance, such as siliceous earth, expressly to prevent agglomeration of the particles.

(5) **Special types of natural rubber**.

Various special types of natural rubber can be obtained in the forms described in (1) to (4) above. The principal types are :

(a) **CV (constant viscosity) rubber and LV (low viscosity) rubber**.

CV rubber is obtained by adding a very small quantity (0.15 %) of hydroxylamine before coagulation and LV rubber by adding, also before coagulation, a small quantity of mineral oil.

The hydroxylamine prevents the spontaneous increase in the viscosity of the natural rubber during storage. Use of these rubbers enables manufacturers to forecast mastication periods.

(b) **Peptised rubber**.

This is obtained by adding to the latex, before coagulation, approximately 0,5 % of a peptising agent, which reduces the viscosity of the rubber during the drying operation. This rubber accordingly requires a shorter period of mastication.

(c) **Superior processing rubber**.

This is obtained either by coagulating a mixture of ordinary and pre-vulcanised latex or by mixing natural latex coagulum with pre-vulcanised latex coagulum; its use makes extrusion and calendering easier.

(d) **Purified rubber**.

This is obtained without addition of foreign substances, by a variation of the normal process of rubber production, for example, by centrifuging the latex.

It is used in the preparation of chlorinated rubber and in the manufacture of certain vulcanised goods (electric cables, etc.) whose properties would suffer from the presence of the impurities normally contained in rubber.

(e) **Skim rubber**.

This is obtained by coagulating the by-product of latex skim.

(f) **Anticrystallising rubber**.

This is obtained by adding thiobenzoic acid to latex before coagulation; it thus becomes freeze-resistant.

(C) **Balata**.

Balata gum, or balata, is extracted from the latex of certain plants of the *Sapotaceae* family, especially from the bullet-tree (*Manilkara bidentata*) found mainly in Brazil.

Balata is a reddish product, mostly shipped in blocks weighing up to 50 kg, but sometimes also in sheets from 3 to 6 mm thick.

It is mainly used for the manufacture of conveyor or transmission belts or belting. It is also used, mixed with gutta-percha, in the manufacture of submarine cables and of golf balls.

(D) **Gutta-percha**.

Gutta-percha is extracted from the latex of various trees of the *Sapotaceae* family (e.g., of the genus *Palaquium* and the genus *Payena*).

It is yellow or yellow-reddish. According to its origin, it is shipped either in cakes weighing 0.5 to 3 kg, or in blocks of 25 to 28 kg.

In addition to its uses, when mixed with balata, in the manufacture of submarine cables, golf balls and belting, it is also used for making sealing rings for pumps or valves, flax spinning rollers, linings for tanks, bottles for hydrofluoric acid, adhesives, etc.

(E) **Guayule gum**. This is extracted from the latex of the *Parthenium argentatum*, a shrub originating in Mexico.

Guayule rubber is generally shipped in cakes or sheets.

(F) **Chicle gum**. This is extracted from the latex contained in the bark of certain trees of the *Sapotaceae* family grown in the tropical regions of America.

This gum is reddish, and is generally shipped in cakes of various sizes or in blocks weighing about 10 kg.

It is mainly used for the manufacture of chewing-gum. It is also used for the manufacture of certain surgical tapes and of dental goods.

(G) **Similar natural gums**, for example, jelutong.

In order to be classified in this heading, these gums must be rubber-like in character.

(H) **Intermixtures** of any of the foregoing products.

This heading **excludes** :

(a) Intermixtures of any product of this heading with any product of heading 40.02 (**heading 40.02**).

(b) Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, compounded, before or after coagulation, with substances forbidden by Note 5 (A) to this Chapter (**heading 40.05** or **40.06**).

4001.10

- Natural rubber latex, whether or not pre-vulcanised
4001.2

- Natural rubber in other forms :
4001.21

-- Smoked sheets
4001.22

-- Technically specified natural rubber (TSNR)
4001.29

-- Other
4001.30

- Balata, gutta-percha, guayule, chicle and similar natural gums
Heading 4002

Synthetic rubber and factice derived from oils, in primary forms or in plates, sheets or strip; mixtures of any product of heading 40.01 with any product of this heading, in primary forms or in plates, sheets or strip.

EXPLANATORY NOTES

40.02 - Synthetic rubber and factice derived from oils, in primary forms or in plates, sheets or strip; mixtures of any product of heading 40.01 with any product of this heading, in primary forms or in plates, sheets or strip.

- Styrene-butadiene rubber (SBR); carboxylated styrene-butadiene rubber (XSBR) :

4002.11 - - Latex

4002.19 - - Other

4002.20 - Butadiene rubber (BR)

- Isobutene-isoprene (butyl) rubber (IIR); halo-isobutene-isoprene rubber (CIIR or BIIR) :

4002.31 - - Isobutene-isoprene (butyl) rubber (IIR)

4002.39 - - Other

- Chloroprene (chlorobutadiene) rubber (CR) :

4002.41 - - Latex

4002.49 - - Other

- Acrylonitrile-butadiene rubber (NBR) :

4002.51 - - Latex

4002.59 - - Other

4002.60 - Isoprene rubber (IR)

4002.70 - Ethylene-propylene-non-conjugated diene rubber (EPDM)

4002.80 - Mixtures of any product of heading 40.01 with any product of this heading

- Other :

4002.91 - - Latex

4002.99 - - Other

This heading covers :

(1) **Synthetic rubber** as defined in Note 4 to this Chapter (see below). This includes synthetic rubber latex, whether or not pre-vulcanised, and synthetic rubber in other primary forms or in plates, sheets or strip. The heading also covers synthetic rubber which has been treated for the purposes of transport and preservation or with a view to obtaining particular properties designed to facilitate its subsequent use or to improve the qualities of the end product. Such treatment must not, however, alter its essential character as a raw material. In particular it must not contain any substance forbidden by Note 5 (A) to this Chapter.

Among the products which have been compounded but which are not excluded from this heading by the provisions of Note 5 are the **oil-extended rubbers**; these contain up to approximately 50 % of oil.

(2) **Factice derived from oils** - Factice is the product of the reaction of certain vegetable or fish oils (whether or not oxidised or partly hydrogenated) with sulphur or sulphur chloride.

Factice is physically weak and is used mainly compounded with natural or synthetic rubber, and also for the manufacture of erasers.

(3) **Intermixtures** of any of the foregoing products.

(4) **Mixtures of any product of heading 40.01 with any product of this heading**.

Note 4 (Definition of synthetic rubber)

This Note is in three parts. Whereas substances of Part (a) and (c) must comply with the vulcanisation, elongation and recovery criteria mentioned in Part (a), thioplasts of Part (b) are exempt from these requirements. It should be noted that the definition of **synthetic rubber** applies not only to heading 40.02 but also to Note 1. Consequently, wherever the term **rubber** is used in the Nomenclature, it includes synthetic rubber as defined in Note 4.

The expression “synthetic rubber” covers :

(a) **Unsaturated synthetic substances**, which meet the requirements concerning vulcanisation, elongation and recovery as laid down in Part (a) of the Note. For the purposes of the test, substances necessary for the cross-linking, such as vulcanising activators, accelerators or retarders may be added. The presence of small amounts of breakdown products of emulsifiers (Note 5 (B) (ii)) and very small amounts of the special purpose additives mentioned in Note 5 (B) (iii) is also permitted. However, the presence of any substances not necessary for the cross-linking, such as pigments (other than those added solely for the purpose of identification), plasticisers, extenders, fillers, reinforcing agents, organic solvents is not permitted. Thus, the presence of mineral oil or dioctyl phthalate is not permitted for the purpose of the test.

Accordingly, in the case of substances containing materials not permitted by Note 4, such as mineral oil, the test is to be carried out on a sample which does not contain such materials or from which such materials have been removed. In the case of vulcanised articles, which cannot be tested as such, it is necessary to obtain a sample of the unvulcanised raw material from which the articles are made, in order to perform the test.

Such unsaturated synthetic substances include styrene-butadiene rubbers (SBR), carboxylated styrene-butadiene rubbers (XSBR), butadiene rubbers (BR), isobutene-isoprene (butyl) rubbers (IIR), halo-isobutene-isoprene rubbers (CIIR or BIIR), chloroprene (chlorobutadiene) rubbers (CR), acrylonitrile-butadiene rubbers (NBR), isoprene rubbers (IR), ethylene-propylene-non-conjugated diene rubbers (EPDM), carboxylated acrylonitrile-butadiene rubbers (XNBR) and acrylonitrile-isoprene rubbers (NIR). In order to be classified as synthetic rubber, all these substances must comply with the vulcanisation, elongation and recovery criteria mentioned above.

(b) **Thioplasts (TM)** which are saturated synthetic substances, obtained by the reaction of aliphatic dihalides with a sodium polysulphide; they are generally vulcanisable with the classical-type vulcanising agents. The mechanical properties of certain types of thioplasts are inferior to those of the other grades of synthetic rubber but they have the advantage of being resistant to solvents. These should not be confused with the polysulphides of **heading 39.11** (see the Explanatory Note to that heading).

(c) The products listed below, provided that they comply with the conditions described in paragraph (a) above in regard to vulcanisation, elongation and recovery :

(1) **Modified natural rubber**, obtained by grafting or mixing rubber with plastics.

Such rubber is usually obtained by fixing a polymerisable monomer onto the rubber by using a polymerisation catalyst or by co-precipitation of a natural rubber latex with a synthetic polymer latex.

The main characteristic of modified natural rubber is that it is to a certain extent “self-reinforcing”, its properties in this respect being similar to those of a mixture of natural rubber and carbon black.

(2) **De-polymerised natural rubber**, obtained by mechanical processing (pounding) at a given temperature.

(3) **Mixtures of unsaturated synthetic substances with saturated synthetic high polymers** (e.g., mixtures of acrylonitrile-butadiene rubber and poly(vinyl chloride).

This heading **excludes** :

(a) Elastomers which do not comply with the conditions laid down in Note 4 to this Chapter (generally **Chapter 39**).

(b) The products of this heading compounded, before or after coagulation, with substances forbidden by Note 5 (A) to this Chapter (**heading 40.05** or **40.06**).

4002.1

- Styrene-butadiene rubber (SBR); carboxylated styrene-butadiene rubber (XSBR) :
4002.11

-- Latex
4002.19

-- Other
4002.20

- Butadiene rubber (BR)
4002.3

- Isobutene-isoprene (butyl) rubber (IIR); halo-isobutene-isoprene rubber (CIIR or BIIR) :
4002.31

-- Isobutene-isoprene (butyl) rubber (IIR)
4002.39

-- Other
4002.5

- Acrylonitrile-butadiene rubber (NBR) :
4002.51

-- Latex
4002.59

-- Other
4002.60

- Isoprene rubber (IR)
4002.70

- Ethylene-propylene-non-conjugated diene rubber (EPDM)
4002.80

- Mixtures of any product of heading 40.01 with any product of this heading
4002.9

- Other :
4002.91

-- Latex

4002.99

-- Other

Heading 4003

Reclaimed rubber in primary forms or in plates, sheets or strip.

EXPLANATORY NOTES

40.03 - Reclaimed rubber in primary forms or in plates, sheets or strip.

Reclaimed rubber is obtained from used rubber articles, especially tyres, or from waste or scrap, of vulcanised rubber, by softening ("devulcanising") the rubber and removing some of the unwanted matter by various chemical or mechanical means. The product contains residues of sulphur or other vulcanising agents in combination and is inferior to virgin rubber, being more plastic and more tacky than virgin rubber. It may be put up in sheets dusted with talc or separated by polyethylene film.

This heading covers reclaimed rubber in primary forms or in plates, sheets or strip, whether or not mixed with virgin rubber or other added substances, provided that the product has the essential character of reclaimed rubber.

4003.00

Reclaimed rubber in primary forms or in plates, sheets or strip.

Heading 4004

Waste, parings and scrap of rubber (other than hard rubber) and powders and granules obtained therefrom.

EXPLANATORY NOTES

40.04 - Waste, parings and scrap of rubber (other than hard rubber) and powders and granules obtained therefrom.

The expression "waste, parings and scrap" is defined in Note 6 to this Chapter.

The heading covers :

(1) **Rubber waste, parings and scrap from the manufacture or working of unvulcanised or vulcanised rubber (other than hard rubber)**.

(2) **Goods of rubber (other than hard rubber) definitely not usable as such because of cutting-up, wear or other reasons**.

This category includes worn-out rubber tyres not suitable for retreading and scrap obtained from such worn-out rubber tyres, usually by the following processes :

(a) **Cutting the tyre**, with a specialmachine, as close as possible to the tringle bead wires or the heel.

(b) **Splitting** to remove the tread.

(c) **Cutting** into pieces.

The heading **excludes** used tyres suitable for retreading (**heading 40.12**).

(3) **Powders and granules obtained from goods of (1) and (2) above**.

These consist of ground waste of vulcanised rubber. They may be used as a filler in road surfacing materials or in other rubber based compounds or for moulding directly into articles not requiring great strength.

The heading also **excludes** waste, parings, scrap, powders and granules of hard rubber (**heading 40.17**).

4004.00

Waste, parings and scrap of rubber (other than hard rubber) and powders and granules obtained therefrom.

Heading 4005

Compounded rubber, unvulcanised, in primary forms or in plates, sheets or strip.

EXPLANATORY NOTES

40.05 - Compounded rubber, unvulcanised, in primary forms or in plates, sheets or strip.

4005.10 - Compounded with carbon black or silica

4005.20 - Solutions; dispersions other than those of subheading 4005.10

- Other :

4005.91 - - Plates, sheets and strip

4005.99 - - Other

This heading covers compounded rubber which is unvulcanised and is in primary forms or in plates, sheets or strip.

The term “rubber” has the same meaning as in Note 1 to this Chapter. The heading therefore covers natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, synthetic rubber, factice derived from oils, and such substances reclaimed, provided they have been compounded with other substances.

According to Note 5 (A) to the Chapter, **headings 40.01** and **40.02 do not apply** to any rubber or mixture of rubbers which has been compounded, before or after coagulation, with vulcanising agents, accelerators, retarders or activators (other than those added for the preparation of pre-vulcanised rubber latex), pigments or other colouring matter (other than those added solely for the purpose of identification), plasticisers or extenders (except mineral oil in the case of oil-extended rubber), fillers, reinforcing agents, organic solvents or any other substances, except those permitted under Note 5 (B).

The heading includes :

(A) **Rubber compounded with carbon black or silica** (with or without mineral oil or other ingredients).

This category includes carbon black masterbatch consisting of approximately 40-70 parts of carbon black to 100 parts of dry rubber; it is usually marketed in bales.

(B) **Compounded rubbers not containing carbon black or silica**.

These contain substances such as organic solvents, vulcanising agents, accelerators, plasticisers, extenders, thickeners and fillers (other than carbon black or silica). Some of them may contain red clay or protein.

These two categories include the following types of product :

(1) Compounded rubber latex (including pre-vulcanised latex) provided that as a result of compounding it has not acquired the character of a preparation more specifically described in another heading of the Nomenclature.

Thus, the heading **excludes**, *inter alia,* latex varnishes and paints (**Chapter 32**).

(2) Dispersions and solutions of unvulcanised rubber in organic solvents, used for the manufacture of dipped articles or for coating finished articles.

(3) Plates, sheets and strip, consisting of textile fabrics combined with compounded rubber, weighing more than 1,500 g/m^2 and containing not more than 50 % by weight of textile material.

Such products are obtained either by calendering or by “gumming” or by a combination of both processes. They are used mainly for the manufacture of tyres, tubes, pipes, etc.

(4) Other plates, sheets and strip of compounded rubber which may be used, for example, for repairing tyres or inner tubes (hot process), for the manufacture of adhesive patches, washers for certain airtight seals, rubber granules, etc., for moulding rubber soles.

(5) Compounded rubber in the form of granules, ready for vulcanisation, and used as such for moulding purposes (e.g., in the shoe-making industry).

The plates, sheets and strip (including blocks of regular geometric shape) of this heading may be surface-worked (printed, embossed, grooved, channelled, ribbed, etc.) or simply cut to rectangular (including square) shape, whether or not having the character of articles, but may not be otherwise cut to shape or further worked.

This heading also **excludes** :

(a) Concentrated dispersions of colouring matter (including colour lakes) in rubber, used as raw materials for colouring rubber in the mass (**heading 32.04**, **32.05** or **32.06**).

(b) More or less pasty products, with a basis of latex or other rubber, used as mastics, painters’ filling or non-refractory surfacing preparations (**heading 32.14**).

(c) Prepared glues and other prepared adhesives consisting of rubber solutions or dispersions with added fillers, vulcanising agents and resins, and rubber solutions and dispersions put up for retail sale as glues or adhesives, not exceeding a net weight of 1 kg (**heading 35.06)**.

(d) Intermixtures of any product of heading 40.01 with any product of heading 40.02 (**heading 40.02**).

(e) Reclaimed rubber mixed with virgin rubber or other added substances and having the essential character of reclaimed rubber (**heading 40.03**).

(f) Plates, sheets and strip of unvulcanised rubber, worked otherwise than by surface-working or cut to shapes other than rectangular (including square) (**heading 40.06**).

(g) Plates, sheets and strip composed of parallel textile yarns agglomerated with rubber (**heading 59.06**).

4005.10

- Compounded with carbon black or silica

CLASSIFICATION OPINIONS

1. Strips, 2 to 3mm thick, consisting of a sheet of parallel carbon steel cables completely covered with unvulcanised rubber, for use principally in the manufacture of tyre foundations.
Adoption : 1965

4005.20

- Solutions; dispersions other than those of subheading 4005.10

4005.9

- Other :

4005.91

-- Plates, sheets and strip

CLASSIFICATION OPINIONS

1. Strips, 2 to 3mm thick, consisting of a sheet of parallel carbon steel cables completely covered with unvulcanised rubber, for use principally in the manufacture of tyre foundations.
Adoption : 1965

4005.99

-- Other

CLASSIFICATION OPINIONS

1. Master blend with a basis of gum, for the manufacture of chewing-gum, consisting of granules formed by mixing several natural gums of Ch. 40 (e.g., chicle gum and balata), with hydrogenated vegetable oils and a homogenising agent such as calcium carbonate.
Adoption : 1957 + 1981

Heading 4006

Other forms (for example, rods, tubes and profile shapes) and articles (for example, discs and rings), of unvulcanised rubber.

EXPLANATORY NOTES

40.06 - Other forms (for example, rods, tubes and profile shapes) and articles (for example, discs and rings), of unvulcanised rubber.

4006.10 - “Camel-back” strips for retreading rubber tyres

4006.90 - Other

This heading covers unvulcanised rubber in forms not specified in the earlier headings of this Chapter and articles of unvulcanised rubber, whether or not compounded.

The heading includes :

(A) **Unvulcanised rubber profile shapes**, for example, plates and strip of non-rectangular cross-section, generally made by extrusion. The heading covers, in particular, “camel-back” strips with a slightly trapezoidal cross-section, for retreading rubber tyres.

(B) **Unvulcanised rubber tubes**, made by extrusion and used, in particular, to line the tubes of heading 59.09.

(C) **Other articles** of unvulcanised rubber, for example :

(1) **Rubber thread** made by helicoidal cutting of unvulcanised rubber sheets or by extrusion of compounds with a basis of latex (including pre-vulcanised latex).

(2) **Rings, discs and washers** of unvulcanised rubber, used mainly for sealing certain kinds of airtight containers, or sealing the joints between two (usually rigid) parts.

(3) **Plates, sheets and strip** of unvulcanised rubber, worked otherwise than by surface-working or cut to shapes other than rectangular (including square).

This heading **excludes** :

(a) Adhesive tapes, whatever the supporting material (classification according to that material, e.g., **heading 39.19**, **40.08**, **48.23**, **56.03** or **59.06**).

(b) Discs and rings of unvulcanised rubber, together with gaskets and similar joints of other materials, put up in pouches, envelopes or similar packings (**heading 84.84**).

4006.10

- «Camel-back» strips for retreading rubber tyres

4006.90

- Other

Heading 4007

Vulcanised rubber thread and cord.

EXPLANATORY NOTES

40.07 - Vulcanised rubber thread and cord.

Rubber thread may be produced by cutting from sheets or plates of vulcanised rubber, or by vulcanising thread obtained by extrusion.

The heading includes :

(1) **Thread** wholly of vulcanised rubber (single strand) of any cross-section **provided** that no cross-sectional dimension exceeds 5 mm. If it does, the thread is **excluded** (**heading 40.08**).

(2) **Cord** (multiple strand), irrespective of the thickness of the strands of which it is composed.

The heading **does not cover** textile materials combined with rubber threads **(Section XI)**. For example, textile-covered rubber thread and cord fall in **heading 56.04**.

4007.00

Vulcanised rubber thread and cord.

Heading 4008

Plates, sheets, strip, rods and profile shapes, of vulcanised rubber other than hard rubber.

EXPLANATORY NOTES

40.08 - Plates, sheets, strip, rods and profile shapes, of vulcanised rubber other than hard rubber.

- Of cellular rubber :

4008.11 - - Plates, sheets and strip

4008.19 - - Other

- Of non-cellular rubber :

4008.21 - - Plates, sheets and strip

4008.29 - - Other

This heading covers :

(1) **Plates, sheets and strip (having any cross-sectional dimension exceeding 5 mm) in the length, or merely cut to length or into rectangles (including squares)**.

(2) **Blocks of regular geometric shape**.

(3) **Rods and profile shapes (including threads of any cross-sectional shape, of which any cross-sectional dimension exceeds 5 mm)**. Profile shapes are obtained in the length in a single operation (generally extrusion), and they have a constant or repetitive cross-section, from one end to the other. They are classified in this heading, whether or not they are cut to length, but not cut to a length less than the greatest cross-sectional measurement.

The products of this heading may be surface-worked (e.g., printed, embossed, grooved, channelled, ribbed); they may also be plain or coloured (either in the mass or on the surface). Profile shapes with an adhesive surface, used for sealing window frames, are classified in this heading. The heading also covers rubber flooring material in the piece, and tiles, mats and other articles, obtained merely by cutting plates or sheets of rubber into rectangular (including square) shapes.

The classification of products made from vulcanised rubber (other than hard rubber) combined (either in the mass or on the surface) with textile materials is subject to the provisions of Note 3 to Chapter 56 and Note 5 to Chapter 59. Combinations of vulcanised rubber (other than hard rubber) with other materials remain classified in this heading **provided** they retain the essential character of rubber.

This heading thus includes :

(A) Plates, sheets and strip of cellular rubber combined with textile fabrics (as defined in Note 1 to Chapter 59), felt or nonwovens, provided that these textile materials are present merely for reinforcing purposes.

In this respect, unfigured, unbleached, bleached or uniformly dyed textile fabrics, felt or nonwovens when applied to one face only of these plates, sheets or strip, are regarded as serving merely for reinforcing purposes. Figured, printed or more elaborately worked textiles and special products, such as pile fabrics, tulle and lace, are regarded as having a function beyond that of mere reinforcement.

Plates, sheets and strip of cellular rubber combined with textile fabric on both faces, whatever the nature of the fabric, are **excluded** from this heading (**heading 56.02**, **56.03** or **59.06**).

(B) Felt impregnated, coated, covered or laminated with vulcanised rubber (other than hard rubber) containing 50 % or less by weight of textile material or completely embedded in rubber.

(C) Nonwovens, either completely embedded in rubber, or entirely coated or covered on both sides with rubber, provided that such coating or covering can be seen with the naked eye with no account being taken of any resulting change of colour.

The heading **excludes**, *inter alia* :

(a) Conveyor or transmission belts or belting, of vulcanised rubber, whether or not cut to length (**heading 40.10**).

(b) Plates, sheets and strip, whether or not surface-worked (including square or rectangular articles cut therefrom), with bevelled or moulded edges, or with rounded corners, openwork borders or otherwise worked, or cut into shapes other than rectangular (including square) (**heading 40.14**, **40.15** or **40.16**).

(c) Woven textile fabrics combined with rubber thread (**Chapters 50 to 55** or **58**).

(d) The products of **heading 56.02** or **56.03**.

(e) Textile carpets or carpeting, with a backing of cellular rubber (**Chapter 57**).

(f) Tyre cord fabric (**heading 59.02**).

(g) Rubberised textile fabrics as defined in Note 5 to Chapter 59 (**heading 59.06**).

(h) Knitted or crocheted fabrics combined with rubber thread (**Chapter 60**).

4008.1

- Of cellular rubber :
4008.11

-- Plates, sheets and strip
4008.19

-- Other

4008.2

- Of non-cellular rubber :

4008.21

-- Plates, sheets and strip

CLASSIFICATION OPINIONS

1. Materials for the manufacture of gaskets for use in engines and transmissions of motor vehicles, in the form of sheets or strips and composed, by weight, of 65 % synthetic, non-cellular, vulcanised rubber and 35 % cork.

Application of GIR 3 (b).

Adoption : 1994

4008.29

-- Other

Heading 4009

Tubes, pipes and hoses, of vulcanised rubber other than hard rubber, with or without their fittings (for example, joints, elbows, flanges).

EXPLANATORY NOTES

40.09 - Tubes, pipes and hoses, of vulcanised rubber other than hard rubber, with or without their fittings (for example, joints, elbows, flanges).

- Not reinforced or otherwise combined with other materials :

4009.11 - - Without fittings

4009.12 - - With fittings

- Reinforced or otherwise combined only with metal :

4009.21 - - Without fittings

4009.22 - - With fittings

- Reinforced or otherwise combined only with textile materials :

4009.31 - - Without fittings

4009.32 - - With fittings

- Reinforced or otherwise combined with other materials :

4009.41 - - Without fittings

4009.42 - - With fittings

This heading covers tubes, pipes and hoses consisting wholly of vulcanised rubber (other than hard rubber), and vulcanised rubber tubes, pipes and hoses (including hose-piping) reinforced by stratification, consisting, for example, of one or more “plies” of textile fabric or one or more layers of

parallelised textile threads, or metal threads, embedded in the rubber. Such tubes, pipes and hoses may also be covered with a sheath of thin fabric or with gimped or plaited textile yarns; they may also incorporate an internal or external spiral of wire.

The heading **excludes** tubes, pipes and hoses of textile materials, sometimes called “woven hoses”, which have been waterproofed with an internal coating of rubber latex or into which a separate rubber sheath has been inserted. Such articles fall in **heading 59.09**.

Tubes, pipes and hoses remain classified in this heading even if presented with fittings (for example, joints, elbows, flanges), provided that they retain the essential character of piping or tubing.

The heading also covers tubing of vulcanised rubber, whether or not cut to length, but not cut to a length less than the greatest cross-sectional measurement, for example lengths of tubing for the manufacture of inner tubes.

4009.1

- Not reinforced or otherwise combined with other materials :
4009.11

-- Without fittings
4009.12

-- With fittings
4009.2

- Reinforced or otherwise combined only with metal :
4009.21

-- Without fittings
4009.22

-- With fittings
4009.3

- Reinforced or otherwise combined only with textile materials :
4009.31

-- Without fittings
4009.32

-- With fittings
4009.4

- Reinforced or otherwise combined with other materials :
4009.41

-- Without fittings
4009.42

-- With fittings
Heading 4010

Conveyor or transmission belts or belting, of vulcanised rubber.
EXPLANATORY NOTES
40.10 - Conveyor or transmission belts or belting, of vulcanised rubber.

- Conveyor belts or belting :

4010.11 - - Reinforced only with metal

4010.12 - - Reinforced only with textile materials

4010.19 - - Other

- Transmission belts or belting :

4010.31 - - Endless transmission belts of trapezoidal cross-section (V-belts), V-ribbed, of an outside circumference exceeding 60 cm but not exceeding 180 cm

4010.32 - - Endless transmission belts of trapezoidal cross-section (V-belts), other than V-ribbed, of an outside circumference exceeding 60 cm but not exceeding 180 cm

4010.33 - - Endless transmission belts of trapezoidal cross-section (V-belts), V-ribbed, of an outside circumference exceeding 180 cm but not exceeding 240 cm

4010.34 - - Endless transmission belts of trapezoidal cross-section (V-belts), other than V-ribbed, of an outside circumference exceeding 180 cm but not exceeding 240 cm

4010.35 - - Endless synchronous belts, of an outside circumference exceeding 60 cm but not exceeding 150 cm

4010.36 - - Endless synchronous belts, of an outside circumference exceeding 150 cm but not exceeding 198 cm

4010.39 - - Other

This heading covers conveyor or transmission belts and belting, wholly of vulcanised rubber, or of textile fabric impregnated, coated, covered or laminated with rubber or made from textile yarn or cord impregnated, coated, covered or sheathed with rubber (see Note 8 to this Chapter). It also covers belts or belting of vulcanised rubber reinforced with glass fibre fabric or glass fibres or with cloth of metal wire.

Belts and belting (other than belts or belting wholly of vulcanised rubber) generally consist of a carcass made up of several layers of fabric, whether or not rubberised (e.g., warp and weft fabric, knitted or crocheted fabric, layers of parallelised yarns) or of steel cable or strip which is wholly covered with vulcanised rubber.

The heading includes belting in the length (for subsequent cutting to length) as well as belts already cut to length (whether or not joined end to end or fitted with fasteners); it also covers endless belts.

All these goods may be of rectangular, trapezoidal (V-belts and V-belting), circular or other cross-section.

Belts or belting of trapezoidal cross-section are those products having one or more “V” shapes in cross-section. The “V” surfaces are designed to provide good wedging action and minimum slippage along the sides of the sheave. The category includes, e.g., belts or belting having a cross-section with :

(A) A single trapezoidal shape	
(B) Trapezoidal shapes on opposite sides.	
(C) Two or more trapezoidal shapes on the same side (V-ribbed).	

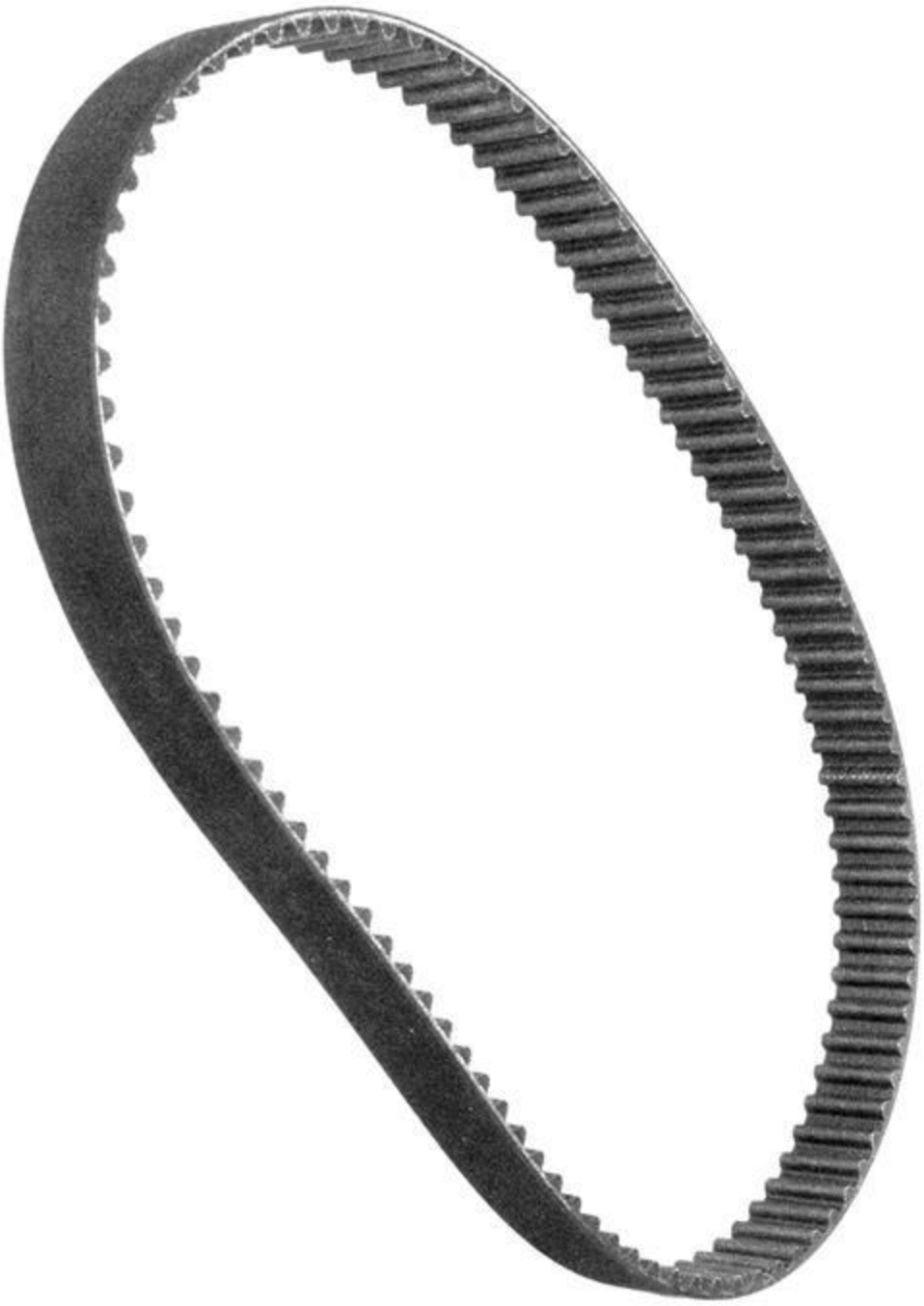
A V-ribbed belt is an endless belt with a longitudinally ribbed traction surface which engages and grips, by friction, pulley grooves of similar shape. V-ribbed belts are a type of V-belt.

Grooves (whether moulded or cut) in V-belts or belting reduce bending stress and help dissipate the heat from rapid flexing; this is especially important on drives where the belts run over small sheaves at high speeds. Grooves, other than longitudinal grooves, have no impact on the classification of V-belts or belting.

Synchronous belts (see illustration) are designed to transmit power while maintaining a constant rotational relationship between sheaves. The completed product is often simply referred to as a timing belt. Notches, usually on the inner surface of the belt, are provided to operate smoothly with notched sheaves. Synchronous belts or belting do not have a trapezoidal cross-section.

Belts of this heading may be presented in the form of a sleeve (tube) from which finished items can be cut; this presentation does not affect classification.

Synchronous belt



Conveyor or transmission belts or belting presented with the machines or apparatus for which they are designed, whether or not actually mounted, are to be classified with that machine or apparatus (e.g., **Section XVI**).

4010.1

- Conveyor belts or belting :

4010.11

-- Reinforced only with metal

4010.12

-- Reinforced only with textile materials

4010.19

-- Other

4010.3

- Transmission belts or belting :

4010.31

-- Endless transmission belts of trapezoidal cross-section (V-belts), V-ribbed, of an outside circumference exceeding 60 cm but not exceeding 180 cm

4010.32

-- Endless transmission belts of trapezoidal cross-section (V-belts), other than V-ribbed, of an outside circumference exceeding 60 cm but not exceeding 180 cm

4010.33

-- Endless transmission belts of trapezoidal cross-section (V-belts), V-ribbed, of an outside circumference exceeding 180 cm but not exceeding 240 cm

4010.34

-- Endless transmission belts of trapezoidal cross-section (V-belts), other than V-ribbed, of an outside circumference exceeding 180 cm but not exceeding 240 cm

4010.35

-- Endless synchronous belts, of an outside circumference exceeding 60 cm but not exceeding 150 cm

4010.36

-- Endless synchronous belts, of an outside circumference exceeding 150 cm but not exceeding 198 cm

4010.39

-- Other

Heading 4011

New pneumatic tyres, of rubber.

EXPLANATORY NOTES

40.11 - New pneumatic tyres, of rubber (+).

4011.10 - Of a kind used on motor cars (including station wagons and racing cars)

4011.20 - Of a kind used on buses or lorries

4011.30 - Of a kind used on aircraft

4011.40 - Of a kind used on motorcycles

4011.50 - Of a kind used on bicycles

4011.70 - Of a kind used on agricultural or forestry vehicles and machines

4011.80 - Of a kind used on construction, mining or industrial handling vehicles and machines

4011.90 - Other

These tyres may be for use on any type of vehicle or aircraft, on wheeled toys, machinery, artillery weapons, etc. They may or may not require inner tubes.

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° °

Subheading Explanatory Notes.

Subheading 4011.70

Images of some of the types of tyres which are covered by this subheading are reproduced below for illustrative purposes only.

- **Examples of tyres for agricultural vehicles or machines :**





- **Examples of tyres for forestry vehicles or machines :**






Subheading 4011.80

Images of some of the types of tyres which are covered by this subheading are reproduced below for illustrative purposes only.

- **Examples of tyres for construction, mining or industrial handling vehicles or machines :**









4011.10

- Of a kind used on motor cars (including station wagons and racing cars)

4011.20

- Of a kind used on buses or lorries

CLASSIFICATION OPINIONS

1. **Tyre having the following characteristics:** Size 13R22.5 (rim diameter of 22.5 inches (571.5 mm)), Load Index of 156/150 equivalent to 4000/3350 kg, Speed Rating K (equivalent to a maximum speed velocity of 110 Km/h), and Load Carrying Capacity of 4000 kg. It has a tread designed for reducing stone retention and improving off-road traction. The beads are designed to improve durability. **Application of GIRs 1 and 6.** *Adoption : 2022*





2. **Tyres, three different sizes having the following characteristics:**

- Size 13R22.5 (rim diameter 22.5 inches (571.5 mm)), load index 156/150 (equivalent to 4000/3350 kg), speed rating G (equivalent to a maximum speed velocity of 90 km/h) or J (equivalent to a maximum speed velocity of 100 km/h); and load carrying capacity of 3350 kg;

- Size 295/80R22.5 (rim diameter 22.5 inches (571.5 mm)), load index 152/148 (equivalent to 3550/3350 kg), speed rating G (equivalent to a maximum speed velocity of 90 km/h) or J (equivalent to a maximum speed velocity of 100 km/h); and load carrying capacity of 3150 kg;

- Size 315/80R22.5 (rim diameter 22.5 inches (571.5 mm)), load index 156/150 (equivalent to 4000/3350 kg), speed rating G (equivalent to a maximum speed velocity of 90 km/h) or J (equivalent to a maximum speed velocity of 100 km/h); and load carrying capacity of 3350 kg.

They have treads designed for off-road traction.
Application of GIRs 1 and 6.
Adoption : 2022





4011.30

- Of a kind used on aircraft

4011.40

- Of a kind used on motorcycles

4011.50

- Of a kind used on bicycles

4011.70

- Of a kind used on agricultural or forestry vehicles and machines

4011.80

- Of a kind used on construction, mining or industrial handling vehicles and machines

4011.90

- Other

Heading 4012

Retreaded or used pneumatic tyres of rubber; solid or cushion tyres, tyre treads and tyre flaps, of rubber.

EXPLANATORY NOTES

40.12 - Retreaded or used pneumatic tyres of rubber; solid or cushion tyres, tyre treads and tyre flaps, of rubber (+).

- Retreaded tyres :

4012.11 - - Of a kind used on motor cars (including station wagons and racing cars

4012.12 - - Of a kind used on buses or lorries

4012.13 - - Of a kind used on aircraft

4012.19 - - Other

4012.20 - Used pneumatic tyres

4012.90 - Other

This heading includes retreaded pneumatic tyres of rubber and used pneumatic tyres of rubber, suitable either for further use or for retreading.

Solid tyres are used, for example, on wheeled toys and mobile articles of furniture. **Cushion tyres**, which are solid tyres with a sealed internal air space, are used on barrows and trolleys. **Tyre treads** are bonded to the circumference of pneumatic tyre carcasses and generally have ribbed tread design. They are used for retreading pneumatic tyres. This heading also covers **interchangeable tyre treads**, which are presented in the form of rings to be fitted on a tyre carcass specially designed for that purpose. **Tyre flaps** are used to protect the inner tube from the metal rim or spoke ends.

The heading **excludes** solid or cushion tyres of products of Chapter 39, for example, polyurethane (generally **Section XVII**) and worn-out tyres not suitable for retreading (**heading 40.04**).

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Subheading Explanatory Note.

Subheadings 4012.11, 4012.12, 4012.13, 4012.19 and 4012.20

In the context of subheadings 4012.11, 4012.12, 4012.13 and 4012.19, the expression “retreaded tyres” covers tyres from which the worn tread has been removed from the tyre carcass and to which a new tread has been created by either of two methods : (i) a tread is moulded from unvulcanised rubber onto the tyre carcass or (ii) a vulcanised tread is attached to the tyre carcass by a vulcanisable rubber strip. Such tyres may be referred to as having undergone top-capping (replacement of the tread), re-capping (replacement of the tread with new material extending over part of the sidewall) or bead-to-bead retreading (replacement of the tread and renovation of the sidewall including all or part of the side walls of the tyre).

Used tyres of subheading 4012.20 may be subjected to **recutting** or **regrooving**, by which worn (but visible) grooves of the tread are deepened by cutting. Such regrooving usually is performed on tyres used for heavy motor vehicles (e.g., buses and or lorries). Used tyres which have been recut or regrooved do not fall within subheadings 4012.11, 4012.12, 4012.13 and 4012.19.

The tyres of subheadings 4012.11, 4012.12, 4012.13, 4012.19 and 4012.20 may also be subjected to **supplementary recutting**, in which transversal or diagonal grooves are added to the original tread pattern by cutting. Such supplementary recutting does not affect their classification as retreaded tyres of subheadings 4012.11, 4012.12, 4012.13, 4012.19 or used tyres of 4012.20.

However, new pneumatic tyres which have undergone supplementary recutting remain classifiable in their appropriate subheadings in **heading 40.11**.

4012.1

- Retreaded tyres :

4012.11

-- Of a kind used on motor cars (including station wagons and racing cars)

4012.12

-- Of a kind used on buses or lorries

4012.13

-- Of a kind used on aircraft

4012.19

-- Other

4012.20

- Used pneumatic tyres

4012.90

- Other

CLASSIFICATION OPINIONS

1. Tyre treads, consisting of unhardened vulcanised rubber, in the form of treaded strip in rolls of varying widths and lengths and having bevelled (slanted) or moulded (rounded) edges, used for retreading pneumatic tyres. These treads are cut to required lengths, applied to tyre carcasses with uncured cushion gum and then cured under heat and pressure.

Adoption : 1998

Heading 4013

Inner tubes, of rubber.

EXPLANATORY NOTES

40.13 - Inner tubes, of rubber.

4013.10 - Of a kind used on motor cars (including station wagons and racing cars), buses or lorries

4013.20 - Of a kind used on bicycles

4013.90 - Other

Inner tubes are fitted to the tyres of, for example, motor cars, trailers or bicycles.

4013.10

- Of a kind used on motor cars (including station wagons and racing cars), buses or lorries

4013.20

- Of a kind used on bicycles

4013.90

- Other

Heading 4014

Hygienic or pharmaceutical articles (including teats), of vulcanised rubber other than hard rubber, with or without fittings of hard rubber.

EXPLANATORY NOTES

40.14 - Hygienic or pharmaceutical articles (including teats), of vulcanised rubber other than hard rubber, with or without fittings of hard rubber.

4014.10 - Sheath contraceptives

4014.90 - Other

This heading covers goods of vulcanised rubber other than hard rubber (with or without fittings of hard rubber or other materials), of the kind used for hygienic or prophylactic purposes. It therefore covers, *inter alia,* sheath contraceptives, cannulas, syringes and bulbs for syringes, vaporisers, droppers, etc., teats (nursing nipples), nipple shields, ice-bags, hot-water bottles, oxygen bags, finger-stalls, pneumatic cushions specialised for nursing (e.g., ring-type).

The heading **does not include** clothing or clothing accessories (e.g., surgeons' and radiologists' aprons and gloves) (**heading 40.15**).

4014.10

- Sheath contraceptives

4014.90

- Other

CLASSIFICATION OPINIONS

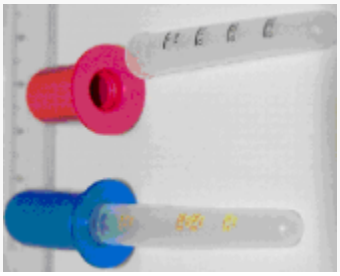
1. Graduated dropper tubes, made up of two different components fitted together for supplying products such as liquid pharmaceuticals in measured doses. Such tubes are comprised of the following :

a tubular dosage measure of transparent plastic material with a graduated scale from 0.25 to 1.0 ml.

It is 5.8 cm long, has different diameters at each end and weighs 1.1 g; and

a cylindrical teat of vulcanised rubber other than hard rubber, weighing 2.4 g.

Application of GIRs 1, 3 (c) and 6
Adoption : 2009



Heading 4015

Articles of apparel and clothing accessories (including gloves, mittens and mitts), for all purposes, of vulcanised rubber other than hard rubber.

EXPLANATORY NOTES

40.15 - Articles of apparel and clothing accessories (including gloves, mittens and mitts), for all purposes, of vulcanised rubber other than hard rubber (+).

- Gloves, mittens and mitts :

4015.12 - - Of a kind used for medical, surgical, dental or veterinary purposes

4015.19 - - Other

4015.90 - Other

This heading covers articles of apparel and clothing accessories (including gloves, mittens and mitts) e.g., protective gloves and clothing for surgeons, radiologists, divers, etc., whether assembled by means of an adhesive or by sewing or otherwise obtained. These goods may be :

(1) Wholly of rubber.

(2) Of woven, knitted or crocheted fabrics, felt or nonwovens, impregnated, coated, covered or laminated with rubber, **other than** those falling in **Section XI** (see Note 3 to Chapter 56 and Note 5 to Chapter 59).

(3) Of rubber, with parts of textile fabric, when the rubber is the constituent giving the goods their essential character.

The goods in the three categories cited above include capes, aprons, dress-shields, bibs, belts and corset-belts.

The following articles are **excluded** from the heading :

(a) Articles of apparel and clothing accessories of textile materials combined with rubber threads (**Chapter 61** or **62**).

(b) Footwear and parts thereof of **Chapter 64**.

(c) Headgear (including bathing caps) and parts of headgear, of **Chapter 65**.

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Subheading Explanatory Note.

Subheading 4015.12

Gloves of a kind used for medical, surgical, dental or veterinary purposes are single-use packaged sterile or bulked non-sterile gloves with high water tightness and tensile strength, to protect the patient and the user from cross-contamination. These gloves may also be used for diagnostic purposes, in scientific and medical research laboratories or in handling contaminated medical materials.

4015.1

- Gloves, mittens and mitts :

4015.12

-- Of a kind used for medical, surgical, dental or veterinary purposes

4015.19

-- Other

4015.90

- Other

Heading 4016

Other articles of vulcanised rubber other than hard rubber.

EXPLANATORY NOTES

40.16 - Other articles of vulcanised rubber other than hard rubber.

4016.10 - Of cellular rubber

- Other :

4016.91 - - Floor coverings and mats

4016.92 - - Erasers

4016.93 - - Gaskets, washers and other seals

4016.94 - - Boat or dock fenders, whether or not inflatable

4016.95 - - Other inflatable articles

4016.99 - - Other

This heading covers all articles of vulcanised rubber (other than hard rubber) not covered by the preceding headings of this Chapter or by other Chapters.

The heading includes :

(1) Articles of cellular rubber.

(2) Floor coverings and mats (including bath mats), **other than** rectangular (including square) mats cut from plates or sheets of rubber and not further worked than surface-worked (see the Explanatory Note to **heading 40.08**).

(3) Erasers.

(4) Gaskets, washers and other seals.

(5) Boat or dock fenders, whether or not inflatable.

(6) Pneumatic mattresses, pillows and cushions and other inflatable articles (**other than** those of **heading 40.14** or **63.06**); water-mattresses.

(7) Rubber bands; tobacco-pouches; characters for date stamps and the like.

(8) Stoppers and rings for bottles.

(9) Pump rotors and moulds; rubber liners for milking machines; taps, cocks, valves and similar appliances; other articles for technical uses (including parts and accessories of machines and appliances of Section XVI and of instruments and apparatus of Chapter 90).

(10) Chassis mounting rubbers, mudflaps and pedal covers for motor vehicles, brake-blocks, mudguard-flaps and pedal blocks for cycles, and other parts and accessories for vehicles, aircraft or vessels of Section XVII.

(11) Plates, sheets and strip merely cut to non-rectangular shapes, and articles excluded from heading 40.08 because they have been milled, turned, assembled by glueing or sewing or otherwise worked.

(12) Rectangular (including square) patches with bevelled edges and patches of any other shapes for repairing inner tubes, obtained by moulding, cutting or grinding, consisting generally of a layer of self-vulcanising rubber on a vulcanised rubber backing and, subject to the provisions of Note 5 to Chapter 59, such patches consisting of several layers of fabric and rubber.

(13) Rubber-headed hammers.

(14) Small suction hooks, table mats, sink plugs, sink plungers, doorstops, rubber feet for furniture legs and other articles for household use.

The following are also **excluded** from this heading :

(a) Articles of woven, knitted or crocheted fabrics, felt or nonwovens, impregnated, coated, covered or laminated with rubber, falling in **Section XI** (see Note 3 to Chapter 56 and Note 5 to Chapter 59) and articles made from textile materials combined with rubber threads (**Section XI**).

(b) Footwear and parts thereof of **Chapter 64**.

(c) Headgear (including bathing caps) and parts of headgear, of **Chapter 65**.

(d) Vacuum cup holders (suction grips) consisting of a base, a handle and a vacuum lever, of base metal, and rubber discs (**Section XV**).

(e) Rubber boats and rafts (**Chapter 89**).

(f) Parts and accessories of musical instruments (**Chapter 92**).

(g) Mattresses, pillows and cushions of cellular rubber, whether or not covered, including electric bed-warming pads fitted internally with cellular rubber, of **heading 94.04**.

(h) Toys, games and sports requisites and parts thereof of **Chapter 95**.

(ij) Date, sealing or numbering stamps, and the like, designed for operating in the hand, and other articles of **Chapter 96**.

4016.10

- Of cellular rubber

4016.9

- Other :

4016.91

-- Floor coverings and mats

4016.92

-- Erasers

4016.93

-- Gaskets, washers and other seals

CLASSIFICATION OPINIONS

1. **Gaskets, finished,** for use in engines and transmissions of motor vehicles, composed by weight, of 65 % synthetic, non-cellular, vulcanised rubber and 35 % cork. **Application of GIR 3 (b).** *Adoption : 1994*

2. **Cup for brake systems of motor vehicles**, made of vulcanised rubber other than hard rubber, with a diameter of 36.5 mm at the base, a diameter of 38.0 mm at the top and a thickness of 8.0 mm. It is used as a gasket to prevent fluid leaks in wheel brake systems. **Application of GIRs 1 and 6.** *Adoption : 2009*



4016.94

-- Boat or dock fenders, whether or not inflatable

4016.95

-- Other inflatable articles

4016.99

-- Other

CLASSIFICATION OPINIONS

1. **Vibration absorbing mounting** consisting of a heavy unhardened vulcanised rubber ring, of rectangular cross-section and of circular, oval or rectangular shape; fitted at opposite sides with metal bolts, held in place by flanges, for fixing the device to the plates or parts between which it is mounted.
   Application of Note 1 (a) to Section XVI. *See also Opinions 7318.29/1 and 8487.90/5. Adoption : 1966*



Heading 4017

Hard rubber (for example, ebonite) in all forms, including waste and scrap; articles of hard rubber.

EXPLANATORY NOTES

40.17 - Hard rubber (for example, ebonite) in all forms, including waste and scrap; articles of hard rubber.

Hard rubber (for example, ebonite) is obtained by vulcanising rubber with a high proportion (more than 15 parts per hundred parts of rubber) of combined sulphur. Hard rubber may also contain pigments and high levels of fillers, for example, coal, clays and silica. In the absence of fillers, pigments and cellular structures, hard rubber is a hard, brownish-black (or sometimes red) material which is relatively inflexible and inelastic and can be moulded, sawn, drilled, turned, polished, etc. Many hard rubbers acquire a highly lustrous finish when polished.

This heading covers hard rubber including the cellular variety, in all forms including waste and scrap.

The heading also covers all hard rubber articles not specified or included in other Chapters. It includes vats, troughs, articles of tubing, knife handles and knobs, grip-handles and the like of all kinds, sanitary and hygienic articles.

This heading **excludes**, *inter alia* :

(a) Mechanical or electrical appliances or parts thereof of **Section XVI** (including electrical goods of all kinds), of hard rubber.

(b) Parts and accessories of hard rubber for vehicles, aircraft, etc., which fall to be classified within any heading in **Chapters 86 to 88**.

(c) Instruments and appliances for medical, surgical, dental or veterinary purposes, and other instruments and apparatus of **Chapter 90**.

(d) Musical instruments and parts and accessories thereof (**Chapter 92**).

(e) Butt plates and other parts of arms (**Chapter 93**).

(f) Furniture, luminaires and lighting fittings, and other articles of **Chapter 94**.

(g) Toys, games and sports requisites (**Chapter 95**).

(h) Brushes and other articles of **Chapter 96**.

4017.00

Hard rubber (for example, ebonite) in all forms, including waste and scrap; articles of hard rubber.

Section VIII

RAW HIDES AND SKINS, LEATHER, FURSKINS AND ARTICLES THEREOF; SADDLERY AND HARNESS; TRAVEL GOODS, HANDBAGS AND SIMILAR CONTAINERS; ARTICLES OF ANIMAL GUT (OTHER THAN SILK-WORM GUT)

EXPLANATORY NOTES

Section VIII

RAW HIDES AND SKINS, LEATHER, FURSKINS AND ARTICLES THEREOF; SADDLERY AND HARNESS; TRAVEL GOODS, HANDBAGS AND SIMILAR CONTAINERS; ARTICLES OF ANIMAL GUT

(OTHER THAN SILK-WORM GUT)

Chapter 41

Raw hides and skins (other than furskins) and leather

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Parings or similar waste, of raw hides or skins (heading 05.11);

(b) Birdskins or parts of birdskins, with their feathers or down, of heading 05.05 or 67.01; or

(c) Hides or skins, with the hair or wool on, raw, tanned or dressed (Chapter 43); the following are, however, to be classified in Chapter 41, namely, raw hides and skins with the hair or wool on, of bovine animals (including buffalo), of equine animals, of sheep or lambs (except Astrakhan, Broadtail, Caracul, Persian or similar lambs, Indian, Chinese, Mongolian or Tibetan lambs), of goats or kids (except Yemen, Mongolian or Tibetan goats and kids), of swine (including peccary), of chamois, of gazelle of camels (including dromedaries), of reindeer, of elk, of deer, of roebucks or of dogs.

2.- (A) Headings 41.04 to 41.06 do not cover hides and skins which have undergone a tanning (including pre-tanning) process which is reversible (headings 41.01 to 41.03, as the case may be).

(B) For the purposes of headings 41.04 to 41.06, the term “crust” includes hides and skins that have been retanned, coloured or fat-liquored (stuffed) prior to drying.

3.- Throughout the Nomenclature the expression “composition leather” means only substances of the kind referred to in heading 41.15.

EXPLANATORY NOTES

Chapter 41

Raw hides and skins (other than furskins) and leather

Notes.

1.- This Chapter does not cover :

(a) Parings or similar waste, of raw hides or skins (heading 05.11);

(b) Birdskins or parts of birdskins, with their feathers or down, of heading 05.05 or 67.01; or

(c) Hides or skins, with the hair or wool on, raw, tanned or dressed (Chapter 43); the following are, however, to be classified in Chapter 41, namely, raw hides and skins with the hair or wool on, of bovine animals (including buffalo), of equine animals, of sheep or lambs (except Astrakhan, Broadtail, Caracul, Persian or similar lambs, Indian, Chinese, Mongolian or Tibetan lambs), of goats or kids (except Yemen, Mongolian or Tibetan goats and kids), of swine (including peccary),

of chamois, of gazelle of camels (including dromedaries), of reindeer, of elk, of deer, of roebucks or of dogs.

2.- (A) Headings 41.04 to 41.06 do not cover hides and skins which have undergone a tanning (including pre-tanning) process which is reversible (headings 41.01 to 41.03, as the case may be).

(B) For the purposes of headings 41.04 to 41.06, the term "crust" includes hides and skins that have been retanned, coloured or fat-liquored (stuffed) prior to drying.

3.- Throughout the Nomenclature the expression "composition leather" means only substances of the kind referred to in heading 41.15.

GENERAL

This Chapter covers :

(I) **Raw hides (the skins of the larger quadrupeds) and skins (other than birdskins with their feathers or down and furskins) (headings 41.01 to 41.03).** These headings also include raw hides and skins with the hair or wool on of animals mentioned in Note 1 (c) and referred to in the Explanatory Notes to headings 41.01 to 41.03.

Before undergoing tanning, hides and skins are first subjected to a series of preparatory processes, which consist of soaking them in alkaline solutions (to soften them and remove any salt used for preservation), dehairing and defleshing ("fleshing"), then removing the lime and other substances used in dehairing, and finally rinsing.

Headings 41.01 to 41.03 also cover raw hides and skins without the hair or wool, which have been subjected to a reversible tanning (including pre-tanning) process. Such process temporarily stabilises the hide or skin for splitting operations and temporarily prevents putrefaction. Hides and skins thus processed require further tanning before finishing and are **not** considered products of headings 41.04 to 41.06.

Hides and skins with the hair or wool on that have been pre-tanned or further prepared are **excluded** from this Chapter by Note 1(c) to this Chapter.

(II) **Hides and skins which have been tanned or crusted but not further prepared (headings 41.04 to 41.06)**. Tanning renders the hides and skins resistant to decay, and increases their impermeability to water. Tannins penetrate into the hide structure and form crosslinks with the collagen. This is an irreversible chemical reaction, which gives the resultant product stability against heat, light or perspiration and makes a hide or skin mouldable and usable.

They are then either "vegetable tanned" (in baths containing certain woods, barks, leaves, etc., or their extracts), "mineral tanned" (with mineral salts, e.g., chrome salts, iron salts or alums) or "chemically tanned" (with formaldehyde or certain synthetic chemicals). Sometimes combinations of these processes are used. Tanning of heavy leather by a mixture of alum and salt is known as **Hungarian dressing**, while in **alum tanning** a mixture of salt, alum, egg yolk and flour is used. Alum tanned hides and skins are used mainly in the manufacture of gloves, apparel and footwear.

Hides and skins which have been tanned or further prepared beyond tanning are known in trade as "**leather**". Leather which has been dried after tanning is known as "**crust**" or "crust**leather**". During the crusting procedure, a fat-liquor or oil may be added to give the crust some lubrication and flexibility, and the hide or skin may be retanned or coloured by immersion (e.g., in a drum) before drying.

Sheep and lamb skins which have been oil-tanned and dressed to produce **chamois** leather (including combination chamois leather) are provided for in **heading 41.14**.

(III) **Leather further prepared after tanning or crusting (headings 41.07, 41.12 and 41.13)**. After tanning or crusting, the leather frequently undergoes further treatment ("currying") to remove irregularities of the surface and render it ready for use by making it more supple, waterproof, etc. These processes consist of further working by softening, stretching, thinning, beating or hardening the surface, and feeding ("stuffing") with oils.

The leather may then be further dressed or finished by the application of a surface colour or pigment, graining or stamping to imitate skins of other kinds, sizing, polishing, grinding (or buffing) of the flesh side (or occasionally the grain side) to give a suède or velvet finish, waxing, blacking, smoothing (glazing), satin finishing, printing, etc.

Parchment-dressed leather is prepared from raw hides or skins, not by a process of tanning, but by treating the raw hides and skins to ensure their preservation. These are softened, dehaired, defleshed, washed and then stretched on a frame, coated with a paste containing whiting and soda or slaked lime, shaved to reduce them to the desired thickness and ground with pumice. Finally, they may be dressed with gelatin and starch.

The finer quality leathers, called "vellum", are prepared from the skins of new-born calves. These materials are used for fine bookbinding, for important documents, for drum-skins, etc. Thicker hides and skins (i.e., usually of larger bovine animals) are sometimes similarly treated (the coarser products being known as "rawhide") and are used for the manufacture of machinery parts, tools, travel goods, etc.

(IV) **Chamois leather; patent leather and patent laminated leather; metallised leather (heading 41.14)**. Heading 41.14 includes the specialty leathers named in the heading text and produced by specific finishing operations. The heading therefore covers sheep and lamb skins which have been oil-tanned and dressed to produce **chamois leather** (including combination chamois leather); leather which has been coated or covered with a varnish or lacquer or with a pre-formed sheet of plastics **(patent leather or patent laminated leather)**; and leather which has been coated with metal powder or metal leaf **(metallised leather)**.

(V) **Composition (bonded) leather with a basis of leather or leather fibre (heading 41.15)**.

(VI) **Parings and other waste of leather or of composition leather (heading 41.15).** This heading does not include parings and similar waste of raw hides or skins or of furskins.

Hides, skins and leather fall in this Chapter whether whole (i.e., the shape of the hides, skins and leather have the contour of the animal, but may have the skin of the head and legs removed) or in portions (e.g., sides, shoulders, butts, bends, bellies, cheeks), strips or sheets; pieces of leather cut to special shapes are, however, regarded as articles of other Chapters, particularly **Chapter 42** or **64**.

Split hides and skins and split leathers are classified in the same headings as the corresponding whole hides and skins and whole leathers respectively. Splitting is the process to horizontally divide hides and skins into more than one layer and may be carried out either before or after tanning. The object in splitting is to obtain a more even thickness for processing and a more uniform final leather. The outer or grain layer of a hide, known as the “grain split”, is levelled by passing the hide across an endless band-knife to an accuracy of a few millimetres; the bottom layer, known as the “flesh split”, is of irregular shape and thickness. Several layers can be produced from an exceptionally thick hide, such as buffalo. However, in such cases, the middle layers are weaker in structure than the outer layers.

Heading 4101

Raw hides and skins of bovine (including buffalo) or equine animals (fresh, or salted, dried, limed, pickled or otherwise preserved, but not tanned, parchment-dressed or further prepared), whether or not dehaired or split.

EXPLANATORY NOTES

41.01 - Raw hides and skins of bovine (including buffalo) or equine animals (fresh, or salted, dried, limed, pickled or otherwise preserved, but not tanned, parchment-dressed or further prepared), whether or not dehaired or split.

4101.20 - Whole hides and skins, unsplit,of a weight per skin not exceeding 8 kg when simply dried, 10 kg when dry-salted, or 16 kg when fresh, wet-salted or otherwise preserved

4101.50 - Whole hides and skins, of a weight exceeding 16 kg

4101.90 - Other, including butts, bends and bellies

This heading covers raw hides and skins (whether or not the hair has been removed) of bovine animals (including buffalo) (i.e., animals of heading 01.02, see the Explanatory Note to that heading) or equine animals (horses, mules, asses, zebras, etc.).

These raw hides and skins may be fresh (green) or temporarily preserved by salting, drying, liming, pickling or any other method to prevent putrefaction in the short term. They may also be cleaned, split or scraped, or may have undergone a tanning (including pre-tanning) process which is reversible, but not subjected to any other tanning or equivalent process (such as parchment-dressing) nor further prepared.

Hides and skins may be either **dry salted**, or **wet salted** by means of brine. In the dry salting process, small proportions of other substances are sometimes added to prevent staining. In India, a clayey earth containing sodium sulphate is sometimes added.

Hides may be **dried** directly or as an additional treatment after salting. During drying, the hides and skins are often treated with insecticidal, disinfecting or similar preparations.

Hides and skins are **limed** by soaking them in lime water or by painting them with a paste containing slaked lime. The liming facilitates dehairing and also helps to preserve the hides and skins.

Hides and skins are **pickled** by steeping in weak solutions of hydrochloric or sulphuric acid, or of certain other chemicals, together with common salt. This process preserves the hides and skins.

The heading **does not include :**

(a) Uncooked edible skins of animals (**heading 02.06** or **02.10**). (When cooked, such skins are classified in **heading 16.02**.)

(b) Parings and similar waste of raw hides or skins (**heading 05.11**).

4101.20

- Whole hides and skins, unsplit, of a weight per skin not exceeding 8 kg when simply dried, 10 kg when dry-salted, or 16 kg when fresh, wet-salted or otherwise preserved

4101.50

- Whole hides and skins, of a weight exceeding 16 kg

4101.90

- Other, including butts, bends and bellies

Heading 4102

Raw skins of sheep or lambs (fresh, or salted, dried, limed, pickled or otherwise preserved, but not tanned, parchment-dressed or further prepared), whether or not with wool on or split, other than those excluded by Note 1 (c) to this Chapter.

EXPLANATORY NOTES

41.02 - Raw skins of sheep or lambs (fresh, or salted, dried, limed, pickled or otherwise preserved, but not tanned, parchment-dressed or further prepared), whether or not with wool on or split, other than those excluded by Note 1 (c) to this Chapter.

4102.10 - With wool on

- Without wool on :

4102.21 - - Pickled

4102.29 - - Other

This heading covers raw skins of sheep or lambs whether or not with wool on. It **does not**, however, **cover** skins with wool on of Astrakhan, Broadtail, Caracul, Persian or similar lambs (i.e., lambs of a variety similar to Caracul or Persian but known by different names in various parts of the world), Indian, Chinese, Mongolian or Tibetan lambs.

These raw skins may be fresh (green) or temporarily preserved by salting, drying, liming, pickling or any other method to prevent putrefaction in the short term (see the Explanatory Note to heading 41.01). They may also be cleaned, split or scraped, or may have undergone a tanning (including pre-tanning) process which is reversible, but not subjected to any other tanning or equivalent process (such as parchment-dressing) nor further prepared.

The heading **does not include** :

(a) Uncooked edible skins of animals (**heading 02.06** or **02.10**). (When cooked, such skins are classified in **heading 16.02**).

(b) Parings and similar waste of raw skins (**heading 05.11**).

4102.10

- With wool on

4102.2

- Without wool on :

4102.21

-- Pickled

4102.29

-- Other

Heading 4103

Other raw hides and skins (fresh, or salted, dried, limed, pickled or otherwise preserved, but not tanned, parchment-dressed or further prepared), whether or not dehaired or split, other than those excluded by Note 1 (b) or 1 (c) to this Chapter.

EXPLANATORY NOTES

41.03 - Other raw hides and skins (fresh, or salted, dried, limed, pickled or otherwise preserved, but not tanned, parchment-dressed or further prepared), whether or not dehaired or split, other than those excluded by Note 1 (b) or 1 (c) to this Chapter.

4103.20 - Of reptiles

4103.30 - Of swine

4103.90 - Other

This heading covers :

(A) All raw hides and skins without hair or dehaired, **other than** those of **heading 41.01** or **41.02**. The heading includes birdskins from which the feathers and down have been removed, and fish skins, reptile skins and dehaired skins of goats or kids (including Yemen, Mongolian or Tibetan goats and kids).

(B) Raw hides and skins, from which the hair has not been removed, of the following animals only :

(1) Goats and kids (**other than** Yemen, Mongolian or Tibetan goats and kids).

(2) Swine, including peccary.

(3) Chamois, gazelle and camels (including dromedaries).

(4) Elk, reindeer, roebucks and other deer.

(5) Dogs.

These raw hides and skins may be fresh (green) or temporarily preserved by salting, drying, liming, pickling or any other method to prevent putrefaction in the short term (see the Explanatory Note to heading 41.01). They may also be cleaned, split or scraped, or may have undergone a tanning (including pre-tanning) process which is reversible, but not subjected to any other tanning or equivalent process (such as parchment-dressing) nor further prepared.

The heading **does not include** :

(a) Uncooked edible skins of animals (**Chapter 2**) or of fish (**Chapter 3**). (When cooked, such skins are classified in **Chapter 16**.)

(b) Parings and similar waste of raw hides or skins (**heading 05.11**).

(c) Birdskins and parts of birdskins, with their feathers or down, of **heading 05.05** or **67.01**.

4103.20

- Of reptiles

4103.30

- Of swine

4103.90

- Other

Heading 4104

Tanned or crust hides and skins of bovine (including buffalo) or equine animals, without hair on, whether or not split, but not further prepared.

EXPLANATORY NOTES

41.04 - Tanned or crust hides and skins of bovine (including buffalo) or equine animals, without hair on, whether or not split, but not further prepared.

- In the wet state (including wet-blue) :

4104.11 - - Full grains, unsplit; grain splits

4104.19 - - Other

- In the dry state (crust) :

4104.41 - - Full grains, unsplit; grain splits

4104.49 - - Other

This heading covers dehaired hides and skins, of bovine (including buffalo) or equine animals, which have been tanned or crusted but not further prepared (see the General Explanatory Note to this Chapter).

The heading **excludes** :

(a) Chamois (including combination chamois) leather (**heading 41.14**).

(b) Parings and other waste of tanned or crust leather (**heading 41.15**).

(c) Hides and skins of bovine (including buffalo) or equine animals, tanned or crusted, with the hair on (**Chapter 43**).

4104.1

- In the wet state (including wet-blue) :
4104.11

-- Full grains, unsplit; grain splits
4104.19

-- Other
4104.4

- In the dry state (crust) :
4104.41

-- Full grains, unsplit; grain splits
4104.49

-- Other
Heading 4105

Tanned or crust skins of sheep or lambs, without wool on, whether or not split, but not further prepared.
EXPLANATORY NOTES

41.05 - Tanned or crust skins of sheep or lambs, without wool on, whether or not split, but not further prepared.

4105.10 - In the wet state (including wet-blue)

4105.30 - In the dry state (crust)

This heading covers the skins of sheep or lambs (including those of crossed sheep and goats), tanned or crusted, without the wool on, but not further prepared (see the General Explanatory Note to this Chapter).

Sheep or lamb leather is somewhat similar to that of goats or kids but is of looser texture and has a more irregular grain.

Sheepskins are often “alum tanned” (see the General Explanatory Note to this Chapter).

The grain splits of the sheepskin, when tanned, are called a “skiver”; “basils” are sheepskins tanned with certain vegetable tannings.

The heading **excludes** :

(a) Chamois (including combination chamois) leather (**heading 41.14**).

(b) Parings and other waste of tanned or crust leather (**heading 41.15**).

(c) Sheep or lamb skins, tanned or crusted, with the wool on (**Chapter 43**).

4105.10

- In the wet state (including wet-blue)

4105.30

- In the dry state (crust)

Heading 4106

Tanned or crust hides and skins of other animals, without wool or hair on, whether or not split, but not further prepared.

EXPLANATORY NOTES

41.06 - Tanned or crust hides and skins of other animals, without wool or hair on, whether or not split, but not further prepared.

- Of goats or kids :

4106.21 - - In the wet state (including wet-blue)

4106.22 - - In the dry state (crust)

- Of swine :

4106.31 - - In the wet state (including wet-blue)

4106.32 - - In the dry state (crust)

4106.40 - Of reptiles

- Other :

4106.91 - - In the wet state (including wet-blue)

4106.92 - - In the dry state (crust)

This heading covers the skins of goats or kids, tanned or crusted, without the hair on, but not further prepared (see the General Explanatory Note to this Chapter).

Features which distinguish sheep leather from that of goats are referred to in the Explanatory Note to heading 41.05.

Goat or kid skins may also be “alum tanned” (see the General Explanatory Note to this Chapter).

This heading also covers the hairless or dehaired hides or skins of all animals **not referred** to in **headings 41.04 and 41.05** which have been processed in the same way as the hides and skins of those headings (see the General Explanatory Note to this Chapter).

The heading therefore covers, for example, the leather of swine, reptiles (lizards, snakes, crocodiles, etc.), antelope, kangaroos, deer, chamois, reindeer, elk, elephants, camels (including dromedaries), hippo-potami, dogs, and of fish or marine mammals.

The heading **excludes** :

(a) Chamois (including combination chamois) leather (**heading 41.14**).

(b) Parings and other waste of tanned or crust leather (**heading 41.15**).

(c) Hides and skins, tanned or crusted, with the hair on (**Chapter 43**).

4106.2

- Of goats or kids :
4106.21

-- In the wet state (including wet-blue)
4106.22

-- In the dry state (crust)
4106.3

- Of swine :
4106.31

-- In the wet state (including wet-blue)
4106.32

-- In the dry state (crust)
4106.40

- Of reptiles
4106.9

- Other :
4106.91

-- In the wet state (including wet-blue)
4106.92

-- In the dry state (crust)
Heading 4107

Leather further prepared after tanning or crusting, including parchment-dressed leather, of bovine (including buffalo) or equine animals, without hair on, whether or not split, other than leather of heading 41.14.
EXPLANATORY NOTES

41.07 - Leather further prepared after tanning or crusting, including parchment-dressed leather, of bovine (including buffalo) or equine animals, without hair on, whether or not split, other than leather of heading 41.14.

- Whole hides and skins :

4107.11 - - Full grains, unsplit

4107.12 - - Grain splits

4107.19 - - Other

- Other, including sides :

4107.91 - - Full grains, unsplit

4107.92 - - Grain splits

4107.99 - - Other

This heading covers dehaired hides and skins, of bovine (including buffalo) or equine animals, which have been parchment-dressed, and leather which has been prepared after tanning or crusting (see the General Explanatory Note to this Chapter).

Bovine or equine leathers are particularly notable for their stoutness and durability; sole leather and leather for machinery belting are, therefore, generally of these kinds.

Sole leather is a hard-rolled or hammered leather. It is usually vegetable-tanned or tanned by a combination process and brown in colour, but some varieties (of a greenish-blue colour) are chrome-tanned.

Leather for machinery belting is usually made from the backs of ox hides, generally vegetable-tanned, and well greased and dressed to provide strong, flexible leather almost free from stretch.

Bovine (including buffalo) or equine leather is also frequently used for boot or shoe uppers, e.g., the varieties known as “box-calf” or “willow-calf” (coloured and polished chrome-tanned calf leather which has been tanned by chrome or sometimes by a combination process).

The heading **excludes** :

(a) Chamois (including combination chamois) leather, and patent leather, patent laminated leather and metallised leather (**heading 41.14**).

(b) Parings and other waste of leather (**heading 41.15**).

(c) Hides and skins of bovine (including buffalo) or equine animals, dressed with the hair on (**Chapter 43**).

4107.1

- Whole hides and skins :

4107.11

-- Full grains, unsplit

4107.12

-- Grain splits

4107.19

-- Other

4107.9

- Other, including sides :

4107.91

-- Full grains, unsplit

4107.92

-- Grain splits

4107.99

-- Other

Heading 4112

Leather further prepared after tanning or crusting, including parchment-dressed leather, of sheep or lamb, without wool on, whether or not split, other than leather of heading 41.14.

EXPLANATORY NOTES

41.12 - Leather further prepared after tanning or crusting, including parchment-dressed leather, of sheep or lamb, without wool on, whether or not split, other than leather of heading 41.14.

This heading covers the skins of sheep or lambs (including those of crossed sheep and goats), without the wool on, which have been parchment-dressed, and leather of sheep or lambs which has been further prepared after tanning or crusting (see the General Explanatory Note to this Chapter).

Sheep or lamb leather is somewhat similar to that of goats or kids but is of looser texture and has a more irregular grain.

The heading **excludes** :

(a) Chamois (including combination chamois) leather, and patent leather, patent laminated leather and metallised leather (**heading 41.14**).

(b) Parings and other waste of leather (**heading 41.15**).

(c) Sheep or lamb skins, dressed with the wool on (**Chapter 43**).

4112.00

Leather further prepared after tanning or crusting, including parchment-dressed leather, of sheep or lamb, without wool on, whether or not split, other than leather of heading 41.14.

Heading 4113

Leather further prepared after tanning or crusting, including parchment-dressed leather, of other animals, without wool or hair on, whether or not split, other than leather of heading 41.14.

EXPLANATORY NOTES

41.13 - Leather further prepared after tanning or crusting, including parchment-dressed leather, of other animals, without wool or hair on, whether or not split, other than leather of heading 41.14.

4113.10 - Of goats or kids

4113.20 - Of swine

4113.30 - Of reptiles

4113.90 - Other

This heading covers the skins of goats or kids without the hair which have been parchment-dressed, and leather of goats which has been further prepared after tanning or crusting (see the General Explanatory Note to this Chapter).

Features which distinguish sheep leather from goat leather are referred to in the Explanatory Note to heading 41.12.

Goat or kid skins may also be “alum tanned” (see the General Explanatory Note to this Chapter).

This heading also covers the leather produced from the hairless or dehaired hides or skins of all animals **not referred** to in **headings 41.07** and **41.12** which have been processed in the same way as the hides and skins of those headings (see the General Explanatory Note to this Chapter).

The heading therefore covers, for example, the leather (**other than** leather of **heading 41.14**) of swine, reptiles (lizards, snakes, crocodiles, etc.), antelope, kangaroos, deer, chamois, reindeer, elk, elephants, camels (including dromedaries), hippopotami, dogs, and of fish or marine mammals.

The leather commercially known as "doeskin" is a washable leather made from split sheepskin, tanned with formaldehyde or oil, and is **excluded** (**heading 41.12** or **41.14**).

The heading also **excludes** :

(a) Chamois (including combination chamois) leather, and patent leather, patent laminated leather and metallised leather (**heading 41.14**).

(b) Parings and other waste of leather (**heading 41.15**).

(c) Hides and skins, dressed with the hair on (**Chapter 43**).

4113.10

- Of goats or kids

4113.20

- Of swine

4113.30

- Of reptiles

4113.90

- Other

Heading 4114

Chamois (including combination chamois) leather; patent leather and patent laminated leather; metallised leather.

EXPLANATORY NOTES

41.14 - Chamois (including combination chamois) leather; patent leather and patent laminated leather; metallised leather.

4114.10 - Chamois (including combination chamois) leather

4114.20 - Patent leather and patent laminated leather; metallised leather

(I) Chamois (including combination chamois) leather

Chamois leather is tanned and dressed by repeated working of the skins with fish or animal oil, after which they are dried by warming or exposure to air, and washed in alkali to remove surplus oil. The surface may then be cleaned and dressed by fluffing with pumice or other abrasives. The leather usually treated in this way is made from the flesh split of sheep skin or lamb skin from which the grain has been removed by frizing.

Chamois leather is characterised by its softness, yellow colour (except when dyed) and washable character. It is used largely for gloves, wash-leathers, etc., and the skins of larger animals (deer, stag, etc.) similarly treated are used for clothing, harness or certain industrial purposes.

Chamois leather which is obtained by using solely oils, as described above, is sometimes referred to as full oil chamois.

White washable leather, similar in properties to the yellow chamois leather, is obtained by partial tanning with formaldehyde followed by oil tanning such as described above and is known as combination chamois. The heading covers this leather also, but **not other** washable leathers (e.g., alum and formaldehyde tanned), **nor** leather merely "stuffed" with oil after being fully tanned by other processes.

(II) Patent leather and patent laminated leather; metallised leather

This group covers :

(1) **Patent leather**, which is leather coated or covered with a varnish or lacquer or with a pre-formed sheet of plastics and which has a lustrous mirror-like surface.

The applied varnish or lacquer may be pigmented or non-pigmented and may have a basis of :

(a) vegetable drying oil (usually linseed oil);

(b) cellulose derivatives (e.g., nitrocellulose);

(c) synthetic products (whether or not thermoplastic), mainly polyurethanes.

The pre-formed sheet of plastics applied to leather is generally made from polyurethane or poly(vinyl chloride).

The surface of the products of this group is not necessarily smooth. It may be embossed to imitate certain skins (crocodile, lizard, etc.) or artificially crushed, crinkled or grained. It must, however, retain a lustrous mirror-like appearance.

The thickness of the coating or the sheet does not exceed 0.15 mm.

This group also covers leather coated or covered with a paint or lacquer consisting of pigments (including mica, silica or similar flakes) to give the leather a metallic lustre, in a binder of, e.g., plastics or vegetable drying oil ("imitation metallised leather").

(2) **Patent laminated leather** also known in the trade as **patent coated leather**, which is **leather** covered with a pre-formed sheet of plastics of a thickness exceeding 0.15 mm but less than half the total thickness and having the lustrous mirror-like appearance of patent leather. (Leather covered with a pre-formed sheet of plastics the thickness of which exceeds 0.15 mm but is not less than one half of the total thickness falls in **Chapter 39**.)

(3) **Metallised leather**, which is leather coated with metal powder or metal leaf (for example, of silver, gold, bronze or aluminium).

The heading does not, however, include composition leather, varnished or metallised (**heading 41.15).**

4114.10

- Chamois (including combination chamois) leather

4114.20

- Patent leather and patent laminated leather; metallised leather

Heading 4115

Composition leather with a basis of leather or leather fibre, in slabs, sheets or strip, whether or not in rolls; parings and other waste of leather or of composition leather, not suitable for the manufacture of leather articles; leather dust, powder and flour.

EXPLANATORY NOTES

41.15 - Composition leather with a basis of leather or leather fibre, in slabs, sheets or strip, whether or not in rolls; parings and other waste of leather or of composition leather, not suitable for the manufacture of leather articles; leather dust, powder and flour.

4115.10 - Composition leather with a basis of leather or leather fibre, in slabs, sheets or strip, whether or not in rolls

4115.20 - Parings and other waste of leather or of composition leather, not suitable for the manufacture of leather articles; leather dust, powder and flour

(I) Composition leather

This group covers **only** composition leather with a basis of natural leather or leather fibres. It is to be noted that it **does not apply** to imitation leathers not based on natural leather, such as plastics (**Chapter 39**), rubber (**Chapter 40**), paper and paperboard (**Chapter 48**) or coated textile fabrics (**Chapter 59**).

Composition leather, which is also known as “bonded leather”, may be made by various processes :

(1) By agglomerating parings and small waste pieces of leather with glue or other binder.

(2) By agglomerating parings and small waste pieces of leather without a binder under strong compression.

(3) By breaking down parings and waste into thin fibres by heating in hot water (without binders, like paper); the pulp thus obtained is formed into sheets by sieving, rolling and calendering.

Composition leather may be dyed, embossed, polished, grained or stamped, suede finished by grinding with carborundum or emery, varnished or metallised.

Such composition leather is classified in this heading when in slabs, sheets or strip, whether or not in rolls; if cut to shapes other than square or rectangular, it is classified in other Chapters, in particular **Chapter 42**.

(II) Parings and other waste

This group covers :

(1) Parings and other waste of leather (including composition or parchment-dressed leather) resulting from the manufacture of leather goods, suitable for the production of composition leather or glue, etc., or for use as fertilisers.

(2) Worn out articles of leather, incapable of further use for their original purpose, and not usable as leather for the production of other articles.

(3) Leather dust and powder (the waste of leather buffing and fluffing) used as a fertiliser or for making artificial suèdes, composition floorings, etc.

(4) Leather flour, produced by grinding waste leather and used in making suèded fabrics or as a filler in plastics, etc.

Scrap pieces of leather and worn out leather goods (e.g., old machinery belting) capable of being used in the manufacture of leather goods are classified as leather in the appropriate heading (**headings 41.07** or **41.12 to 41.14**).

The heading also **excludes** :

(a) Parings and similar waste of raw hides or skins (**heading 05.11**).

(b) Old footwear of **heading 63.09**.

4115.10

- Composition leather with a basis of leather or leather fibre, in slabs, sheets or strip, whether or not in rolls

4115.20

- Parings and other waste of leather or of composition leather, not suitable for the manufacture of leather articles; leather dust, powder and flour

Chapter 42

Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut)

LEGAL NOTES

Notes.

1.- For the purposes of this Chapter, the term “leather” includes chamois (including combination chamois) leather, patent leather, patent laminated leather and metallised leather.

2.- This Chapter does not cover :

(a) Sterile surgical catgut or similar sterile suture materials (heading 30.06);

(b) Articles of apparel or clothing accessories (except gloves, mittens and mitts), lined with furskin or artificial fur or to which furskin or artificial fur is attached on the outside except as mere trimming (heading 43.03 or 43.04);

(c) Made up articles of netting (heading 56.08);

(d) Articles of Chapter 64;

(e) Headgear or parts thereof of Chapter 65;

(f) Whips, riding-crops or other articles of heading 66.02;

(g) Cuff-links, bracelets or other imitation jewellery (heading 71.17);

(h) Fittings or trimmings for harness, such as stirrups, bits, horse brasses and buckles, separately presented (generally Section XV);

(ij) Strings, skins for drums or the like, or other parts of musical instruments (heading 92.09);

(k) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings);

(l) Articles of Chapter 95 (for example, toys, games, sports requisites); or

(m) Buttons, press-fasteners, snap-fasteners, press-studs, button moulds or other parts of these articles, button blanks, of heading 96.06.

3.- (A) In addition to the provisions of Note 2 above, heading 42.02 does not cover :

(a) Bags made of sheeting of plastics, whether or not printed, with handles, not designed for prolonged use (heading 39.23);

(b) Articles of plaiting materials (heading 46.02).

(B) Articles of headings 42.02 and 42.03 which have parts of precious metal or metal clad with precious metal, of natural or cultured pearls, of precious or semi-precious stones (natural, synthetic or reconstructed) remain classified in those headings even if such parts constitute more than minor fittings or minor ornamentation, provided that these parts do not give the articles their essential character. If, on the other hand, the parts give the articles their essential character, the articles are to be classified in Chapter 71.

4.- For the purposes of heading 42.03, the expression "articles of apparel and clothing accessories" applies, *inter alia*, to gloves, mittens and mitts (including those for sport or for protection), aprons and other protective clothing, braces, belts, bandoliers and wrist straps, but excluding watch straps (heading 91.13).

EXPLANATORY NOTES

Chapter 42

Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut)

Notes.

1.- For the purposes of this Chapter, the term "leather" includes chamois (including combination chamois) leather, patent leather, patent laminated leather and metallised leather.

2.- This Chapter does not cover :

(a) Sterile surgical catgut or similar sterile suture materials (heading 30.06);

(b) Articles of apparel or clothing accessories (except gloves, mittens and mitts), lined with furskin or artificial fur or to which furskin or artificial fur is attached on the outside except as mere trimming (heading 43.03 or 43.04);

(c) Made up articles of netting (heading 56.08);

(d) Articles of Chapter 64;

(e) Headgear or parts thereof of Chapter 65;

(f) Whips, riding-crops or other articles of heading 66.02;

(g) Cuff-links, bracelets or other imitation jewellery (heading 71.17);

(h) Fittings or trimmings for harness, such as stirrups, bits, horse brasses and buckles, separately presented (generally Section XV);

(ij) Strings, skins for drums or the like, or other parts of musical instruments (heading 92.09);

(k) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings);

(l) Articles of Chapter 95 (for example, toys, games, sports requisites); or

(m) Buttons, press-fasteners, snap-fasteners, press-studs, button moulds or other parts of these articles, button blanks, of heading 96.06.

3.- (A) In addition to the provisions of Note 2 above, heading 42.02 does not cover :

(a) Bags made of sheeting of plastics, whether or not printed, with handles, not designed for prolonged use (heading 39.23);

(b) Articles of plaiting materials (heading 46.02).

(B) Articles of headings 42.02 and 42.03 which have parts of precious metal or metal clad with precious metal, of natural or cultured pearls, of precious or semi-precious stones (natural, synthetic or reconstructed) remain classified in those headings even if such parts constitute more than minor fittings or minor ornamentation, provided that these parts do not give the articles their essential character. If, on the other hand, the parts give the articles their essential character, the articles are to be classified in Chapter 71.

4.- For the purposes of heading 42.03, the expression “articles of apparel and clothing accessories” applies, *inter alia*, to gloves, mittens and mitts (including those for sport or for protection), aprons and other protective clothing, braces, belts, bandoliers and wrist straps, but excluding watch straps (heading 91.13).

GENERAL

This Chapter principally covers articles of leather or composition leather; however, headings 42.01 and 42.02 also include certain articles characteristically of the leather trade but made from other materials. It further covers certain articles of gut, goldbeater’s skin, bladders or tendons.

Leather

For the purposes of this Chapter, the term “leather” is defined in Note 1 to this Chapter. The term “leather” includes chamois (including combination chamois) leather, patent leather, patent laminated leather and metallised leather, i.e., the products described in heading 41.14.

Certain leather articles, however, are classified in **other Chapters** and these are referred to in the Explanatory Notes to the various headings hereafter.

Heading 4201

Saddlery and harness for any animal (including traces, leads, knee pads, muzzles, saddle cloths, saddle bags, dog coats and the like), of any material.

EXPLANATORY NOTES

42.01 - Saddlery and harness for any animal (including traces, leads, knee pads, muzzles, saddle cloths, saddle bags, dog coats and the like), of any material.

This heading covers equipment for all kinds of animals, of leather, composition leather, furskin, textiles or other materials.

These goods include, *inter alia*, saddles and harness (including reins, bridles and traces) for saddle, draught and pack animals, knee pads, blinkers and boots for horses, decorated trappings for circus animals, muzzles for any animal, collars, leads and trappings for dogs or cats, saddle cloths, saddle cushions and saddle bags, horse blankets specially shaped for the purpose, coats for dogs.

The heading **does not cover** :

(a) Fittings or trimmings for harness, such as stirrups, bits, horse brasses and buckles, separately presented (generally **Section XV**) and decorations such as plumes for circus animals (classified in their own appropriate headings).

(b) Harness for children or adults (**headings 39.26**, **42.05**, **63.07**, etc.).

(c) Whips, riding-crops or other articles of **heading 66.02**.

4201.00

Saddlery and harness for any animal (including traces, leads, knee pads, muzzles, saddle cloths, saddle bags, dog coats and the like), of any material.

Heading 4202

Trunks, suit-cases, vanity-cases, executive-cases, brief-cases, school satchels, spectacle cases, binocular cases, camera cases, musical instrument cases, gun cases, holsters and similar containers; travelling-bags, insulated food or beverages bags, toilet bags, rucksacks, handbags, shopping-bags, wallets, purses, map-cases, cigarette-cases, tobacco-pouches, tool bags, sports bags, bottle-cases, jewellery boxes, powder-boxes, cutlery cases and similar containers, of leather or of composition leather, of sheeting of plastics, of textile materials, of vulcanised fibre or of paperboard, or wholly or mainly covered with such materials or with paper.

EXPLANATORY NOTES

42.02 - Trunks, suit-cases, vanity-cases, executive-cases, brief-cases, school satchels, spectacle cases, binocular cases, camera cases, musical instrument cases, gun cases, holsters and similar containers; travelling-bags, insulated food or beverages bags, toilet bags, rucksacks, handbags, shopping-bags, wallets, purses, map-cases, cigarette-cases, tobacco-pouches, tool bags, sports bags, bottle-cases, jewellery boxes, powder-boxes, cutlery cases and similar containers, of leather or of composition leather, of sheeting of plastics, of textile materials, of vulcanised fibre or of paperboard, or wholly or mainly covered with such materials or with paper (+).

- Trunks, suit-cases, vanity-cases, executive-cases, brief-cases, school satchels and similar containers :

4202.11 - - With outer surface of leather or of composition leather

4202.12 - - With outer surface of plastics or of textile materials

4202.19 - - Other

- Handbags, whether or not with shoulder strap, including those without handle :

4202.21 - - With outer surface of leather or of composition leather

4202.22 - - With outer surface of sheeting of plastics or of textile materials

4202.29 - - Other

- Articles of a kind normally carried in the pocket or in the handbag :

4202.31 - - With outer surface of leather or of composition leather

4202.32 - - With outer surface of sheeting of plastics or of textile materials

4202.39 - - Other

- Other :

4202.91 - - With outer surface of leather or of composition leather

4202.92 - - With outer surface of sheeting of plastics or of textile materials

4202.99 - - Other

This heading covers **only** the articles specifically named therein and similar containers.

These containers may be rigid or with a rigid foundation, or soft and without foundation.

Subject to Notes 2 and 3 to this Chapter, the articles covered by the first part of the heading may be of any material. The expression “similar containers” in the first part includes hat boxes, camera accessory cases, cartridge pouches, sheaths for hunting or camping knives, portable tool boxes or cases, specially shaped or internally fitted to contain particular tools with or without their accessories, etc.

The articles covered by the second part of the heading must, however, be only of the materials specified therein or must be wholly or mainly covered with such materials or with paper (the foundation may be of wood, metal, etc.). The term “leather” includes chamois (including combination chamois) leather, patent leather, patent laminated leather and metallised leather (see Note 1 to this Chapter). The expression “similar containers” in this second part includes note-cases, writing-cases, pen-cases, ticket-cases, needle-cases, key-cases, cigar-cases, pipe-cases, tool and jewellery rolls, shoe-cases, brush-cases, etc.

The goods of this heading may have parts of precious metal or metal clad with precious metal, of natural or cultured pearls, of precious or semi-precious stones (natural, synthetic or reconstructed), even if such parts constitute more than minor fittings or minor ornamentation, **provided** that these

parts do not give the articles their essential character. Thus a leather handbag with a silver frame and a clasp of onyx would remain in this heading (see Note 3 (B) to this Chapter).

The expression “sports bags” includes articles such as golf bags, gym bags, tennis racket carrying bags, ski bags and fishing bags.

The term “jewellery boxes” covers not only boxes specially designed for keeping jewellery, but also similar lidded containers of various dimensions (with or without hinges or fasteners) specially shaped or fitted to contain one or more pieces of jewellery and normally lined with textile material, of the type in which articles of jewellery are presented and sold and which are suitable for long-term use.

The expression "insulated food or beverage bags" covers reusable insulated bags used to maintain the temperature of foods and beverages during transport or temporary storage.

The heading **does not cover** :

(a) Shopping bags, including bags consisting of two outer layers of plastics sandwiching an inner layer of cellular plastics, not designed for prolonged use, as described in Note 3 (A) (a) to this Chapter (**heading 39.23**).

(b) Articles of plaiting materials (**heading 46.02**).

(c) Articles which, although they may have the character of containers, are not similar to those enumerated in the heading, for example, book covers and reading jackets, file-covers, document-jackets, blotting pads, photo-frames, sweetmeat boxes, tobacco jars, ashtrays, flasks made of ceramics, glass, etc., and which are wholly or mainly covered with leather, sheeting of plastics, etc. Such articles fall in **heading 42.05** if made of (or covered with) leather or composition leather, and in **other Chapters** if made of (or covered with) other materials.

(d) Made up articles of netting (**heading 56.08**).

(e) Imitation jewellery (**heading 71.17**).

(f) Tool boxes or cases, not specially shaped or internally fitted to contain particular tools with or without their accessories (generally, **heading 39.26** or **73.26**).

(g) Scabbards or sheaths for swords, bayonets, daggers or similar arms (**heading 93.07**).

(h) Articles of **Chapter 95** (for example, toys, games, sports requisites).

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Subheading Explanatory Notes.

Subheadings 4202.11, 4202.21, 4202.31 and 4202.91

For the purposes of these subheadings, the expression “with outer surface of leather” includes leather coated with a thin layer of plastics or synthetic rubber which is invisible to the naked eye (usually less than 0.15 mm in thickness), to protect the leather surface, no account being taken of a change in colour or shine.

Subheadings 4202.31, 4202.32 and 4202.39

These subheadings cover articles of a kind normally carried in the pocket or in the handbag and include spectacle cases, note-cases (bill-folds), wallets, purses, key-cases, cigarette-cases, cigar-cases, pipe-cases and tobacco-pouches.

4202.1

- Trunks, suit-cases, vanity-cases, executive-cases, brief-cases, school satchels and similar containers :

4202.11

-- With outer surface of leather or of composition leather

4202.12

-- With outer surface of plastics or of textile materials

CLASSIFICATION OPINIONS

1. **Portable document case of plastics** with multiple interior pockets, a front lock for closing (buckle) and a handle. All external sides are hemmed for reinforcement. It is used for containing, organising, storing and carrying documents, papers, files, etc. and designed for prolonged use. **Application of GIRs 1 and 6.** *Adoption : 2018*





2. **Portable document case** with a single compartment and a front fastener for closing (button and rubber band). All sides and edges are hemmed with textile fabric and the two sides and bottom are fully finished with textile. The remaining surfaces, including the front and back parts, are made of plastics.

It is used for containing, storing and carrying documents, papers, files, etc. and designed for prolonged use.
Application of GIRs 1 and 6.
Adoption : 2018





4202.19

-- Other

4202.2

- Handbags, whether or not with shoulder strap, including those without handle :

4202.21

-- With outer surface of leather or of composition leather

CLASSIFICATION OPINIONS

1. Handbag**, consisting of stamped leather on the outer surface and textile materials on the inner surface (dimensions approximately 35 x 22.5 x 17 cm), with an oval-shaped firm bottom. A zipper closure opens to the fully lined inner compartment with a zippered pocket, a small wall pocket and a cell phone pocket. It has two leather carrying straps. The leather has been treated with a very thin plastic coating merely to provide a protective finish. The coating is not visible to the naked eye.**

Application of GIRs 1 and 6.

Adoption : 2004

4202.22

-- With outer surface of sheeting of plastics or of textile materials

4202.29

-- Other
4202.3

- Articles of a kind normally carried in the pocket or in the handbag :
4202.31

-- With outer surface of leather or of composition leather
4202.32

-- With outer surface of sheeting of plastics or of textile materials

CLASSIFICATION OPINIONS

1. Cover made of plastics and designed for a particular model of mobile phone. The cover has a magnet that interlocks with a built-in Hall Integrated Circuit in the front part of the mobile phone. The mobile phone senses whether the cover is open or closed by detecting the change of magnetic field. When the cover is closed, the mobile phone activates the User Interface mode by resizing the display area to fit the transparent window on the front cover. **Application of GIRs 1 and 6.** *Adoption : 2018*



4202.39

-- Other
4202.9

- Other :
4202.91

-- With outer surface of leather or of composition leather

CLASSIFICATION OPINIONS

1. Waist pouch **with outer surface of soft leather at the front and top and textile materials at the bottom and back (dimensions approximately 26 x 13 x 8 cm). It has one large compartment with two superimposed smaller compartments attached to the front and a hideaway pocket in the back, all with zipper closures. The main compartment and the hideaway pocket are fully lined with textile materials; the two smaller compartments are lined with textile materials at the front only. An adjustable textile webbing belt with a side release plastic buckle is stitched into the pouch. The leather has been treated with a very thin plastic coating merely to provide a protective finish. The coating is not visible to the naked eye.**

Application of GIRs 1 and 6.

Adoption : 2004

4202.92

-- With outer surface of sheeting of plastics or of textile materials

CLASSIFICATION OPINIONS

1. Portable picnic cooler bag, consisting of an outer shell with an outer surface of plastic sheeting, with an insulating core of polymer-based closed-cell foam, and in sizes from 30 cm x 46 cm x19 cm to 23 cm x 18 cm x 15 cm. This bag has plastic or textile handles or shoulder straps and is intended for carrying food or beverages to and from the home or office, and for trips, picnics, sporting and other events.
Adoption : 1996



4202.99

-- Other

CLASSIFICATION OPINIONS

1. Portable tool box (or case) for storing and carrying a hand-operated drill and accessories, made entirely of moulded plastics, with internal recesses on each of its two (hinged) sides specially shaped to accommodate the tool and its accessories, approximately rectangular in shape (dimensions 35 x 29 x 8 cm), incorporating snap closing devices and a handle (formed by matching moulded apertures on each of the two sides), and with the name of the tool manufacturer moulded into one of the external faces.
Adoption : 1991

2. Portable tool box (or case) for storing and carrying a hand-operated sanding machine and accessories, made of two sides or sections (lid and bottom) of moulded plastics hinged with the aid of a metal rod and fitted internally with a removable tray of moulded plastics with recesses specially shaped to accommodate the tool and its accessories, approximately rectangular in shape (dimensions 38 x 28 x 12 cm), incorporating snap closing devices and a handle (formed by matching moulded apertures on each of the two sides or sections).
Adoption : 1991

Heading 4203

Articles of apparel and clothing accessories, of leather or of composition leather.

EXPLANATORY NOTES

42.03 - Articles of apparel and clothing accessories, of leather or of composition leather (+).

4203.10 - Articles of apparel

- Gloves, mittens and mitts :

4203.21 - - Specially designed for use in sports

4203.29 - - Other

4203.30 - Belts and bandoliers

4203.40 - Other clothing accessories

This heading covers all wearing apparel and clothing accessories (with the exceptions specified below), of leather or of composition leather. It therefore covers coats, overcoats, gloves, mittens and mitts (including those for sport or for protection), aprons, sleeves and other protective clothing, braces, belts, bandoliers, girdles, neckties and wrist straps.

It also covers leather strips obtained by cutting, tapered at one end, and identifiable as intended for making up belts.

Gloves, mittens and mitts of both leather and furskin or of both leather and artificial fur are in all cases classified in the heading.

Except in the case of gloves, mittens and mitts, articles of apparel and clothing accessories of leather or composition leather which are lined with furskin or artificial fur, or to which furskin or artificial fur is attached on the outside except as mere trimming, fall in **heading 43.03** or **43.04**.

Goods remain classified in this heading whether or not they contain electric heating elements.

The goods of this heading may have parts of precious metal or metal clad with precious metal, of natural or cultured pearls, of precious or semi-precious stones (natural, synthetic or reconstructed), even if such parts constitute more than minor fittings or minor ornamentation, **provided** that these parts do not give the articles their essential character. Thus a leather belt with a gold buckle would remain in this heading (see Note 3 (B) to this Chapter).

The heading also **excludes** :

(a) Articles of apparel or clothing accessories of skin tanned with the hair or wool on, particularly lamb or sheep skin (**Chapter 43**).

(b) Garments of textile materials with leather reinforcements (**Chapter 61** or **62**).

(c) Articles of **Chapter 64** (for example, footwear and parts of footwear).

(d) Headgear or parts thereof, of **Chapter 65**.

(e) Cuff-links, bracelets or other imitation jewellery (**heading 71.17**).

(f) Watch straps (**heading 91.13**).

(g) Articles of **Chapter 95** (for example, sports requisites such as shin-guards for cricket, hockey, etc., or protective equipment for sports, e.g. fencing masks and breast plates). (Leather sports clothing and sports gloves, mittens and mitts, however, are classified in this heading.)

(h) Buttons, press-fasteners, snap-fasteners and press-studs, button moulds or other parts of these articles, button blanks (**heading 96.06**).

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Subheading Explanatory Note.

Subheading 4203.21

The expression “Gloves, mittens and mitts, specially designed for use in sports” includes gloves, mittens and mitts, whether sold singly or in pairs, having functional design features which make them particularly suitable for use in sports (e.g., ice hockey gloves, which protect the hands and assist the holding of the stick, and boxing gloves).

4203.10

- Articles of apparel

4203.2

- Gloves, mittens and mitts :

4203.21

-- Specially designed for use in sports

4203.29

-- Other

4203.30

- Belts and bandoliers

4203.40

- Other clothing accessories

Heading 4205

Other articles of leather or of composition leather.

EXPLANATORY NOTES

42.05 - Other articles of leather or of composition leather.

This heading covers those articles of leather or composition leather which do not fall in the preceding headings of this Chapter or in other Chapters of the Nomenclature.

The heading includes the following articles of a kind used in machinery or mechanical appliances or for other technical uses :

(1) Transmission or conveyor belting for machinery (including plaited belting) of any section, whether made up into finished belts or in the length. Flat leather belting is composed of strips of selected leather spliced and cemented end to end. Round belting is generally prepared from strips, rolled and cemented to form a circular section. Conveyor buckets are also included.

Transmission or conveyor belts or belting presented with the machines or apparatus for which they are designed, whether or not actually mounted, are to be classified with that machine or apparatus (e.g., **Section XVI**).

(2) Lug straps, pickers, combing leathers, card clothing leathers (card clothing fitted with pins falls in **heading 84.48**), heald straps and other leather articles for textile machinery; gears, gaskets, washers, valve leathers, pump or press leathers, cylinder sleeves for printing presses, and perforated leather for grading machines; rawhide hammers; gas meter diaphragms and other leather parts of mechanical appliances or instruments of Chapter 90; leather tubes and hose-piping.

It also includes the following articles :

Luggage labels; razor strops; boot laces; handles for parcel-carriers; corner reinforcers (for trunks, suit-cases, etc.); unstuffed pouffe cases (stuffed pouffes are classified in **heading 94.04**); straps of general use (**other than** those of **heading 42.01**); harness for children or adults; leather welts in the length; leather mats (**other than** saddle cloths which are classified in **heading 42.01**); reading-covers for books; blotting pads; leather or goatskin water bottles and other containers (including those wholly or mainly covered with leather or composition leather) not being similar to those specified in **heading 42.02**; parts of braces; leather-covered buckles, clasps and the like; cases, tassels and the like for umbrellas, sunshades or walking-sticks; sword knots; chamois-dressed leather with serrated edges or assembled (however, chamois-dressed leather not cut to special shapes or with serrated edges, e.g., for use as dusters, is classified in **heading 41.14**); nail-polishers covered with buckskin; pieces cut to shape for leather or composition leather articles (e.g., apparel), not elsewhere specified or included.

The heading also **excludes** :

(a) Parts of footwear of **Chapter 64**.

(b) Whips, riding-crops or other articles of **heading 66.02**.

(c) Artificial flowers, foliage or fruit or parts thereof (**heading 67.02**).

(d) Cuff-links, bracelets or other imitation jewellery (**heading 71.17**).

(e) Articles of **Chapter 94** (for example, furniture, parts of furniture, luminaires and lighting fittings).

(f) Articles of **Chapter 95** (for example, toys, games, sports requisites).

(g) Buttons, press-fasteners, etc., of **heading 96.06**.

4205.00

Other articles of leather or of composition leather.

Heading 4206

Articles of gut (other than silk-worm gut), of goldbeater's skin, of bladders or of tendons.

EXPLANATORY NOTES

42.06 - Articles of gut (other than silk-worm gut), of goldbeater's skin, of bladders or of tendons.

This heading includes :

(1) Catgut, manufactured by twisting strips of cleaned and dried gut, especially sheep's gut. Catgut is used mainly in the manufacture of rackets, of fishing tackle and of machinery parts.

The heading **excludes**, however, sterile surgical catgut or similar sterile suture materials (**heading 30.06**) or gut put up or prepared as musical instrument strings (**heading 92.09**).

(2) Goldbeater's skin in rectangular (including square) pieces or cut to other shapes, and other articles of goldbeater's skin. (Goldbeater's skin is the prepared blind gut of sheep or other ruminant animals.)

(3) Articles made from bladders, such as tobacco pouches; tendons made up as machinery belting, laces for machinery belting, etc. "Artificial" guts made by glueing together split natural guts also fall in this heading.

4206.00

Articles of gut (other than silk-worm gut), of goldbeater's skin, of bladders or of tendons.

Chapter 43

Furskins and artificial fur; manufactures thereof

LEGAL NOTES

Notes.

1.- Throughout the Nomenclature references to “furskins”, other than to raw furskins of heading 43.01, apply to hides or skins of all animals which have been tanned or dressed with the hair or wool on.

2.- This Chapter does not cover :

(a) Birdskins or parts of birdskins, with their feathers or down (heading 05.05 or 67.01);

(b) Raw hides or skins, with the hair or wool on, of Chapter 41 (see Note 1 (c) to that Chapter);

(c) Gloves, mittens and mitts, consisting of leather and furskin or of leather and artificial fur (heading 42.03);

(d) Articles of Chapter 64;

(e) Headgear or parts thereof of Chapter 65; or

(f) Articles of Chapter 95 (for example, toys, games, sports requisites).

3.- Heading 43.03 includes furskins and parts thereof, assembled with the addition of other materials, and furskins and parts thereof, sewn together in the form of garments or parts or accessories of garments or in the form of other articles.

4.- Articles of apparel and clothing accessories (except those excluded by Note 2) lined with furskin or artificial fur or to which furskin or artificial fur is attached on the outside except as mere trimming are to be classified in heading 43.03 or 43.04 as the case may be.

5.- Throughout the Nomenclature the expression “artificial fur” means any imitation of furskin consisting of wool, hair or other fibres gummed or sewn on to leather, woven fabric or other materials, but does not include imitation furskins obtained by weaving or knitting (generally, heading 58.01 or 60.01).

EXPLANATORY NOTES

Chapter 43

Furskins and artificial fur; manufactures thereof

Notes.

1.- Throughout the Nomenclature references to “furskins”, other than to raw furskins of heading 43.01, apply to hides or skins of all animals which have been tanned or dressed with the hair or wool on.

2.- This Chapter does not cover :

(a) Birdskins or parts of birdskins, with their feathers or down (heading 05.05 or 67.01);

(b) Raw hides or skins, with the hair or wool on, of Chapter 41 (see Note 1 (c) to that Chapter);

(c) Gloves, mittens and mitts, consisting of leather and furskin or of leather and artificial fur (heading 42.03);

(d) Articles of Chapter 64;

(e) Headgear or parts thereof of Chapter 65; or

(f) Articles of Chapter 95 (for example, toys, games, sports requisites).

3.- Heading 43.03 includes furskins and parts thereof, assembled with the addition of other materials, and furskins and parts thereof, sewn together in the form of garments or parts or accessories of garments or in the form of other articles.

4.- Articles of apparel and clothing accessories (except those excluded by Note 2) lined with furskin or artificial fur or to which furskin or artificial fur is attached on the outside except as mere trimming are to be classified in heading 43.03 or 43.04 as the case may be.

5.- Throughout the Nomenclature the expression “artificial fur” means any imitation of furskin consisting of wool, hair or other fibres gummed or sewn on to leather, woven fabric or other materials, but does not include imitation furskins obtained by weaving or knitting (generally, heading 58.01 or 60.01).

GENERAL

This Chapter covers :

(1) Raw furskins **other than** raw hides and skins of **heading 41.01**, **41.02** or **41.03**.

(2) Hides and skins tanned or dressed with the hair or wool on, unassembled or assembled.

(3) Apparel, clothing accessories and other manufactured articles of furskin (subject to the **exceptions** specified in the Explanatory Note to heading 43.03).

(4) Artificial fur and articles thereof.

It is to be noted that birdskins and parts of birdskins, with their feathers or down, are **not** treated as furskins; they fall in **heading 05.05** or **67.01**.

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It is to be noted that headings 43.01 to 43.03 cover furskins and articles of furskin of some species of wild animals which are now threatened with extinction or which may become so unless trade in specimens of such species is strictly regulated. Such species are listed in the Appendices of the 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington Convention).

Heading 4301

Raw furskins (including heads, tails, paws and other pieces or cuttings, suitable for furriers' use), other than raw hides and skins of heading 41.01, 41.02 or 41.03.

EXPLANATORY NOTES

43.01 - Raw furskins (including heads, tails, paws and other pieces or cuttings, suitable for furriers' use), other than raw hides and skins of heading 41.01, 41.02 or 41.03.

4301.10 - Of mink, whole, with or without head, tail or paws

4301.30 - Of lamb, the following : Astrakhan, Broadtail, Caracul, Persian and similar lamb, Indian, Chinese, Mongolian or Tibetan lamb, whole, with or without head, tail or paws

4301.60 - Of fox, whole, with or without head, tail or paws

4301.80 - Other furskins, whole, with or without head, tail or paws

4301.90 - Heads, tails, paws and other pieces or cuttings, suitable for furriers' use

This heading covers the raw (i.e., not tanned or dressed) skins with the hair or wool on, of all animals **except** the following, which fall in **heading 41.01**, **41.02** or **41.03** :

(a) Bovine animals (including buffalo) (i.e., animals of heading 01.02, see the Explanatory Note to that heading).

(b) Equine animals (horses, mules, asses, zebras, etc.).

(c) Sheep and lambs (**other than** Astrakhan, Broadtail, Caracul, Persian or similar lambs, and Indian, Chinese, Mongolian or Tibetan lambs).

The names Astrakhan, Broadtail, Caracul and Persian are used loosely for similar kinds of lambs. However, these terms, when used in relation to furs, denote different qualities of furs, depending upon, for example, the age of the lamb.

(d) Goats and kids (**other than** Yemen, Mongolian or Tibetan goats and kids).

(e) Swine, including peccary.

(f) Chamois, gazelle and camels (including dromedaries).

(g) Elk, reindeer, roebucks and other deer.

(h) Dogs.

Furskins are regarded as raw and falling in this heading not only when in the natural state, but also if cleaned and preserved from deterioration, e.g., by drying or salting (wet or dry). The fur may also be "pulled" or "sheared", i.e., the coarse hairs extracted or cut down, or the skin surface may be "fleshed" or scraped.

Pieces of furskin and parts such as heads, tails and paws, in the raw state, are also classified in this heading **unless** clearly waste material not suitable for furriers' use, in which case they are **excluded** (**heading 05.11**).

4301.10

- Of mink, whole, with or without head, tail or paws

4301.30

- Of lamb, the following : Astrakhan, Broadtail, Caracul, Persian and similar lamb, Indian, Chinese, Mongolian or Tibetan lamb, whole, with or without head, tail or paws

4301.60

- Of fox, whole, with or without head, tail or paws

4301.80

- Other furskins, whole, with or without head, tail or paws

4301.90

- Heads, tails, paws and other pieces or cuttings, suitable for furriers' use

Heading 4302

Tanned or dressed furskins (including heads, tails, paws and other pieces or cuttings), unassembled, or assembled (without the addition of other materials) other than those of heading 43.03.

EXPLANATORY NOTES

43.02 - Tanned or dressed furskins (including heads, tails, paws and other pieces or cuttings), unassembled, or assembled (without the addition of other materials) other than those of heading 43.03.

- Whole skins, with or without head, tail or paws, not assembled :

4302.11 - - Of mink

4302.19 - - Other

4302.20 - Heads, tails, paws and other pieces or cuttings, not assembled

4302.30 - Whole skins and pieces or cuttings thereof, assembled

This heading covers :

(1) Unassembled hides or skins (including heads, tails, paws and other pieces or cuttings) tanned or dressed with the hair or wool on provided that they have **not** been cut to shape for specific uses. Tanned or dressed whole furskins, unassembled and not cut to shape or otherwise processed for

specific uses, remain in this heading, even if they can be put to immediate use (for example, as rugs).

(2) Assemblies of tanned or dressed furskins or parts thereof (including "dropped" skins), sewn together without the addition of other materials usually in rectangles (including squares), trapeziums or crosses.

"Dropped furskins" are furskins which have been cut into V- or W-shaped strips, and reassembled in their original order so as to obtain a longer but narrower furskin.

Tanning consists of the treatment of the flesh side by methods analogous to those used in the manufacture of leather (see the General Explanatory Note to Chapter 41). The skins so treated may generally be distinguished from raw skins by their softness and pliability. The hair or wool may also be treated to improve its appearance or to imitate finer fur by such processes as bleaching, blending or "topping" (surface dyeing by means of a brush), dyeing, combing, trimming and glossing, including treatment with artificial resins.

It is to be noted that skins with the hair or wool on, of the kinds excluded from heading 43.01 (such as pony skins, calfskins, and sheepskins), fall in this heading if tanned or dressed.

The assemblies of tanned or dressed furskins or parts thereof of this heading are semi-manufactures consisting of two or more skins or pieces of skin which have been sewn together, usually in the form of rectangles (including squares), trapeziums or crosses without the addition of other materials. These semi-manufactures are intended to be further worked.

Such forms are known as :

(1) **Plates, mats and strips** - rectangular (including square) assemblies.

(2) **Crosses** - cruciform assemblies.

(3) **Sacs (linings or robes)** - assemblies in the form of a trapezium, sometimes sewn into tubular form.

Bodies for making fur coats or jackets also fall in this heading. They usually consist of three separate assemblies of furskin, one in the form of isosceles trapezium with a long curved base (from which the back will be cut) and the other two in rectangular form (from which the front and sleeves will be cut).

The heading **excludes** :

(a) Furskins and assemblies of furskins (including heads, paws, tails and other pieces or cuttings) in the rough form of garments or parts or accessories of garments or of other articles, and finished trimmings ready for use as such or requiring only to be cut to length in order to be applied as a trimming (**heading 43.03**).

(b) Assemblies (for example, galloonage) consisting of furskins and other materials (e.g., tails combined with leather or textile fabric) (**heading 43.03**).

- Whole skins, with or without head, tail or paws, not assembled :

4302.11

-- Of mink

4302.19

-- Other

4302.20

- Heads, tails, paws and other pieces or cuttings, not assembled

4302.30

- Whole skins and pieces or cuttings thereof, assembled

Heading 4303

Articles of apparel, clothing accessories and other articles of furskin.

EXPLANATORY NOTES

43.03 - Articles of apparel, clothing accessories and other articles of furskin.

4303.10 - Articles of apparel and clothing accessories

4303.90 - Other

With the **exceptions** referred to below, this heading covers all articles of apparel, including parts and clothing accessories (muffs, stoles, ties, collars, etc.) made of :

(A) Furskin.

(B) Other materials lined with furskin.

(C) Other materials having furskin on the outside (**except** as mere trimming).

Fur on a garment would be regarded as mere trimming if constituting, for example, the collar and revers (provided the collar or revers were not so exaggerated as to form virtually a cape or bolero), cuffs or edging to pockets, skirts, coats, etc.

This heading also covers hides or skins tanned or dressed with the hair or wool on, assembled with the addition of other materials (e.g. galloonage) **provided** that the addition of these other materials does not alter the essential character of the assembly as a furskin.

In addition, the heading covers all other articles, including parts, made of furskin, or in which furskin gives the essential character. Examples are rugs, coverlets, unstuffed pouffes, cases, handbags, game-bags and haversacks, and articles and accessories for use in machinery or mechanical appliances or for industrial purposes (e.g., polishing caps, sleeves for rollers used for painting or decorating).

The heading **excludes** :

(a) Articles of the first part of **heading 42.02**.

(b) Gloves, mittens and mitts, of leather and furskin (**heading 42.03**) (those wholly of furskin remain in this heading).

(c) Articles of **Chapter 64**.

(d) Headgear and parts thereof of **Chapter 65**.

(e) Articles of **Chapter 95** (for example, toys, games and sports requisites).

4303.10

- Articles of apparel and clothing accessories

4303.90

- Other

CLASSIFICATION OPINIONS

1. Rug made of a whole grizzly bear furskin, with head, tail and paws, fixed to an underlay of textile materials. The head is taxidermy mounted and its eyes and tongue have been replaced by artificial eyes and tongue.
Application of GIRs 1 and 6.
See also Opinions 9705.22/1, 9705.29/1 and 9705.29/2.
Adoption : 2014



Heading 4304

Artificial fur and articles thereof.

EXPLANATORY NOTES

43.04 - Artificial fur and articles thereof.

The expression “artificial fur” means a material consisting of wool, hair or other fibres (including fibres in the form of chenille yarn) gummed or sewn on to leather, woven fabric or other material in a manner imitating furskins; the description does **not**, however, extend to woven or knitted long pile fabrics of the kind sometimes known as “fur fabric” (generally **heading 58.01** or **60.01**), nor to “pointed” furs, i.e., real furs in which additional hairs have been inserted.

This heading applies to such material in the piece and to articles (including apparel and clothing accessories) made therefrom, subject to the same qualifications as are referred to in the Explanatory Note to heading 43.03 as regards similar articles of real furskin.

The heading applies also to artificial tails made by assembling fibres of fur or hair fibres on a core of leather or cord. Fabricated tails consisting of a number of real tails or scraps of fur threaded on a core are, however, **excluded** (**heading 43.03**).

4304.00

Artificial fur and articles thereof.

Section XI

TEXTILES AND TEXTILE ARTICLES

LEGAL NOTES

Notes.

1.- This Section does not cover :

(a) Animal brush-making bristles or hair (heading 05.02); horsehair or horsehair waste (heading 05.11);

(b) Human hair or articles of human hair (heading 05.01, 67.03 or 67.04), except filtering or straining cloth of a kind commonly used in oil presses or the like (heading 59.11);

(c) Cotton linters or other vegetable materials of Chapter 14;

(d) Asbestos of heading 25.24 or articles of asbestos or other products of heading 68.12 or 68.13;

(e) Articles of heading 30.05 or 30.06; yarn used to clean between the teeth (dental floss), in individual retail packages, of heading 33.06;

(f) Sensitised textiles of headings 37.01 to 37.04;

(g) Monofilament of which any cross-sectional dimension exceeds 1 mm or strip or the like (for example, artificial straw) of an apparent width exceeding 5 mm, of plastics (Chapter 39), or plaits or fabrics or other basketware or wickerwork of such monofilament or strip (Chapter 46);

(h) Woven, knitted or crocheted fabrics, felt or nonwovens, impregnated, coated, covered or laminated with plastics, or articles thereof, of Chapter 39;

(ij) Woven, knitted or crocheted fabrics, felt or nonwovens, impregnated, coated, covered or laminated with rubber, or articles thereof, of Chapter 40;

(k) Hides or skins with their hair or wool on (Chapter 41 or 43) or articles of furskin, artificial fur or articles thereof, of heading 43.03 or 43.04;

(l) Articles of textile materials of heading 42.01 or 42.02;

(m) Products or articles of Chapter 48 (for example, cellulose wadding);

(n) Footwear or parts of footwear, gaiters or leggings or similar articles of Chapter 64;

(o) Hair-nets or other headgear or parts thereof of Chapter 65;

(p) Goods of Chapter 67;

(q) Abrasive-coated textile material (heading 68.05) and also carbon fibres or articles of carbon fibres of heading 68.15;

(r) Glass fibres or articles of glass fibres, other than embroidery with glass thread on a visible ground of fabric (Chapter 70);

(s) Articles of Chapter 94 (for example, furniture, bedding, luminaires and lighting fittings);

(t) les of Chapter 95 (for example, toys, games, sports requisites and nets);

(u) Articles of Chapter 96 (for example, brushes, travel sets for sewing, slide fasteners, typewriter ribbons, sanitary towels (pads) and tampons, napkins (diapers) and napkin liners); or

(v) Articles of Chapter 97.

2.- (A) Goods classifiable in Chapters 50 to 55 or in heading 58.09 or 59.02 and of a mixture of two or more textile materials are to be classified as if consisting wholly of that one textile material which predominates by weight over any other single textile material.

When no one textile material predominates by weight, the goods are to be classified as if consisting wholly of that one textile material which is covered by the heading which occurs last in numerical order among those which equally merit consideration.

(B) For the purposes of the above rule :

(a) Gimped horsehair yarn (heading 51.10) and metallised yarn (heading 56.05) are to be treated as a single textile material the weight of which is to be taken as the aggregate of the weights of its components; for the classification of woven fabrics, metal thread is to be regarded as a textile material;

(b) The choice of appropriate heading shall be effected by determining **first** the Chapter and **then** the applicable heading within that Chapter, disregarding any materials not classified in that Chapter;

(c) When both Chapters 54 and 55 are involved with any other Chapter, Chapters 54 and 55 are to be treated as a single Chapter;

(d) Where a Chapter or a heading refers to goods of different textile materials, such materials are to be treated as a single textile material.

(C) The provisions of paragraphs (A) and (B) above apply also to the yarns referred to in Note 3, 4, 5 or 6 below.

3.- (A) For the purposes of this Section, and subject to the exceptions in paragraph (B) below, yarns (single, multiple (folded) or cabled) of the following descriptions are to be treated as “twine, cordage, ropes and cables” :

(a) Of silk or waste silk, measuring more than 20,000 decitex;

(b) Of man-made fibres (including yarn of two or more monofilaments of Chapter 54), measuring more than 10,000 decitex;

(c) Of true hemp or flax :

(i) Polished or glazed, measuring 1,429 decitex or more; or

(ii) Not polished or glazed, measuring more than 20,000 decitex;

(d) Of coir, consisting of three or more plies;

(e) Of other vegetable fibres, measuring more than 20,000 decitex; or

(f) Reinforced with metal thread.

(B) Exceptions :

(a) Yarn of wool or other animal hair and paper yarn, other than yarn reinforced with metal thread;

(b) Man-made filament tow of Chapter 55 and multifilament yarn without twist or with a twist of less than 5 turns per metre of Chapter 54;

(c) Silk worm gut of heading 50.06, and monofilaments of Chapter 54;

(d) Metallised yarn of heading 56.05; yarn reinforced with metal thread is subject to paragraph (A) (f) above; and

(e) Chenille yarn, gimped yarn and loop wale-yarn of heading 56.06.

4.- (A) For the purposes of Chapters 50, 51, 52, 54 and 55, the expression “put up for retail sale” in relation to yarn means, subject to the exceptions in paragraph (B) below, yarn (single, multiple (folded) or cabled) put up :

(a) On cards, reels, tubes or similar supports, of a weight (including support) not exceeding :

(i) 85 g in the case of silk, waste silk or man-made filaments; or

(ii) 125 g in other cases;

(b) In balls, hanks or skeins of a weight not exceeding :

(i) 85 g in the case of man-made filament yarn of less than 3,000 decitex, silk or silk waste;

(ii) 125 g in the case of all other yarns of less than 2,000 decitex; or

(iii) 500 g in other cases.

(c) In hanks or skeins comprising several smaller hanks or skeins separated by dividing threads which render them independent one of the other, each of uniform weight not exceeding :

(i) 85 g in the case of silk, waste silk or man-made filaments; or

(ii) 125 g in other cases.

(B) Exceptions :

(a) Single yarn of any textile material, except :

(i) Single yarn of wool or fine animal hair, unbleached; and

(ii) Single yarn of wool or fine animal hair, bleached, dyed or printed, measuring more than 5,000 decitex;

(b) Multiple (folded) or cabled yarn, unbleached :

(i) Of silk or waste silk, however put up; or

(ii) Of other textile material except wool or fine animal hair, in hanks or skeins;

(c) Multiple (folded) or cabled yarn of silk or waste silk, bleached, dyed or printed, measuring 133 decitex or less; and

(d) Single, multiple (folded) or cabled yarn of any textile material :

(i) In cross-reeled hanks or skeins; or

(ii) Put up on supports or in some other manner indicating its use in the textile industry (for example, on cops, twisting mill tubes, pirns, conical bobbins or spindles, or reeled in the form of cocoons for embroidery looms).

5.- For the purposes of headings 52.04, 54.01 and 55.08, the expression “sewing thread” means multiple (folded) or cabled yarn :

(a) Put up on supports (for example, reels, tubes) of a weight (including support) not exceeding 1,000 g;

(b) Dressed for use as sewing thread; and

(c) With a final “Z” twist.

6.- For the purposes of this Section, the expression “high tenacity yarn” means yarn having a tenacity, expressed in cN/tex (centinewtons per tex), greater than the following :

Single yarn of nylon or other polyamides, or of polyesters ..... 60 cN/tex

Multiple (folded) or cabled yarn of nylon or other polyamides, or of polyesters ..... 53 cN/tex

Single, multiple (folded) or cabled yarn of viscose rayon ..... 27 cN/tex.

7.- For the purposes of this Section, the expression “made up” means :

(a) Cut otherwise than into squares or rectangles;

(b) Produced in the finished state, ready for use (or merely needing separation by cutting dividing threads) without sewing or other working (for example, certain dusters, towels, table cloths, scarf squares, blankets);

(c) Cut to size and with at least one heat-sealed edge with a visibly tapered or compressed border and the other edges treated as described in any other subparagraph of this Note, but excluding fabrics the cut edges of which have been prevented from unravelling by hot cutting or by other simple means;

(d) Hemmed or with rolled edges, or with a knotted fringe at any of the edges, but excluding fabrics the cut edges of which have been prevented from unravelling by whipping or by other simple means;

(e) Cut to size and having undergone a process of drawn thread work;

(f) Assembled by sewing, gumming or otherwise (other than piece goods consisting of two or more lengths of identical material joined end to end and piece goods composed of two or more textiles assembled in layers, whether or not padded);

(g) Knitted or crocheted to shape, whether presented as separate items or in the form of a number of items in the length.

8.- For the purposes of Chapters 50 to 60 :

(a) Chapters 50 to 55 and 60 and, except where the context otherwise requires, Chapters 56 to 59 do not apply to goods made up within the meaning of Note 7 above; and

(b) Chapters 50 to 55 and 60 do not apply to goods of Chapters 56 to 59.

9.- The woven fabrics of Chapters 50 to 55 include fabrics consisting of layers of parallel textile yarns superimposed on each other at acute or right angles. These layers are bonded at the intersections of the yarns by an adhesive or by thermal bonding.

10.- Elastic products consisting of textile materials combined with rubber threads are classified in this Section.

11.- For the purposes of this Section, the expression “impregnated” includes “dipped”.

12.- For the purposes of this Section, the expression “polyamides” includes “aramids”.

13.- For the purposes of this Section and, where applicable, throughout the Nomenclature, the expression “elastomeric yarn “means filament yarn, including monofilament, of synthetic textile material, other than textured yarn, which does not break on being extended to three times its original length and which returns, after being extended to twice its original length, within a period of five minutes, to a length not greater than one and a half times its original length.

14.- Unless the context otherwise requires, textile garments of different headings are to be classified in their own headings even if put up in sets for retail sale. For the purposes of this Note, the expression “textile garments” means garments of headings 61.01 to 61.14 and headings 62.01 to 62.11.

15.- Subject to Note 1 to Section XI, textiles, garments and other textile articles, incorporating chemical, mechanical or electronic components for additional functionality, whether incorporated as built-in components or within the fibre or fabric, are classified in their respective headings in Section XI provided that they retain the essential character of the goods of this Section.

Subheading Notes.

1.- In this Section and, where applicable, throughout the Nomenclature, the following expressions have the meanings hereby assigned to them :

(a) **Unbleached yarn**

Yarn which :

(i) has the natural colour of its constituent fibres and has not been bleached, dyed (whether or not in the mass) or printed; or

(ii) is of indeterminate colour (“grey yarn”), manufactured from garnetted stock.

Such yarn may have been treated with a colourless dressing or fugitive dye (which disappears after simple washing with soap) and, in the case of man-made fibres, treated in the mass with delustring agents (for example, titanium dioxide).

(b) **Bleached yarn**

Yarn which :

(i) has undergone a bleaching process, is made of bleached fibres or, unless the context otherwise requires, has been dyed white (whether or not in the mass) or treated with a white dressing;

(ii) consists of a mixture of unbleached and bleached fibres; or

(iii) is multiple (folded) or cabled and consists of unbleached and bleached yarns.

(c) **Coloured (dyed or printed) yarn**

Yarn which :

(i) is dyed (whether or not in the mass) other than white or in a fugitive colour, or printed, or made from dyed or printed fibres;

(ii) consists of a mixture of dyed fibres of different colours or of a mixture of unbleached or bleached fibres with coloured fibres (marl or mixture yarns), or is printed in one or more colours at intervals to give the impression of dots;

(iii) is obtained from slivers or rovings which have been printed; or

(iv) is multiple (folded) or cabled and consists of unbleached or bleached yarn and coloured yarn.

The above definitions also apply, *mutatis mutandis*, to monofilament and to strip or the like of Chapter 54.

(d) **Unbleached woven fabric**

Woven fabric made from unbleached yarn and which has not been bleached, dyed or printed. Such fabric may have been treated with a colourless dressing or a fugitive dye.

(e) **Bleached woven fabric**

Woven fabric which :

(i) has been bleached or, unless the context otherwise requires, dyed white or treated with a white dressing, in the piece;

(ii) consists of bleached yarn; or

(iii) consists of unbleached and bleached yarn.

(f) **Dyed woven fabric**

Woven fabric which :

(i) is dyed a single uniform colour other than white (unless the context otherwise requires) or has been treated with a coloured finish other than white (unless the context otherwise requires), in the piece; or

(ii) consists of coloured yarn of a single uniform colour.

(g) **Woven fabric of yarns of different colours**

Woven fabric (other than printed woven fabric) which :

(i) consists of yarns of different colours or yarns of different shades of the same colour (other than the natural colour of the constituent fibres);

(ii) consists of unbleached or bleached yarn and coloured yarn; or

(iii) consists of marl or mixture yarns.

(In all cases, the yarn used in selvedges and piece ends is not taken into consideration.)

(h) **Printed woven fabric**

Woven fabric which has been printed in the piece, whether or not made from yarns of different colours.

(The following are also regarded as printed woven fabrics : woven fabrics bearing designs made, for example, with a brush or spray gun, by means of transfer paper, by flocking or by the batik process.)

The process of mercerisation does not affect the classification of yarns or fabrics within the above categories.

The definitions at (d) to (h) above apply, mutatis mutandis, to knitted or crocheted fabrics.

(ij) **Plain weave**

A fabric construction in which each yarn of the weft passes alternately over and under successive yarns of the warp and each yarn of the warp passes alternately over and under successive yarns of the weft.

2.- (A) Products of Chapters 56 to 63 containing two or more textile materials are to be regarded as consisting wholly of that textile material which would be selected under Note 2 to this Section for the classification of a product of Chapters 50 to 55 or of heading 58.09 consisting of the same textile materials.

(B) For the application of this rule :

(a) where appropriate, only the part which determines the classification under Interpretative Rule 3 shall be taken into account;

(b) in the case of textile products consisting of a ground fabric and a pile or looped surface no account shall be taken of the ground fabric;

(c) in the case of embroidery of heading 58.10 and goods thereof, only the ground fabric shall be taken into account. However, embroidery without visible ground, and goods thereof, shall be classified with reference to the embroidering threads alone.

EXPLANATORY NOTES

Section XI

TEXTILES AND TEXTILE ARTICLES

Notes.

1.- This Section does not cover :

(a) Animal brush-making bristles or hair (heading 05.02); horsehair or horsehair waste (heading 05.11);

(b) Human hair or articles of human hair (heading 05.01, 67.03 or 67.04), except filtering or straining cloth of a kind commonly used in oil presses or the like (heading 59.11);

(c) Cotton linters or other vegetable materials of Chapter 14;

(d) Asbestos of heading 25.24 or articles of asbestos or other products of heading 68.12 or 68.13;

(e) Articles of heading 30.05 or 30.06; yarn used to clean between the teeth (dental floss), in individual retail packages, of heading 33.06;

(f) Sensitised textiles of headings 37.01 to 37.04;

(g) Monofilament of which any cross-sectional dimension exceeds 1 mm or strip or the like (for example, artificial straw) of an apparent width exceeding 5 mm, of plastics (Chapter 39), or plaits or fabrics or other basketware or wickerwork of such monofilament or strip (Chapter 46);

(h) Woven, knitted or crocheted fabrics, felt or nonwovens, impregnated, coated, covered or laminated with plastics, or articles thereof, of Chapter 39;

(ij) Woven, knitted or crocheted fabrics, felt or nonwovens, impregnated, coated, covered or laminated with rubber, or articles thereof, of Chapter 40;

(k) Hides or skins with their hair or wool on (Chapter 41 or 43) or articles of furskin, artificial fur or articles thereof, of heading 43.03 or 43.04;

(l) Articles of textile materials of heading 42.01 or 42.02;

(m) Products or articles of Chapter 48 (for example, cellulose wadding);

(n) Footwear or parts of footwear, gaiters or leggings or similar articles of Chapter 64;

(o) Hair-nets or other headgear or parts thereof of Chapter 65;

(p) Goods of Chapter 67;

(q) Abrasive-coated textile material (heading 68.05) and also carbon fibres or articles of carbon fibres of heading 68.15;

(r) Glass fibres or articles of glass fibres, other than embroidery with glass thread on a visible ground of fabric (Chapter 70);

(s) Articles of Chapter 94 (for example, furniture, bedding, luminaires and lighting fittings);

(t) les of Chapter 95 (for example, toys, games, sports requisites and nets);

(u) Articles of Chapter 96 (for example, brushes, travel sets for sewing, slide fasteners, typewriter ribbons, sanitary towels (pads) and tampons, napkins (diapers) and napkin liners); or

(v) Articles of Chapter 97.

2.- (A) Goods classifiable in Chapters 50 to 55 or in heading 58.09 or 59.02 and of a mixture of two or more textile materials are to be classified as if consisting wholly of that one textile material which predominates by weight over any other single textile material.

When no one textile material predominates by weight, the goods are to be classified as if consisting wholly of that one textile material which is covered by the heading which occurs last in numerical order among those which equally merit consideration.

(B) For the purposes of the above rule :

(a) Gimped horsehair yarn (heading 51.10) and metallised yarn (heading 56.05) are to be treated as a single textile material the weight of which is to be taken as the aggregate of the weights of its components; for the classification of woven fabrics, metal thread is to be regarded as a textile material;

(b) The choice of appropriate heading shall be effected by determining **first** the Chapter and **then** the applicable heading within that Chapter, disregarding any materials not classified in that Chapter;

(c) When both Chapters 54 and 55 are involved with any other Chapter, Chapters 54 and 55 are to be treated as a single Chapter;

(d) Where a Chapter or a heading refers to goods of different textile materials, such materials are to be treated as a single textile material.

(C) The provisions of paragraphs (A) and (B) above apply also to the yarns referred to in Note 3, 4, 5 or 6 below.

3.- (A) For the purposes of this Section, and subject to the exceptions in paragraph (B) below, yarns (single, multiple (folded) or cabled) of the following descriptions are to be treated as “twine, cordage, ropes and cables” :

(a) Of silk or waste silk, measuring more than 20,000 decitex;

(b) Of man-made fibres (including yarn of two or more monofilaments of Chapter 54), measuring more than 10,000 decitex;

(c) Of true hemp or flax :

(i) Polished or glazed, measuring 1,429 decitex or more; or

(ii) Not polished or glazed, measuring more than 20,000 decitex;

(d) Of coir, consisting of three or more plies;

(e) Of other vegetable fibres, measuring more than 20,000 decitex; or

(f) Reinforced with metal thread.

(B) Exceptions :

(a) Yarn of wool or other animal hair and paper yarn, other than yarn reinforced with metal thread;

(b) Man-made filament tow of Chapter 55 and multifilament yarn without twist or with a twist of less than 5 turns per metre of Chapter 54;

(c) Silk worm gut of heading 50.06, and monofilaments of Chapter 54;

(d) Metallised yarn of heading 56.05; yarn reinforced with metal thread is subject to paragraph (A) (f) above; and

(e) Chenille yarn, gimped yarn and loop wale-yarn of heading 56.06.

4.- (A) For the purposes of Chapters 50, 51, 52, 54 and 55, the expression “put up for retail sale” in relation to yarn means, subject to the exceptions in paragraph (B) below, yarn (single, multiple (folded) or cabled) put up :

(a) On cards, reels, tubes or similar supports, of a weight (including support) not exceeding :

(i) 85 g in the case of silk, waste silk or man-made filaments; or

(ii) 125 g in other cases;

(b) In balls, hanks or skeins of a weight not exceeding :

(i) 85 g in the case of man-made filament yarn of less than 3,000 decitex, silk or silk waste;

(ii) 125 g in the case of all other yarns of less than 2,000 decitex; or

(iii) 500 g in other cases.

(c) In hanks or skeins comprising several smaller hanks or skeins separated by dividing threads which render them independent one of the other, each of uniform weight not exceeding :

(i) 85 g in the case of silk, waste silk or man-made filaments; or

(ii) 125 g in other cases.

(B) Exceptions :

(a) Single yarn of any textile material, except :

(i) Single yarn of wool or fine animal hair, unbleached; and

(ii) Single yarn of wool or fine animal hair, bleached, dyed or printed, measuring more than 5,000 decitex;

(b) Multiple (folded) or cabled yarn, unbleached :

(i) Of silk or waste silk, however put up; or

(ii) Of other textile material except wool or fine animal hair, in hanks or skeins;

(c) Multiple (folded) or cabled yarn of silk or waste silk, bleached, dyed or printed, measuring 133 decitex or less; and

(d) Single, multiple (folded) or cabled yarn of any textile material :

(i) In cross-reeled hanks or skeins; or

(ii) Put up on supports or in some other manner indicating its use in the textile industry (for example, on cops, twisting mill tubes, pirns, conical bobbins or spindles, or reeled in the form of cocoons for embroidery looms).

5.- For the purposes of headings 52.04, 54.01 and 55.08, the expression “sewing thread” means multiple (folded) or cabled yarn :

(a) Put up on supports (for example, reels, tubes) of a weight (including support) not exceeding 1,000 g;

(b) Dressed for use as sewing thread; and

(c) With a final “Z” twist.

6.- For the purposes of this Section, the expression “high tenacity yarn” means yarn having a tenacity, expressed in cN/tex (centinewtons per tex), greater than the following :

Single yarn of nylon or other polyamides, or of polyesters ..... 60 cN/tex

Multiple (folded) or cabled yarn of nylon or other polyamides, or of polyesters ..... 53 cN/tex

Single, multiple (folded) or cabled yarn of viscose rayon ..... 27 cN/tex.

7.- For the purposes of this Section, the expression “made up” means :

(a) Cut otherwise than into squares or rectangles;

(b) Produced in the finished state, ready for use (or merely needing separation by cutting dividing threads) without sewing or other working (for example, certain dusters, towels, table cloths, scarf squares, blankets);

(c) Cut to size and with at least one heat-sealed edge with a visibly tapered or compressed border and the other edges treated as described in any other subparagraph of this Note, but excluding fabrics the cut edges of which have been prevented from unravelling by hot cutting or by other simple means;

(d) Hemmed or with rolled edges, or with a knotted fringe at any of the edges, but excluding fabrics the cut edges of which have been prevented from unravelling by whipping or by other simple means;

(e) Cut to size and having undergone a process of drawn thread work;

(f) Assembled by sewing, gumming or otherwise (other than piece goods consisting of two or more lengths of identical material joined end to end and piece goods composed of two or more textiles assembled in layers, whether or not padded);

(g) Knitted or crocheted to shape, whether presented as separate items or in the form of a number of items in the length.

8.- For the purposes of Chapters 50 to 60 :

(a) Chapters 50 to 55 and 60 and, except where the context otherwise requires, Chapters 56 to 59 do not apply to goods made up within the meaning of Note 7 above; and

(b) Chapters 50 to 55 and 60 do not apply to goods of Chapters 56 to 59.

9.- The woven fabrics of Chapters 50 to 55 include fabrics consisting of layers of parallel textile yarns superimposed on each other at acute or right angles. These layers are bonded at the intersections of the yarns by an adhesive or by thermal bonding.

10.- Elastic products consisting of textile materials combined with rubber threads are classified in this Section.

11.- For the purposes of this Section, the expression “impregnated” includes “dipped”.

12.- For the purposes of this Section, the expression “polyamides” includes “aramids”.

13.- For the purposes of this Section and, where applicable, throughout the Nomenclature, the expression “elastomeric yarn “means filament yarn, including monofilament, of synthetic textile material, other than textured yarn, which does not break on being extended to three times its original length and which returns, after being extended to twice its original length, within a period of five minutes, to a length not greater than one and a half times its original length.

14.- Unless the context otherwise requires, textile garments of different headings are to be classified in their own headings even if put up in sets for retail sale. For the purposes of this Note, the

expression “textile garments” means garments of headings 61.01 to 61.14 and headings 62.01 to 62.11.

15.- Subject to Note 1 to Section XI, textiles, garments and other textile articles, incorporating chemical, mechanical or electronic components for additional functionality, whether incorporated as built-in components or within the fibre or fabric, are classified in their respective headings in Section XI provided that they retain the essential character of the goods of this Section.

Subheading Notes.

1.- In this Section and, where applicable, throughout the Nomenclature, the following expressions have the meanings hereby assigned to them :

(a) **Unbleached yarn**

Yarn which :

(i) has the natural colour of its constituent fibres and has not been bleached, dyed (whether or not in the mass) or printed; or

(ii) is of indeterminate colour (“grey yarn”), manufactured from garnetted stock.

Such yarn may have been treated with a colourless dressing or fugitive dye (which disappears after simple washing with soap) and, in the case of man-made fibres, treated in the mass with delustring agents (for example, titanium dioxide).

(b) **Bleached yarn**

Yarn which :

(i) has undergone a bleaching process, is made of bleached fibres or, unless the context otherwise requires, has been dyed white (whether or not in the mass) or treated with a white dressing;

(ii) consists of a mixture of unbleached and bleached fibres; or

(iii) is multiple (folded) or cabled and consists of unbleached and bleached yarns.

(c) **Coloured (dyed or printed) yarn**

Yarn which :

(i) is dyed (whether or not in the mass) other than white or in a fugitive colour, or printed, or made from dyed or printed fibres;

(ii) consists of a mixture of dyed fibres of different colours or of a mixture of unbleached or bleached fibres with coloured fibres (marl or mixture yarns), or is printed in one or more colours at intervals to give the impression of dots;

(iii) is obtained from slivers or rovings which have been printed; or

(iv) is multiple (folded) or cabled and consists of unbleached or bleached yarn and coloured yarn.

The above definitions also apply, *mutatis mutandis*, to monofilament and to strip or the like of Chapter 54.

(d) **Unbleached woven fabric**

Woven fabric made from unbleached yarn and which has not been bleached, dyed or printed. Such fabric may have been treated with a colourless dressing or a fugitive dye.

(e) **Bleached woven fabric**

Woven fabric which :

(i) has been bleached or, unless the context otherwise requires, dyed white or treated with a white dressing, in the piece;

(ii) consists of bleached yarn; or

(iii) consists of unbleached and bleached yarn.

(f) **Dyed woven fabric**

Woven fabric which :

(i) is dyed a single uniform colour other than white (unless the context otherwise requires) or has been treated with a coloured finish other than white (unless the context otherwise requires), in the piece; or

(ii) consists of coloured yarn of a single uniform colour.

(g) **Woven fabric of yarns of different colours**

Woven fabric (other than printed woven fabric) which :

(i) consists of yarns of different colours or yarns of different shades of the same colour (other than the natural colour of the constituent fibres);

(ii) consists of unbleached or bleached yarn and coloured yarn; or

(iii) consists of marl or mixture yarns.

(In all cases, the yarn used in selvedges and piece ends is not taken into consideration.)

(h) **Printed woven fabric**

Woven fabric which has been printed in the piece, whether or not made from yarns of different colours.

(The following are also regarded as printed woven fabrics : woven fabrics bearing designs made, for example, with a brush or spray gun, by means of transfer paper, by flocking or by the batik process.)

The process of mercerisation does not affect the classification of yarns or fabrics within the above categories.

The definitions at (d) to (h) above apply, mutatis mutandis, to knitted or crocheted fabrics.

(ij) **Plain weave**

A fabric construction in which each yarn of the weft passes alternately over and under successive yarns of the warp and each yarn of the warp passes alternately over and under successive yarns of the weft.

2.- (A) Products of Chapters 56 to 63 containing two or more textile materials are to be regarded as consisting wholly of that textile material which would be selected under Note 2 to this Section for the classification of a product of Chapters 50 to 55 or of heading 58.09 consisting of the same textile materials.

(B) For the application of this rule :

(a) where appropriate, only the part which determines the classification under Interpretative Rule 3 shall be taken into account;

(b) in the case of textile products consisting of a ground fabric and a pile or looped surface no account shall be taken of the ground fabric;

(c) in the case of embroidery of heading 58.10 and goods thereof, only the ground fabric shall be taken into account. However, embroidery without visible ground, and goods thereof, shall be classified with reference to the embroidering threads alone.

GENERAL

In general, Section XI covers raw materials of the textile industry (silk, wool, cotton, man-made fibres, etc.), semi-manufactured products (such as yarns and woven fabrics) and the made up articles made from those products. However, it **excludes** a certain number of materials and products such as those mentioned in Note 1 to Section XI, the Notes to certain Chapters or in the following Explanatory Notes on headings in the Section. In particular, the following **are not classified** in Section XI :

(a) Human hair and articles thereof (generally **heading 05.01**, **67.03** or **67.04**), **except** filtering or straining cloth of a kind used in oil presses or the like (**heading 59.11**).

(b) Asbestos fibres and articles (yarns, fabrics, clothing, etc.) of asbestos (**heading 25.24**, **68.12** or **68.13**).

(c) Carbon fibres and other non-metallic mineral fibres (e.g., silicon carbide, rock wool) and articles of such fibres (**Chapter 68**).

(d) Glass fibres, yarns, fabrics, and articles made therefrom, and composite articles of glass fibres and textile fibres having the character of articles of glass fibres (**Chapter 70**), **other than** embroidery with glass thread on a visible ground of fabric.

Section XI is divided into fourteen Chapters which may be considered in two parts, the first (Chapters 50 to 55) being divided according to the nature of the textile material, and the second (Chapters 56 to 63), with the exception of headings 58.09 and 59.02, covering products without distinction, at heading level, as to the nature of the textile.

(I) CHAPTERS 50 TO 55

Chapters 50 to 55 each deal with one or more textile materials, alone or mixed, at their various stages of manufacture, up to and including their conversion into woven fabrics as described in Part (I) (C) below. They cover, in most cases, the raw material, recovered waste (including garnetted stock but **not** unpulled rags), carded or combed fibres in the form of slivers, rovings, etc., yarns and woven fabrics.

(A) Classification of products composed of mixed textile materials

(See Note 2 to Section XI)

A textile product classifiable in any heading in Chapters 50 to 55 (waste, yarn, woven fabric, etc.) or in heading 58.09 or 59.02 and of a mixture of two or more different textile materials is to be classified as if consisting wholly of that one textile material which predominates by weight over any other single textile material.

When no one textile material predominates by weight, the goods are to be classified as if consisting wholly of that one textile material which is covered by the heading which occurs last in numerical order among those which equally merit consideration.

The textile materials may be mixed :

- prior to or during spinning;

- during twisting;

- during weaving.

In the case of products (other than those of heading 58.11) consisting of two or more textile fabrics of different composition assembled in layers by sewing, gumming, etc., classification is determined in accordance with Interpretative Rule 3. Accordingly, Note 2 to Section XI applies only where it is necessary to determine the textile material which predominates by weight in the fabric taken into consideration for the classification of the product as a whole.

Similarly, the provisions of Note 2 to Section XI apply to mixed products composed of textile and non-textile materials **only** if, by virtue of the General Rules for the Interpretation of the Nomenclature, they are classified as textile products.

It should be noted that, for the application of Note 2 to the Section :

(1) When a Chapter or a heading refers to products composed of textile materials of different kinds, those materials are aggregated together for the purpose of classifying similar products containing those materials mixed with others; the choice of appropriate heading shall be effected by determining **first** the Chapter and **then** the applicable heading within that Chapter, disregarding any materials not classified in that Chapter.

Examples :

(a) A woven fabric composed of :

40 % by weight of synthetic staple fibres,

35 % by weight of combed wool, and

25 % by weight of combed fine animal hair

is not classified in heading 55.15 (other woven fabrics of synthetic staple fibres) but comes under **heading 51.12** (woven fabrics of combed wool or of combed fine animal hair), since the proportions of wool and of fine animal hair must, in this case, be taken in the aggregate.

(b) A woven fabric weighing 210 g/m^2 composed of :

40 % by weight of cotton,

30 % by weight of artificial staple fibres, and

30 % by weight of synthetic staple fibres

is not classified in heading 52.11 (woven fabrics of cotton, containing less than 85 % by weight of cotton, mixed mainly or solely with man-made fibres, weighing more than 200 g/m^2), or in heading 55.14 (woven fabrics of synthetic staple fibres, containing less than 85 % by weight of such fibres, mixed mainly or solely with cotton, of a weight exceeding 170 g/m^2), but comes under **heading 55.16** (woven fabrics of artificial staple fibres). This classification is reached by determining first the relevant Chapter (in this case Chapter 55 since the proportion of synthetic staple fibres and artificial staple fibres must, in this case, be taken in the aggregate) and then the applicable heading within that Chapter which, in this example, is heading 55.16, the heading which occurs last in numerical order among those which equally merit consideration.

(c) A woven fabric composed of :

35 % by weight of flax,

25 % by weight of jute,

40 % by weight of cotton

is not classified in heading 52.12 (other woven fabrics of cotton) but in **heading 53.09** (woven fabrics of flax). This classification is reached by determining first the relevant Chapter (in this case Chapter 53 since the proportions of flax and jute must be taken in the aggregate) and then the applicable heading within that Chapter which, in this example, is **heading 53.09** since flax predominates over jute, the cotton content being disregarded in accordance with Section Note 2 (B) (b).

(2) Gimped horsehair yarn and metallised yarn are treated as single textile materials, and their weight is taken as the aggregate of the weights of the components.

(3) In classifying woven fabrics, metal thread is treated as a textile material.

(4) When both Chapters 54 and 55 are involved with any other Chapter, Chapters 54 and 55 are to be treated as a single Chapter.

Example :

A woven fabric composed of :

35 % by weight of synthetic filaments,

25 % by weight of synthetic staple fibres, and

40 % by weight of combed wool

is not classified in heading 51.12 (woven fabrics of combed wool) but comes under **heading 54.07** (woven fabrics of synthetic filament yarn), since the proportions of synthetic filaments and synthetic staple fibres must, in this case, be taken in the aggregate.

(5) Sizings or dressings (e.g., weighting (loading) in the case of silk) and also products for impregnating, coating, covering or sheathing, incorporated in textile fibres are not deemed to be non-textile materials; in other words, the weight of the textile fibres is calculated on the basis of their weight in the state in which they are presented.

When deciding if an admixture is **mainly** a particular textile material, regard is to be taken to the textile material which predominates by weight over any other single textile material in the admixture.

Example :

A woven fabric weighing not more than 200 g/m^2 and consisting of :

55 % by weight of cotton,

22 % by weight of man-made fibres,

21 % by weight of wool, and

2 % by weight of silk

does not fall in heading 52.12 (other woven fabrics of cotton), but in **heading 52.10** (woven fabrics of cotton, containing less than 85 % by weight of cotton, mixed mainly or solely with man-made fibres, weighing not more than 200 g/m^2).

(B) Yarns

(1) **General**.

Textile yarns may be single, multiple (folded) or cabled. For the purposes of the Nomenclature :

(i) **Single yarns** means yarns composed **either of** :

(a) Staple fibres, usually held together by twist (**spun yarns**); **or of**

(b) One filament (**monofilament**) of headings 54.02 to 54.05, or two or more filaments (**multifilament**) of heading 54.02 or 54.03, held together, with or without twist (**continuous yarns**).

(ii) **Multiple (folded) yarns** means yarns formed from two or more single yarns, including those obtained from monofilaments of heading 54.04 or 54.05 (twofold, threefold, fourfold, etc. yarns) twisted together in one folding operation. However, yarns composed solely of monofilaments of heading 54.02 or 54.03, held together by twist, are not to be regarded as multiple (folded) yarns.

The **ply** ("fold") of a multiple (folded) yarn means each of the single yarns with which it is formed.

(iii) **Cabled yarns** means yarns formed from two or more yarns, at least one of which is multiple (folded), twisted together in one or more folding operations.

The **ply** ("fold") of a cabled yarn means each of the single or multiple (folded) yarns with which it is formed.

The above yarns are sometimes called **multiple wound** (assembled) yarns when they are obtained by juxtaposition of two or more single, multiple (folded) or cabled yarns. These are to be regarded as single, multiple (folded) or cabled yarns according to the type of the yarns of which they are composed.

Single, multiple (folded) or cabled yarns may have loops or slubs at intervals (**bouclé** or **looped**, **slub** or **flammé yarn**). They may also be composed of two or more yarns one of which is folded back on itself at intervals to give the effect of a loop or swelling.

Polished or **glazed** yarns are those which have been treated with preparations based on natural substances (wax, paraffin, etc.) or on synthetic substances (acrylic resins in particular). They are then made glossy by means of polishing rollers.

Yarns are designated according to their measurement. Various systems of numbering or counting are still in use. The Nomenclature, however, uses the universal “Tex” system, which is a unit for expressing linear density, equal to the weight in grams of one kilometre of yarn, filament, fibre, or other textile strand. Decitex is 0.1 Tex. The following formula for the conversion of metric numbers into decitex numbers is applied :

$$\frac{10{,}000}{\text{Metric number}} = \text{Decitex.}$$

Yarns may be unbleached, scoured, bleached, creamed, dyed, printed, marled, etc. They may also have been gassed (i.e., singed to remove fibres which give them a hairy appearance), mercerised (i.e., treated under tension with sodium hydroxide), oiled, etc.

However, Chapters 50 to 55 **do not include** :

(a) Rubber thread, textile covered, and textile yarns impregnated (including dipped), coated, covered or sheathed with rubber or plastics, of **heading 56.04**.

(b) Metallised yarn (**heading 56.05**).

(c) Gimped yarn, chenille yarn and loop wale-yarn (**heading 56.06**).

(d) Braided textile yarns (**heading 56.07** or **58.08**, as the case may be).

(e) Textile yarns reinforced with metal thread (**heading 56.07**).

(f) Yarns, monofilaments or textile fibres laid parallel and bonded with an adhesive (bolduc) (**heading 58.06**

(g) Textile yarns laid parallel and agglomerated with rubber of **heading 59.06**.

(2) **Distinction between single, multiple (folded) or cabled yarns of Chapters 50 to 55, twine, cordage, rope or cables of heading 56.07 and braids of heading 58.08.**

(See Note 3 to Section XI)

Chapters 50 to 55 do not cover all yarns. Yarns are classified according to their characteristics (measurement, whether or not polished or glazed, number of plies) in those headings of Chapters 50 to 55 relating to yarns, as twine, cordage, rope or cables under heading 56.07, or as braids under heading 58.08. Table I below shows the correct classification in each individual case :

TABLE I

Classification of yarns, twine, cordage, rope and cables of textile material.

Type (*)	Characteristics determining classification	Classification
Reinforced with metal thread	In all cases	Heading 56.07
Of metallised yarn	In all cases	Heading 56.05
Gimped yarn, other than those of headings 51.10 and 56.05, chenille yarn and loop wale yarn	In all cases	Heading 56.06
Braided textile yarn	(1) Tightly plaited and with a compact structure (2) Other	Heading 56.07 Heading 58.08
Other : - Of silk or waste silk (**)	(1) Measuring 20,000 decitex or less (2) Measuring more than 20,000 decitex	Chapter 50 Heading 56.07
- Of wool or other animal hair	In all cases	Chapter 51
- Of flax or true hemp	(1) Polished or glazed : (a) Measuring 1,429 decitex or more (b) Measuring less than 1,429 decitex	Heading 56.07 Chapter 53

	(2) Neither polished nor glazed : (a) Measuring 20,000 decitex or less (b) Measuring more than 20,000 decitex	Chapter 53 Heading 56.07

Type (*)	Characteristics determining classification	Classification
- Of coir	(1) Of one or two plies (2) Of three or more plies	Heading 53.08 Heading 56.07
- Of paper	In all cases	Heading 53.08
- Of cotton or other vegetable fibres	(1) Measuring 20,000 decitex or less (2) Measuring more than 20,000 decitex	Chapter 52 or 53 Heading 56.07
- Of man-made fibres (including those yarns of two or more monofilaments of Chapter 54 (**))	(1) Measuring 10,000 decitex or less (2) Measuring more than 10,000 decitex	Chapter 54 or 55 Heading 56.07

Footnotes.

(*) References to the various textiles materials apply also to such mixtures as are classified therewith under the provisions of Note 2 to Section XI (see Part (I) (A) of this General Explanatory Note).

(**) Silk worm gut of heading 50.06, multifilament yarn without twist or with a twist of less than 5 turns per metre, and monofilament, of Chapter 54, and man-made filament tow of Chapter 55 do not in any circumstances fall in heading 56.07.

(3) **Yarns put up for retail sale**.

(See Note 4 to Section XI)

Certain headings of Chapters 50, 51, 52, 54 and 55 make provision for textile yarns put up for retail sale. To be classified in those headings yarns must meet the criteria set out in Table II below.

However, the following yarns are **never** deemed to be put up for retail sale :

(a) Single yarn of silk, waste silk, cotton or man-made fibres, however put up.

(b) Single yarn of wool or of fine animal hair, bleached, dyed or printed, measuring 5,000 decitex or less, however put up.

(c) Multiple (folded) or cabled yarn of silk or waste silk, unbleached, however put up.

(d) Multiple (folded) or cabled yarn of cotton or man-made fibres, unbleached, in hanks or skeins.

(e) Multiple (folded) or cabled yarn of silk or waste silk, bleached, dyed or printed, measuring 133 decitex or less.

(f) Single, multiple (folded) or cabled yarn of any textile material, in cross-reeled hanks or skeins.(*)

(g) Single, multiple (folded) or cabled yarn of any textile material, put up on supports (e.g., cops, twisting mill tubes, pirns, conical bobbins or spindles) or in some other manner (for example, in the form of cocoons for embroidery looms, cakes made by centrifugal spinning) indicating its use in the textile industry.

*

* *

Footnote

(*) Cross-reeling indicates that in building up the hank the thread crosses diagonally as the hank is being wound, preventing the hank from being split. Cross-reeling is the method usually adopted when the hanks are for dyeing.

"Not cross-reeled"	**"Cross-reeled"**

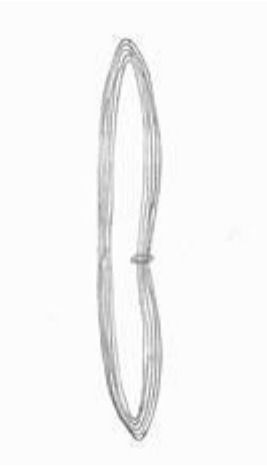	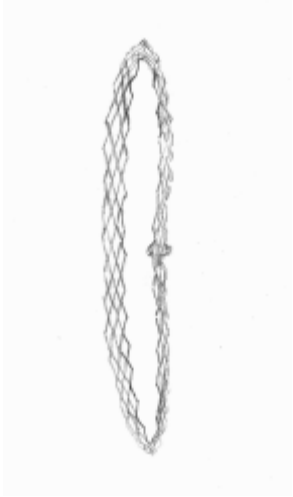

TABLE II

Yarns put up for retail sale (subject to the above-mentioned exceptions).

Way in which put up	Type of yarn (*)	Conditions under which the yarn is to be regarded as put up for retail sale
On cards, reels, tubes or similar supports	(1) Silk, waste silk or man-made filament yarns	Weighing 85 g or less (including support)
	(2) Wool, fine animal hair, cotton or man-made staple yarns	Weighing 125 g or less (including support)
In balls, hanks or skeins	(1) Man-made filament yarn of less than 3,000 decitex, silk or waste silk yarns	Weighing 85 g or less
	(2) Other yarns of less than 2,000 decitex	Weighing 125 g or less

	(3) Other yarns	Weighing 500 g or less
In hanks or skeins comprising several smaller hanks or skeins separated by dividing threads which render them independent one of the other (**)	(1) Silk, waste silk, or man-made filament yarns	Each of the smaller skeins to be of a uniform weight of 85 g or less
	(2) Wool, fine animal hair, cotton or man-made staple fibre yarns	Each of the smaller skeins to be of a weight of 125 g or less

Footnotes

(*) References to the various textile materials apply also to such mixtures as are classified therewith under the provisions of Note 2 to Section XI (see Part (I) (A) of this General Explanatory Note).

(**) The hanks or skeins comprising several smaller hanks or skeins separated by one or more dividing threads are formed of one continuous length of yarn which, on being cut, allows the component hanks or skeins to be readily separated. One or more dividing threads pass between the skeins and keep them separate from each other. These hanks and skeins are often wrapped round with paper bands. Other hanks and skeins of one continuous length, or yarn with dividing threads which do not separate the main hank or skein into smaller hanks or skeins of uniform weight, but are simply intended to prevent tangling during processing (e.g., dyeing), are not regarded as hanks or skeins comprising several smaller hanks or skeins separated by one or more dividing threads and are not regarded as put up for retail sale.

(4) **Sewing thread**.

(See Note 5 to Section XI)

For the purposes of headings 52.04, 54.01 and 55.08 the expression “sewing thread” means multiple (folded) or cabled yarn :

(a) Put up on supports (for example, reels, tubes) of a weight (including support) not exceeding 1,000 g;

(b) Dressed for use as sewing thread; and

(c) With a final “Z” twist.

The term “dressed” means given a finishing treatment. This treatment is designed to facilitate the use of textile yarn as a sewing thread, for example, by giving it antifriction properties or thermal resistance, preventing the formation of static electricity or improving its appearance. Such treatment involves the use of substances based on silicones, starch, wax, paraffin, etc.

The length of sewing thread is generally indicated on the support.



(5) **High tenacity yarn**.

(See Note 6 to Section XI)

In Chapters 54 and 59 there are provisions for “high tenacity yarn” and for fabrics made from such yarn.

The expression “high tenacity yarn” means yarn having a tenacity, expressed in cN/tex (centinewtons per tex), greater than the following :

Single yarn of nylon or other polyamides, or of polyesters ..... 60 cN/tex

Multiple (folded) or cabled yarn of nylon or other polyamides, or of polyesters 53 cN/tex

Single, multiple (folded) or cabled yarn of viscose rayon ..... 27 cN/tex.

(6) **Elastomeric and textured yarns.**

(See Note 13 to Section XI)

Elastomeric yarn is defined in Note 13 to this Section. It should be noted that the textured yarn referred to therein is defined in the Subheading Explanatory Note to subheadings 5402.31 to 5402.39.

(C) Woven fabrics.

The **woven fabrics** of Chapters 50 to 55 are products obtained by interlacing textile yarns (whether of the kinds classified in Chapters 50 to 55 or those regarded as twine, cordage, etc., of heading 56.07), rovings, monofilament or strip and the like of Chapter 54, loop wale-yarn, narrow ribbons, braids or narrow fabrics (consisting of warp without weft assembled by means of an adhesive, etc.), on warp and weft looms. Certain woven fabrics are, however, **excluded**, for example :

(a) Carpets and other floor coverings (**Chapter 57**).

(b) Pile fabrics or chenille fabrics of **heading 58.01**, terry towelling and similar woven terry fabrics of **heading 58.02**, gauze of **heading 58.03**, tapestries of **heading 58.05**, narrow woven fabrics of **heading 58.06** and woven fabrics of metal thread or metallised yarn of **heading 58.09**.

(c) Coated, impregnated, etc., fabrics of **headings 59.01** and **59.03 to 59.07**; tyre cord fabrics of **heading 59.02** or textile fabrics for technical uses of **heading 59.11**.

(d) Goods which have been made up within the meaning of Note 7 to Section XI (see Part (II) of this General Explanatory Note).

Subject to the provisions of (a) to (d) above the woven fabrics of Chapters 50 to 55, by application of Note 9 to Section XI, include, for example, fabrics consisting of :

- one layer of parallel “warp” yarns with a layer of parallel “weft” yarns superimposed at acute or right angles;

- two layers of parallel “warp” yarns between which a layer of “weft” yarns is inserted at acute or right angles.

The essential characteristic of these fabrics is that the yarns are not interlaced as in conventional woven fabrics but are bonded at the intersections with an adhesive or by thermal bonding.

These fabrics are sometimes referred to as **mesh scrims**; their uses include the reinforcement of other materials (plastics, paper, etc.). They are also used, for example, for the protection of agricultural crops.

The woven fabrics of Chapters 50 to 55 may be unbleached, scoured, bleached, dyed, made from yarns of different colours, printed, clouded, mercerised, glazed, moiré, raised (napped), goffered, fulled, gassed (singed), etc. They include unfigured and figured fabrics, and broché fabrics in which designs are produced by additional warp or weft threads introduced during weaving. These fabrics are not regarded as embroidered fabrics.

Chapters 50 to 55 also cover fabrics with their weft threads dissolved in places to give the effect of designs where both the warp and weft threads remain (e.g., certain fabrics which have warp threads of viscose rayon and weft threads of acetate fibres, the weft threads having been partially removed by means of a solvent).

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Subheading Explanatory Notes.

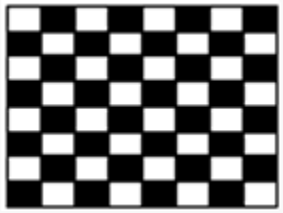
Woven fabric of yarns of different colours

Woven fabrics consisting either wholly or partly of printed yarns of different colours or of printed yarns of different shades of the same colour are regarded as “woven fabrics of yarns of different colours” and not as “dyed woven fabrics” or “printed woven fabrics”.

Weaves

Plain weave is defined by Subheading Note 1 (ij) to Section XI as “a fabric construction in which each yarn of the weft passes alternately over and under successive yarns of the warp and each yarn of the warp passes alternately over and under successive yarns of the weft”.

This weave pattern is shown diagrammatically below :



Plain weave

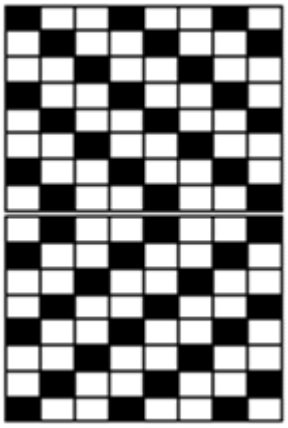
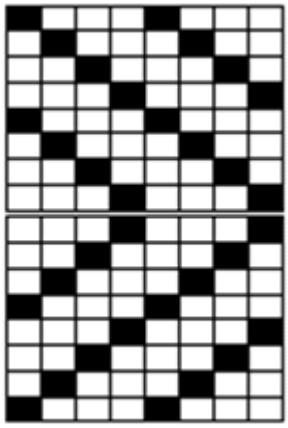
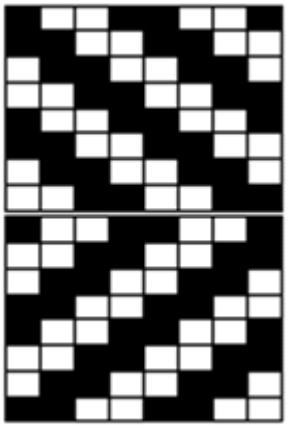
Plain weave is the simplest and most commonly used weave. The two surfaces of plain weave fabrics are always identical (double-faced fabrics) because an equal proportion of warp and weft threads is visible on each side.

In **twill weave**, the first warp thread (end) is bound by the first weft thread (pick), the second warp thread by the second weft thread, the third warp thread by the third weft thread, and so on. The step number for this kind of weave is one for both warp and weft. The weave repeat, i.e. the number of warp threads and weft threads required to repeat the pattern, is always greater than two. The closest twill weave is that in which the weft thread passes (floats) over two warp threads. This is a three-thread twill. In a four-thread twill, the weft thread passes over three warp threads.

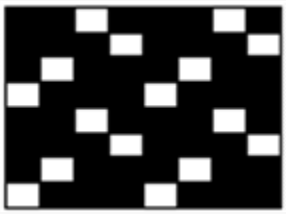
In twill weave, diagonal lines of ribbing formed by the stepped nature of the interlacing points, extend from one selvedge to the other, forming ridges and giving the impression that the weave is diagonal. The ribs may run from right to left or from left to right. A distinction is made between weft-faced twill, in which the weft thread is more apparent, and warp-faced twill, in which the warp thread is more apparent. Both these twills present a different appearance on the face (the right side) from the reverse (the wrong side). However, there is one category of twill, called double-faced twill or cross twill, which has the same appearance on both sides.

Double-faced twill or cross twill always has an even weave repeat. The warp or weft floats are the same on both faces; only the direction of the ribs is reversed. The simplest design is four-thread cross twill : each warp thread is raised on two consecutive picks, and depressed on the following two.

It should be noted that in headings 52.08, 52.09, 52.10, 52.11, 55.13 and 55.14, the subheadings relating to “3-thread or 4-thread twill, including double-faced twill or cross twill”, because of their restrictive wording, cover only those twills whose weave patterns are given below :

		
3-thread twill	4-thread twill	4-thread double-faced twill or cross twill

Denim fabrics of subheadings 5209.42 and 5211.42, however, do not include 4-thread double-faced twill or cross twill, since these subheadings cover only warp faced fabrics (see Subheading Note 1 to Chapter 52). In addition to warp faced 3-thread twill and warp faced 4-thread twill, these subheadings also cover warp faced 4-thread broken twill, whose weave pattern is reproduced below :



Warp faced 4-thread broken twill

(II) CHAPTERS 56 TO 63

Chapters 56 to 63 cover certain kinds of textile fabrics and other textile articles **not** covered by Chapters 50 to 55 (e.g., pile fabrics; narrow woven fabrics; chenille yarn, gimped yarn, braids, galloons and other trimmings of heading 56.06 or 58.08; tulles and other net fabrics; lace; embroidery on woven fabrics or other textile materials; knitted or crocheted goods). They also include (subject to **exclusions** regarding certain articles classified elsewhere than in Section XI) made up textile articles.

Made up articles.

Under Note 7 to this Section, the expression “made up” in Chapters 56 to 63 means :

(1) **Merely cut, otherwise than into squares or rectangles**, for example, dress patterns of textile material; articles with their edges pinked (e.g., certain dusters) are also regarded as made up.

(2) **Produced in the finished state, ready for use** (or merely needing separation by cutting dividing threads) without sewing or other working. Goods of this kind include products knitted or crocheted directly to shape and certain dusters, towels, table cloths, scarf squares, blankets, etc., with threads along the warp left unwoven or the weft edges cut to form a fringe. Such articles may have been woven separately on the loom, but may also have been simply cut from lengths of fabric which have bands of unwoven threads (generally warp threads) at regular intervals. These lengths of fabric, from which ready-made articles of the types described above may be obtained by simply cutting the dividing threads, are also considered as "made up" articles.

However, rectangular (including square) articles simply cut out from larger pieces without other working and not incorporating fringes formed by cutting dividing threads are not regarded as "produced in the finished state" within the meaning of this Note. The fact that these articles may be presented folded or put up in packings (e.g., for retail sale) does not affect their classification.

(3) **Cut to size and with at least one heat-sealed edge** with a visibly tapered or compressed border and the other edges treated as described in any other subparagraph of this Note, but excluding fabrics the cut edges of which have been prevented from unravelling by hot cutting or by other simple means.

(4) **Hemmed or with rolled edges or with a knotted fringe** (whether or not incorporating added threads) at any of the edges (e.g., handkerchiefs with rolled edges and table covers with knotted fringes), but **excluding** fabrics the cut edges of which have been prevented from unravelling by whipping or by other simple means.

(5) **Cut to size and incorporating drawn-thread work**. In this connection "drawn-thread work" means simply the withdrawing of certain warp or weft threads after weaving without further operation (e.g., by embroidery) on the material. The pieces of material so treated are often intended for further manufacture into lingerie.

(6) **Assembled by sewing, gumming or otherwise**. These articles, which are very numerous, include garments. It should be noted, however, that piece goods consisting of two or more lengths of identical material joined end to end, or composed of two or more textiles assembled in layers, are not regarded as "made-up". Nor are textile products in the piece composed of one or more layers of textile materials assembled with padding by stitching or otherwise.

(7) **Knitted or crocheted to shape**, whether presented as separate items or in the form of a number of items in the length.

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Subheading Explanatory Note.

Products of Chapters 56 to 63 having a pile or looped surface

The provisions of Subheading Note 2 (B) (b) to Section XI apply whether or not the ground fabric is partly visible on the pile or looped side.

(III) TEXTILE PRODUCTS COMBINED WITH RUBBER THREADS

Under Note 10 to this Section, elastic products consisting of textile materials combined with rubber threads are classified in Section XI.

Rubber thread and cord, textile covered, are included in heading 56.04.

Other textile products combined with rubber threads are classified, in particular, in Chapters 50 to 55, 58 or 60 to 63, as the case may be.

(IV) TEXTILE ARTICLES INCORPORATING CHEMICAL, MECHANICAL OR ELECTRONIC COMPONENTS

For the purposes of Note 15 to this Section, textiles, garments and other textile articles, incorporating chemical, mechanical or electronic components for additional functionality, whether incorporated as built-in components or within the fibre or fabric, are classified in Section XI, **provided that** they retain the essential character of the goods of this Section. The textile articles may or may not be wearable. These include, for example:

- Garments with integrated LED lighting and/or audio device;

- Garments with integrated head phones, including a docking station for a mobile phone or similar article;

- Garments with integrated body functions monitoring equipment (e.g., sports bras with heart rate and temperature monitoring);

- Carpet with pressure or movement detection (man down detection or fall detection);

- Heated gloves or socks;

- Paraseismic wall covering, sometimes referred to as ‘seismic wallpaper’, integrating electronic components, such as optical sensors or fibres, and used in the construction or renovation of buildings for strengthening and monitoring the structures built ; and

- Geotextiles incorporating sensors or fully integrated optical fibres for the purpose of measuring the deformations and strains resulting, for example, from earthworks.

(V) STANDARD ATMOSPHERES FOR CONDITIONING AND TESTING OF TEXTILES

(A) **Scope and field of application**.

The characteristics and use of standard atmospheres for conditioning and for determining the physical and mechanical properties of textiles are set out hereafter for guidance.

(B) **Definitions**.

(a) **Relative humidity** : The ratio of the actual pressure of the water vapour in the atmosphere to the saturation vapour pressure at the same temperature. The ratio is usually expressed as a percentage.

(b) **Standard temperate atmosphere** : An atmosphere which has a relative humidity of 65 % and a temperature of 20 °C.

(c) **Standard temperate atmosphere for testing** : An atmosphere which has a relative humidity of 65 % and a temperature of 20 °C.

NOTE - The adjective “temperate” as used above has been chosen for the limited use of the textile industry.

(C) **Pre-conditioning.**

Before conditioning a textile, pre-conditioning may be required. If so, the textile shall be brought approximately to equilibrium in an atmosphere having a relative humidity of between 10 and 25 % and a temperature not exceeding 50 °C.

These conditions may be obtained by heating air at 65 % relative humidity and 20 °C to a temperature of 50 °C.

(D) **Conditioning**.

Before a textile is tested to determine a physical or mechanical property, it shall be conditioned by placing it in the standard temperate atmosphere for testing, in such a way that the air flows freely through the textile, and keeping it there for the time required to bring it into equilibrium with the atmosphere.

Unless otherwise specified in the method of test, the textile should be considered to be in equilibrium when successive weighings, at intervals of 2 hours, of the textile freely exposed to the moving air show no progressive change in weight greater than 0.25 %.

(E) **Testing**.

Except for special cases (for example wet tests), physical and mechanical tests of textiles are carried out in the conditioned state in the standard temperate atmosphere for testing.

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Chapter 50

Silk

EXPLANATORY NOTES

Chapter 50

Silk

GENERAL

The General Explanatory Note to Section XI should be taken into account in reading the Explanatory Notes to this Chapter.

For the purposes of this Chapter the term “silk” covers not only the fibrous matter secreted by the *Bombyx mori* (mulberry feeding silk-worm), but also the products of the secretion of similar insects (e.g., *Bombyx textor*) known as wild silk. Among the wild varieties, so named because the producing worm has only very rarely been domesticated, the most important is tussah silk obtained from a silk-worm that feeds on oak. Spider silk and marine or byssus silk (the filaments by which certain shellfish of the *Pinna* family cling to rocks) are also classified in this Chapter.

Generally speaking, this Chapter covers silk, including mixed textile materials classified as silk, at its various stages of manufacture, from the raw material to the woven fabric. It also includes silk-worm gut.

CLASSIFICATION OPINIONS

1. **Fabrics in the piece,** pleated (other than knitted or crocheted fabrics), having a semi-formed hem obtained merely by folding back the edge.
   Adoption : 1961

2. **Fabrics** of which the surface is decorated by the application of textile flock or dust to produce an embroidery effect.
   Classification according to the nature of the woven fabric base, regardless of the textile constituting the flock or dust
   Adoption : 1964

3. **Strips** of a width not exceeding 30 cm and of thickness of less than 3 mm simply cut from piece goods composed of two woven fabrics assembled in layers by gumming throughout and having no selvedges.
   Adoption : 1969

Heading 5001

Silk-worm cocoons suitable for reeling.

EXPLANATORY NOTES

50.01 - Silk worm cocoons suitable for reeling.

This heading applies only to those cocoons which can be reeled to become raw silk classified in heading 50.02. Cocoons unsuitable for reeling are **excluded** (**heading 50.03**).

Silk-worm cocoons are usually whitish, yellowish or sometimes greenish.

5001.00

Silk-worm cocoons suitable for reeling.

Heading 5002

Raw silk (not thrown).

EXPLANATORY NOTES

50.02 - Raw silk (not thrown).

This raw silk is obtained by reeling the filaments from cocoons. In practice, since the filaments (baves) forming each cocoon are very fine, the raw silk (grège) is obtained by combining several filaments (usually 4 to 20) during the reeling process; these filaments adhere together as they are reeled because of the gum (sericin) with which they are covered. The raw silk filaments are wrapped around themselves during reeling giving an even texture and section, assisting the drainage of surplus moisture and compensating for weaknesses in individual filaments; this operation frequently results in the filaments acquiring a certain twist. However, the twist is only very slight and raw silk at this stage should not be confused with the single thrown yarns of **heading 50.04**.

Raw silk is usually whitish, yellowish or sometimes greenish. It is also covered by this heading if discharged (i.e., the gum removed by hot soapy water, dilute alkalis, etc.) or dyed, but not if thrown. It is usually put up in long lengths either on conical bobbins, or in hanks (skeins) of varying weight and tied in a loose knot (slips).

Thrown silk is excluded (heading **50.04**).

5002.00

Raw silk (not thrown).

Heading 5003

Silk waste (including cocoons unsuitable for reeling, yarn waste and garnetted stock).

EXPLANATORY NOTES

50.03 - Silk waste (including cocoons unsuitable for reeling, yarn waste and garnetted stock).

This heading covers silk waste of all kinds, in the crude unworked state or at its various stages of processing prior to its conversion into yarn. It includes :

(A) **Waste obtained from the raw material**, viz. :

1) **Cocoons unsuitable for reeling** : perforated or torn cocoons (damaged by the moth itself, by parasites, by accident or otherwise) with broken filament; cocoons so badly damaged that the filament, although not yet broken, would rupture at the affected points during the reeling process; badly stained or soiled cocoons whether or not still containing the chrysalis, etc.

2) **Blazes**. These are silky networks, formed of loose, tangled filaments, with which the silk-worm covers the cocoon to hold it in position on the branch; they often contain pieces of leaf or twig.

(B) **Waste obtained during the reeling process**, in particular :

1) **Frisons** (floss silk). This is the term applied to the coarse threads forming the outer covering of the cocoon; these are first removed with small brushes and then cut away to leave that part of the cocoon which can be reeled. They are marketed as tangled balls or bundles of threads.

2) **Cocoons** found to be faulty and rejected during the reeling process (sometimes known as "bassinés").

3) "**Pelettes**" or "**telettes**", i.e., the unreelable part of the thread forming the inner part of the cocoon and still enclosing the chrysalis, and "**pelades**" which are obtained by soaking the "pelettes" in warm water, removing the chrysalises and drying.

(C) **Broken or knotted yarn or tangled masses of fibre or yarn**. These are obtained as waste during the throwing, reeling or weaving processes.

(D) **Products obtained by discharging and combing silk waste** (in some countries known as "**schappe**").

They are then in the form of sheets or laps of more or less parallel fibres, but at a later stage of processing they are converted into narrower strips or into tow or rope form (slivers or rovings). These forms which have not yet been spun into yarn remain in this heading. They include rovings which have been drawn out very fine to approximately the thickness of a single yarn and usually very lightly twisted; these should not be confused with the yarns of **heading 50.05**.

(E) **Noil silk**.

Noil silk is the residue removed during the combing of the wastes referred to in (D) above. This residue, of poorer quality than the silk waste referred to at (D) in that it has shorter fibres, cannot be further combed, but can be carded in its turn and subjected to various other processes preparatory to spinning. Noil silk processed in this way remains in this heading **provided** it has not yet reached the stage of spun yarn.

(F) **Combings**.

These are the very short fibres removed during the carding of noil silk.

(G) **Garnetted stock**.

This is obtained by tearing rags or other waste and scrap of fabric or articles of silk into their constituent fibres.

The heading **does not cover** :

(a) Wadding (**heading 30.05** or **56.01**).

(b) Textile flock and dust and mill neps, of silk (**heading 56.01**).

(c) Rags of silk (**Chapter 63**).

5003.00

Silk waste (including cocoons unsuitable for reeling, yarn waste and garnetted stock).

Heading 5004

Silk yarn (other than yarn spun from silk waste) not put up for retail sale.

EXPLANATORY NOTES

50.04 - Silk yarn (other than yarn spun from silk waste) not put up for retail sale.

This heading applies to thrown silk, i.e., yarns obtained by twisting (either singly or two or more together) the raw silk threads of heading 50.02.

They are, however, **excluded** if put up for retail sale (**heading 50.06**) or if within the definition of twine, cordage, etc. (**heading 56.07**) (see Parts (I) (B) (2) and (3) of the General Explanatory Note to Section XI).

The yarns of this heading differ from the yarns spun from silk waste classified in the following heading in that they are formed of continuous fibres. There are many varieties, including :

(1) **Single yarns** (sometimes known as **poils**), obtained by twisting a single raw silk thread. Hard-twisted yarns of this type are often called crêpe poils, mousselines or chiffon twist.

(2) **Tram yarns**, obtained by loosely twisting two or more unthrown raw silk threads; these are used as weft yarns.

(3) "**Crêpe twist**", generally a hard-twisted tram.

(4) **Organzine yarns**, obtained from two or more raw silk threads which have been well twisted in the single by doubling them with reverse twist. **Grenadine yarn** is a hard-twisted organzine. These are used mainly as warp yarns.

All these yarns may be discharged or finished.

The heading **excludes** imitation catgut of silk, of **heading 56.04**.

5004.00

Silk yarn (other than yarn spun from silk waste) not put up for retail sale.

Heading 5005

Yarn spun from silk waste, not put up for retail sale.

EXPLANATORY NOTES

50.05 - Yarn spun from silk waste, not put up for retail sale.

This heading covers single yarns produced by spinning the noil or other silk waste of heading 50.03; it also covers multiple (folded) yarns produced from these single yarns.

They are, however, **excluded** if put up for retail sale (**heading 50.06**) or if within the definition of twine, cordage, etc. (**heading 56.07**) (see Parts (I) (B) (2) and (3) of the General Explanatory Note to Section XI).

(A) **Yarn spun from silk waste other than noil silk**.

Yarn spun from silk waste other than noil silk, unlike the silk yarn of the preceding heading, is formed of discontinuous fibres. These fibres, which may be up to 20 cm long, lie parallel in the yarn, giving it a smooth, silky and fairly glossy surface; these latter characteristics distinguish it from yarn spun from noil silk.

(B) **Yarn spun from noil silk**.

Noil silk yarns are of much poorer quality than other silk waste yarns; they are composed of fibres of varying lengths, usually less than 5 cm; since these fibres have simply been carded but not combed, they are usually still somewhat tangled and form small knots atintervals. Noil silk yarn accordingly lacks the strength and regularity of yarn spun from other silk waste and has a rather dull surface.

The heading includes yarn which has been processed as described in Part (I) (B) (1) of the General Explanatory Note to Section XI.

The heading **excludes** imitation catgut of silk, of **heading 56.04**.

5005.00

Yarn spun from silk waste, not put up for retail sale.

Heading 5006

Silk yarn and yarn spun from silk waste, put up for retail sale; silk-worm gut.

EXPLANATORY NOTES

50.06 - Silk yarn and yarn spun from silk waste, put up for retail sale; silk-worm gut.

(A) **Silk yarn and yarn spun from silk waste**.

This group covers the yarns of headings 50.04 and 50.05 put up for retail sale, i.e., in the forms and subject to the conditions described in Part (I) (B) (3) of the General Explanatory Note to Section XI.

(B) **Silk-worm gut**.

Silk-worm gut is obtained by extracting and stretching the silk glands of silk-worms killed by immersion in diluted acetic acid at the stage when they are ready to spin their cocoons. Silk-worm gut is less flexible and glossier than horsehair, and rarely exceeds 50 cm in length.

The heading **does not cover** :

(a) Sterile silk-worm gut (**heading 30.06**).

(b) Imitation catgut of silk, of **heading 56.04**.

(c) Silk-worm gut fitted with hooks or made up into fishing lines (**heading 95.07**).

5006.00

Silk yarn and yarn spun from silk waste, put up for retail sale; silk-worm gut.

Heading 5007

Woven fabrics of silk or of silk waste.

EXPLANATORY NOTES

50.07 - Woven fabrics of silk or of silk waste (+).

5007.10 - Fabrics of noil silk

5007.20 - Other fabrics, containing 85 % or more by weight of silk or of silk waste other than noil silk

5007.90 - Other fabrics

This heading includes woven fabrics (as defined in Part (I) (C) of the General Explanatory Note to Section XI) made of silk yarn or of noil silk or other silk waste yarn.

These include :

(1) Habutai, Shantung, Tussore and other Far East fabrics.

(2) Crêpes.

(3) Diaphanous fabrics such as muslins, grenadines and voiles.

(4) Tightly-woven fabrics such as taffetas, satins, faille, moiré and damask.

But the heading **excludes** woven fabrics of **Chapters 57 to 59** (e.g., bolting cloth of **heading 59.11**).

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Subheading Explanatory Note.

Subheading 5007.20

Subheading 5007.20 covers only fabrics containing by weight at least 85 % of silk or of silk waste **other than** noil silk; noil silk must **not** be included in the 85 %.

5007.10

- Fabrics of noil silk

5007.20

- Other fabrics, containing 85 % or more by weight of silk or of silk waste other than noil silk

5007.90

- Other fabrics

Chapter 51

Wool, fine or coarse animal hair; horsehair yarn and woven fabric

LEGAL NOTES

Note.

1.- Throughout the Nomenclature :

(a) "Wool" means the natural fibre grown by sheep or lambs;

(b) "Fine animal hair" means the hair of alpaca, llama, vicuna, camel (including dromedary), yak, Angora, Tibetan, Kashmir or similar goats (but not common goats), rabbit (including Angora rabbit), hare, beaver, nutria or musk-rat;

(c) "Coarse animal hair" means the hair of animals not mentioned above, excluding brush-making hair and bristles (heading 05.02) and horsehair (heading 05.11).

EXPLANATORY NOTES

Chapter 51

Wool, fine or coarse animal hair; horsehair yarn and woven fabric

Note.

1.- Throughout the Nomenclature :

(a) "Wool" means the natural fibre grown by sheep or lambs;

(b) "Fine animal hair" means the hair of alpaca, llama, vicuna, camel (including dromedary), yak, Angora, Tibetan, Kashmir or similar goats (but not common goats), rabbit (including Angora rabbit), hare, beaver, nutria or musk-rat;

(c) "Coarse animal hair" means the hair of animals not mentioned above, excluding brush-making hair and bristles (heading 05.02) and horsehair (heading 05.11).

GENERAL

The General Explanatory Note to Section XI should be taken into account in reading the Explanatory Notes to this Chapter.

In general, this Chapter covers wool and fine or coarse animal hair, including mixed textile materials classified as wool or animal hair, at the various stages from the raw materials to their transformation into woven fabrics. It also includes yarns and fabrics of horsehair, but **excludes** horsehair and horsehair waste of **heading 05.11**. As stated in Note 4 to Chapter 5, the expression "horsehair" means hair of the manes or tails of equine or bovine animals.

CLASSIFICATION OPINIONS

1. **Fabrics in the piece,** pleated (other than knitted or crocheted fabrics), having a semi-formed hem obtained merely by folding back the edge.
Adoption : 1961

2. **Fabrics** of which the surface is decorated by the application of textile flock or dust to produce an embroidery effect.
Classification according to the nature of the woven fabric base, regardless of the textile constituting the flock or dust
Adoption : 1964

3. **Strips** of a width not exceeding 30 cm and of thickness of less than 3 mm simply cut from piece goods composed of two woven fabrics assembled in layers by gumming throughout and having no selvedges.
Adoption : 1969

Heading 5101

Wool, not carded or combed.

EXPLANATORY NOTES

51.01 - Wool, not carded or combed.

- Greasy, including fleece-washed wool :

5101.11 - - Shorn wool

5101.19 - - Other

- Degreased, not carbonised :

5101.21 - - Shorn wool

5101.29 - - Other

5101.30 - Carbonised

Throughout the Nomenclature, “wool” means the natural fibre grown by sheep or lambs. Wool fibres are essentially composed of the protein keratin, and have a characteristic scaly surface. They are elastic, extremely hygroscopic (absorb moisture from the air) and, as a rule, have marked felting properties. Wool is almost uninflammable, but chars giving off an odour akin to that of burnt horn.

This heading covers sheep’s or lambs’ wool, not carded or combed, whether obtained by shearing the animal or the pelt of the dead animal (shorn wool), or by pulling from the pelt after fermentation or appropriate chemical treatment (e.g., pulled wool, slipe wool or skin wool).

Uncarded and uncombed wool is generally in the form of :

(A) **Greasy, including fleece-washed wool**.

Greasy wool is wool not yet washed or otherwise cleaned; it is therefore still impregnated with wool grease and fatty matter derived from the animal itself and may contain an appreciable quantity of impurities (burrs, seeds, earth, etc.). Greasy shorn wool is often in the form of "fleeces" having more or less the contours of the pelt.

Greasy pulled wool is removed from sheep or lamb skins by a fermentation ("sweating") process in which the fibres and the skin are subjected to the combined action of heat and moisture. It may also be removed by a depilatory method in which the flesh side of the skins is treated with a sodium sulphide or lime solution. Such wool is recognizable by the presence of hair roots.

Fleece-washed wool is wool washed in cold water while still on the animal or before being pulled from the pelt. It is incompletely cleaned.

Greasy wool is normally yellowish. Some, however, is grey, black, brown or russet in colour.

(B) **Degreased wool, not carbonised**.

This category includes :

(1) **Hot-washed wool** - washed with hot water only and relieved of the majority of wool grease and earthy matter.

(2) **Scoured wool** - wool from which the grease has been removed almost entirely by washing with hot water and soap or other detergents or with alkaline solutions.

(3) **Wool treated with volatile solvents** (such as benzene and carbon tetrachloride) to remove grease.

(4) **Frosted wool** - this has been subjected to a sufficiently low temperature to freeze the grease. The grease is then in a very brittle state and is easily broken up and removed as dust together with a large part of the natural impurities which are held in the wool by the grease.

Mostwashed and degreased wools still contain small amounts of grease and vegetable matter (burrs, seeds, etc.); this vegetable matter is removed mechanically at a later stage (see the Explanatory Note to heading 51.05) or by carbonisation.

(C) **Carbonised wool**.

Carbonising eliminates any vegetable matter still contained in the wools referred to at (B) above. The wool is immersed in a bath, usually of mineral acids or acid salts, which destroys the vegetable matter but does not affect the wool fibres.

Bleaching, dyeing or other processes applied prior to carding or combing do not affect the classification of wool in this heading.

This heading **excludes** :

(a) Raw hides and skins, whether or not split, including sheepskins in the wool (**heading 41.02** or **43.01**).

(b) Wool wastes of **heading 51.03** or garnetted stock of wool of **heading 51.04**.

(c) Combed wool in fragments (**heading 51.05**).

5101.1

- Greasy, including fleece-washed wool :
5101.11

-- Shorn wool
5101.19

-- Other
5101.2

- Degreased, not carbonised :
5101.21

-- Shorn wool
5101.29

-- Other
5101.30

- Carbonised
Heading 5102

Fine or coarse animal hair, not carded or combed.
EXPLANATORY NOTES

51.02 - Fine or coarse animal hair, not carded or combed (+).

- Fine animal hair :

5102.11 - - Of Kashmir (cashmere) goats

5102.19 - - Other

5102.20 - Coarse animal hair

(1) Throughout the Nomenclature, the expression “fine animal hair” means hair of alpaca, llama, vicuna, camel (including dromedary), yak, Angora goat (mohair), Tibetan, Kashmir (cashmere) or similar goats, rabbit (including Angora rabbit), hare, beaver, nutria or musk-rat (see Chapter Note 1 (b)).

Fine animal hair is generally softer and less curled than wool. The hair of the alpaca, llama, vicuna, camel (including dromedary)l, yak, Angora, Kashmir (cashmere) or similar goats or Angora rabbit is generally spun like wool into yarns; it is also used for wig-making and for the manufacture of dolls’ hair. Other fine animal hair (i.e., of the hare, common rabbit, beaver, nutria or musk-rat) is usually unsuitable for spinning and is used for the manufacture of felts, padding, stuffing, etc.

(2) Throughout the Nomenclature the expression “coarse animal hair” means all other animal hair not mentioned in (1) above, **except** wool (**heading 51.01**), hair of the manes or tails of equine or

bovine animals (classified as “horsehair” **heading 05.11**), pigs’, hogs’ or boars’ bristles or hair and badger hair or other brush-making hair (**heading 05.02**) (see Chapter Note 1 (c)).

Coarse animal hair classified here includes that from the flanks of bovine or equine animals and that of common goats, dogs, monkeys or otters.

Coarse animal hair is generally used in the manufacture of coarse yarns or woven fabrics, felts or carpets, or for padding or stuffing purposes.

Animal hairs are obtained by gathering during the moult, by shearing, by stripping from pelts, etc., and are included here **only** when not carded or combed, but classification here is not affected by their having been washed, bleached, dyed or artificially curled (this last operation is applied mainly to coarse animal hairs for stuffing).

The heading **does not cover** :

(a) Human hair (**heading 05.01**).

(b) Raw hides and skins and raw furskins (**headings 41.01 to 41.03** or **43.01**).

(c) Fine or coarse animal hair waste (**heading 51.03**).

(d) Garnetted stock of fine or coarse animal hair (**heading 51.04**).

(e) Fine or coarse animal hair, carded or combed (**heading 51.05**).

(f) Fine or coarse animal hair prepared for use in making wigs or the like (**heading 67.03**).

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Subheading Explanatory Note.

Subheading 5102.11

For the purposes of subheading 5102.11, the expression "of Kashmir (cashmere) goats" means the fine soft hair of the undercoat (downy fleece) of the breed of goats that originated in Kashmir but is today raised in several other regions of the world. For the purposes of this subheading, the region in which the animals are raised is not to be taken into account.

5102.1

- Fine animal hair :

5102.11

-- Of Kashmir (cashmere) goats

5102.19

-- Other

5102.20

- Coarse animal hair

Heading 5103

Waste of wool or of fine or coarse animal hair, including yarn waste but excluding garnetted stock.

EXPLANATORY NOTES

51.03 - Waste of wool or of fine or coarse animal hair, including yarn waste but excluding garnetted stock.

5103.10 - Noils of wool or of fine animal hair

5103.20 - Other waste of wool or of fine animal hair

5103.30 - Waste of coarse animal hair

In general this heading covers all waste (**other than** garnetted stock) of wool or of fine or coarse animal hair, i.e., the waste recovered during the successive treatments converting the raw wool or hair into washed, carded, combed, spun, woven, knitted, etc., products.

The principal wastes included here are :

(1) **Wastes from combing, carding or other processes preparatory to spinning**, such as : noils, the most important waste, composed of short fibres removed during combing; lap and sliver ends, small waste pieces of the combed lap; burr waste and carded shoddy, wastes collected during carding; fibres recovered on cleaning the rollers of carding machines and known as strippings.

(2) **Yarn waste** such as broken, knotted or tangled yarns collected as waste during spinning, doubling, reeling, weaving, knitting, etc., operations.

(3) **Wastes** such as sorting wastes and washing wastes collected from the bottom of the vat or from the gratings of washers.

(4) **Waste**, such as old mattress hair and wool.

Some of these wastes may be impregnated with oil from the machines or mixed with dust or other impurities (natural impurities of vegetable origin, for example). These wastes, according to type and quality, may be used for spinning, for stuffing, etc. Their classification here is not affected by carbonisation, bleaching, dyeing, etc.

The heading **excludes** :

(a) Horsehair waste (**heading 05.11**).

(b) Wadding (**heading 30.05** or **56.01**).

(c) Waste of wool or animal hair suitable only for use as fertilisers (**Chapter 31**).

(d) Garnetted stock of wool or of fine or coarse animal hair (**heading 51.04**).

(e) Carded or combed waste of wool or of fine or coarse animal hair (**heading 51.05**).

(f) Textile flock and dust and mill neps (**heading 56.01**).

5103.10

- Noils of wool or of fine animal hair

5103.20

- Other waste of wool or of fine animal hair

5103.30

- Waste of coarse animal hair

Heading 5104

Garnetted stock of wool or of fine or coarse animal hair.

EXPLANATORY NOTES

51.04 - Garnetted stock of wool or of fine or coarse animal hair.

This heading covers garnetted stock of wool or of fine or coarse animal hair, obtained by garnetting rags of knitted, woven, etc., material or by garnetting the waste yarns obtained during the spinning, weaving, knitting, etc., operations.

Garnetted wool (reclaimed or reworked wool) includes :

(1) **Shoddy and mungo**, obtained by garnetting woollen or worsted yarns or rags.

(2) **Extract wool**, obtained by garnetting the wool remaining when mixed rags are treated, usually with acid, to eliminate the vegetable fibres (e.g., cotton) or artificial staple fibres.

Garnetted stock of wool or of fine or coarse animal hair of this heading is usually spun into yarns either alone or mixed with new fibres, and is used for the manufacture of woven or knitted fabrics, of felts or for padding or stuffing purposes.

Such garnetted stock remains classified here whether or not bleached or dyed.

The heading **does not cover** :

(a) Wadding (**heading 30.05** or **56.01**).

(b) Carded or combed garnetted stock of wool or of fine or coarse animal hair (**heading 51.05**).

(c) Textile flock and dust and mill neps (**heading 56.01**).

(d) Used or new rags, not garnetted (**heading 63.10**).

5104.00

Garnetted stock of wool or of fine or coarse animal hair.

Heading 5105

Wool and fine or coarse animal hair, carded or combed (including combed wool in fragments).

EXPLANATORY NOTES

51.05 - Wool and fine or coarse animal hair, carded or combed (including combed wool in fragments) (+).

5105.10 - Carded wool

- Wool tops and other combed wool :

5105.21 - - Combed wool in fragments

5105.29 - - Other

- Fine animal hair, carded or combed :

5105.31 - - Of Kashmir (cashmere) goats

5105.39 - - Other

5105.40 - Coarse animal hair, carded or combed

This heading covers :

(1) Wool and fine or coarse animal hair (including waste and garnetted stock), **carded** preparatory to woollen spinning.

(2) Wool and fine animal hair, **combed** following the “preparing” (gilling) or carding process.

The purpose of carding (on special carding machines) is to disentangle the fibres, lay them more or less parallel, and entirely or largely free them from any extraneous matter (mostly vegetable) which they may still contain. The fibres are then in the form of webs.

If **“woollen” products (i.e., those which have been carded only)** are required, the web of fibres is divided lengthwise into numerous elements which are then rolled or rubbed into the form of slubbings to increase the cohesion of the fibres and to facilitate their spinning into yarns. The slubbings are wound onto bobbins and can be used without further operation for spinning into woollen yarns.

If, on the contrary, **combed products (worsted)** are required, two alternative processes may be adopted, viz., either the carded webs are combed or, alternatively, the wool or animal hair is not first carded but before combing undergoes a “preparing” process in which the material is treated in gilling machines (also known as “gill boxes”) which open out and straighten the fibres.

During the subsequent combing operation, the short fibres are eliminated, principally in the form of noils, while the remaining fibres are laid parallel in the form of a sliver. Any remaining vegetable impurities are also removed along with the noils. The combed sliver is then drafted and gilled to ensure a complete mixing of the fibres of various lengths, and the resulting sliver is wound into the form of a ball, known as a “top”. Materials, chiefly hairs, which will not ball easily often leave this stage in the form of compressed coils, tightly tied between two sheets of paper, and known as “bumped tops”. The combed products are put through a series of drawing and doubling operations which convert them into rovings. These are wound onto bobbins in readiness for spinning into worsted yarns.

This heading covers the slubbings, carded slivers, tops and rovings referred to above, and also cut or broken tops and cut or broken carded slivers which have been deliberately cut or broken into short uniform lengths.

This heading also covers **combed wool in fragments**, sometimes known as “combed wool in bulk”, “scoured deburred wool” or “open tops”. This wool, generally scoured, is wool which has been mechanically deburred by utilising part of the production line machinery (carding and combing) used to produce wool tops for worsted spinning. After leaving the combing machine, the continuous sliver produced is stretched and broken into irregular fluffy fragments which are then baled. The product is of short fibre length (average fibre length less than 45 mm) and is suitable for woollen or cotton system spinning but not for worsted spinning. It must, therefore, be re-carded before spinning. In appearance it resembles fluffy scoured wool with no vegetable material evident.

It should be noted that certain rovings may have much the same diameter as single yarns of **headings 51.06 to 51.10** and may also be slightly twisted, but since they have not yet been spun they do not constitute yarns and therefore remain in this heading.

Processes such as bleaching and dyeing do not affect the classification of the products in this heading.

The heading **does not include** :

(a) Wadding (**heading 30.05** or **56.01**).

(b) Wool prepared for use in making wigs or the like (**heading 67.03**).

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Subheading Explanatory Note.

Subheading 5105.31

The provisions of the Explanatory Note to subheading 5102.11 apply, *mutatis mutandis*, to the products of this subheading.

5105.10

- Carded wool

5105.2

- Wool tops and other combed wool :

5105.21

-- Combed wool in fragments

5105.29

-- Other

5105.3

- Fine animal hair, carded or combed :

5105.31

-- Of Kashmir (cashmere) goats
5105.39

-- Other
5105.40

- Coarse animal hair, carded or combed
Heading 5106

Yarn of carded wool, not put up for retail sale.
EXPLANATORY NOTES

51.06 - Yarn of carded wool, not put up for retail sale.

5106.10 - Containing 85 % or more by weight of wool

5106.20 - Containing less than 85 % by weight of wool

This heading covers woollen yarns whether single or multiple (folded), i.e., those obtained by spinning the slubbings of carded (but **not** combed) wool. It also includes yarns, known as combed-carded yarns, which are obtained from carded (but **not** combed) slivers by the spinning operations employed for combed yarns. All these yarns are usually wound on bobbins or cones.

This heading also covers yarns of carded wool derived from the combed wool in fragments described in the Explanatory Note to heading 51.05.

Yarns are **excluded** if put up for retail sale (see provisions of Part (I) (B) (3) of the General Explanatory Note to Section XI).

The yarns covered by this heading consist of short fibres or a mixture of long and short fibres which are not parallel but intermingle and cross each other. They are generally less regular and usually more loosely twisted than worsted yarns.

These yarns may have undergone the processes mentioned in Part (I) (B) (1) of the General Explanatory Note to Section XI.

Multiple (folded) yarns in which some strands are of carded wool and some of combed wool are classified in **heading 51.06** or **51.07** according to whether the carded or combed wool predominates in weight.

5106.10

- Containing 85 % or more by weight of wool
5106.20

- Containing less than 85 % by weight of wool
Heading 5107

Yarn of combed wool, not put up for retail sale.
EXPLANATORY NOTES

51.07 - Yarn of combed wool, not put up for retail sale.

5107.10 - Containing 85 % or more by weight of wool

5107.20 - Containing less than 85 % by weight of wool

This heading covers worsted yarns whether single or multiple (folded), i.e., those obtained by spinning rovings of combed wool.

They are **excluded** if put up for retail sale (see provisions of Part (I) (B) (3) of the General Explanatory Note to Section XI).

Worsted yarns differ from woollen yarns in having a smooth appearance and regular section; their fibres are parallel, and short and tangled fibres have been eliminated by combing.

These yarns may have undergone the processes mentioned in Part (I) (B) (1) of the General Explanatory Note to Section XI.

The heading **does not cover** yarns of carded wool derived from combed wool in fragments, or yarns known as combed-carded yarns (**heading 51.06**).

5107.10

- Containing 85 % or more by weight of wool

5107.20

- Containing less than 85 % by weight of wool

Heading 5108

Yarn of fine animal hair (carded or combed), not put up for retail sale.

EXPLANATORY NOTES

51.08 - Yarn of fine animal hair (carded or combed), not put up for retail sale.

5108.10 - Carded

5108.20 - Combed

This heading covers yarns, whether single or multiple (folded), obtained by spinning the rovings of carded or combed fine animal hair (see Explanatory Note to heading 51.02 for an explanation of what is meant by fine animal hair).

They are **excluded** if put up for retail sale (see provisions of Part (I) (B) (3) of the General Explanatory Note to Section XI).

The yarns of this heading are used mainly in the manufacture of knitted goods or woven fabrics for certain light clothing (e.g., alpaca), and for overcoats or blankets (e.g., camel (including dromedary) hair), for velvets or for imitation fur.

These yarns may have undergone the processes mentioned in Part (I) (B) (1) of the General Explanatory Note to Section XI.

5108.10

- Carded

5108.20

- Combed

Heading 5109

Yarn of wool or of fine animal hair, put up for retail sale.

EXPLANATORY NOTES

51.09 - Yarn of wool or of fine animal hair, put up for retail sale.

5109.10 - Containing 85 % or more by weight of wool or of fine animal hair

5109.90 - Other

This heading covers woollen or worsted yarns and yarns of fine animal hair, when put up for retail sale, i.e., in the forms and subject to the conditions described in Part (I) (B) (3) of the General Explanatory Note to Section XI.

5109.10

- Containing 85 % or more by weight of wool or of fine animal hair

5109.90

- Other

Heading 5110

Yarn of coarse animal hair or of horsehair (including gimped horsehair yarn), whether or not put up for retail sale.

EXPLANATORY NOTES

51.10 - Yarn of coarse animal hair or of horsehair (including gimped horsehair yarn), whether or not put up for retail sale.

This heading covers :

(1) **Yarns**, whether single or multiple (folded), obtained by spinning the rovings **of coarse animal hair** (see Explanatory Note to heading 51.02 (item (2)) for an explanation of what is meant by coarse animal hair).

These yarns are used in the manufacture of certain woven fabrics, interlinings or articles for technical uses.

(2) **Yarns of horsehair.** These yarns are obtained by spinning, generally using the shorter horsehairs (those from the manes of equine animals or the tails of bovine animals). The much longer horsehairs from the tails of equine animals cannot be spun. They are often knotted end to end, forming continuous filaments which are used as the warp thread in the manufacture of certain horsehair fabrics. In view of their use, filaments of this kind are also classified in this heading. However, single horsehairs (not tied end to end) fall in **heading 05.11**.

Horsehair yarns consisting of a bundle of horsehairs bound or gimped with yarn of cotton or of another textile material remain classified in this heading.

They may have undergone the processes mentioned in Part (I) (B) (1) of the General Explanatory Note to Section XI.

5110.00

Yarn of coarse animal hair or of horsehair (including gimped horsehair yarn), whether or not put up for retail sale.

Heading 5111

Woven fabrics of carded wool or of carded fine animal hair.

EXPLANATORY NOTES

51.11 - Woven fabrics of carded wool or of carded fine animal hair.

- Containing 85 % or more by weight of wool or of fine animal hair :

5111.11 - - Of a weight not exceeding 300 g/m^2

5111.19 - - Other

5111.20 - Other, mixed mainly or solely with man-made filaments

5111.30 - Other, mixed mainly or solely with man-made staple fibres

5111.90 - Other

This heading covers woven fabrics (as defined in Part (I) (C) of the General Explanatory Note to Section XI) made of yarns of carded wool or of yarns of carded fine animal hair.

These fabrics exist in great variety and include suitings, flannels, molletons and other fabrics for clothing, blankets, furnishing fabrics, etc.

The heading **does not cover** :

(a) Bandages, medicated or put up for retail sale (**heading 30.05**).

(b) Woven fabrics for technical uses, of **heading 59.11**.

5111.1

- Containing 85 % or more by weight of wool or of fine animal hair :

5111.11

-- Of a weight not exceeding 300 g/m²

5111.19

-- Other

5111.20

- Other, mixed mainly or solely with man-made filaments

5111.30

- Other, mixed mainly or solely with man-made staple fibres

5111.90

- Other

Heading 5112

Woven fabrics of combed wool or of combed fine animal hair.
EXPLANATORY NOTES

51.12 - Woven fabrics of combed wool or of combed fine animal hair.

- Containing 85 % or more by weight of wool or of fine animal hair :

5112.11 - - Of a weight not exceeding 200 g/m^2

5112.19 - - Other

5112.20 - Other, mixed mainly or solely with man-made filaments

5112.30 - Other, mixed mainly or solely with man-made staple fibres

5112.90 - Other

This heading covers woven fabrics (as defined in Part (I) (C) of the General Explanatory Note to Section XI) made of yarns of combed wool or of yarns of combed fine animal hair.

These fabrics exist in great variety and include suitings and other fabrics for clothing, furnishing fabrics, etc.

The heading **does not cover** :

(a) Bandages, medicated or put up for retail sale (**heading 30.05**).

(b) Woven fabrics for technical uses, of **heading 59.11**.

5112.1

- Containing 85 % or more by weight of wool or of fine animal hair :
5112.11

-- Of a weight not exceeding 200 g/m²
5112.19

-- Other
5112.20

- Other, mixed mainly or solely with man-made filaments
5112.30

- Other, mixed mainly or solely with man-made staple fibres
5112.90

- Other
Heading 5113

Woven fabrics of coarse animal hair or of horsehair.
EXPLANATORY NOTES

51.13 - Woven fabrics of coarse animal hair or of horsehair.

This heading covers woven fabrics (as defined in Part (I) (C) of the General Explanatory Note to Section XI) made of coarse animal hair included in heading 51.02 or of horsehair yarns (heading 51.10). However, woven fabrics of horsehair may also be made with single horsehairs of heading 05.11.

Woven fabrics of coarse animal hair are used for linings in furniture or furnishings, for interlinings in clothing, etc.

Those made with single horsehairs are made on special looms, generally by hand. In view of the shortness of the hair (from 20 to 70 cm), these tissues are generally in small pieces and are mainly used for sieves.

Other horsehair cloth is used largely for interlinings in garments.

The heading **does not include** woven fabrics for technical uses, of **heading 59.11**.

5113.00

Woven fabrics of coarse animal hair or of horsehair.

Chapter 52

Cotton

LEGAL NOTES

Subheading Note.

1.- For the purposes of subheadings 5209.42 and 5211.42, the expression “denim” means fabrics of yarns of different colours, of 3-thread or 4-thread twill, including broken twill, warp faced, the warp yarns of which are of one and the same colour and the weft yarns of which are unbleached, bleached, dyed grey or coloured a lighter shade of the colour of the warp yarns.

EXPLANATORY NOTES

Chapter 52

Cotton

Subheading Note.

1.- For the purposes of subheadings 5209.42 and 5211.42, the expression “denim” means fabrics of yarns of different colours, of 3-thread or 4-thread twill, including broken twill, warp faced, the warp yarns of which are of one and the same colour and the weft yarns of which are unbleached, bleached, dyed grey or coloured a lighter shade of the colour of the warp yarns.

GENERAL

The General Explanatory Note to Section XI should be taken into account in reading the Explanatory Notes to this Chapter.

In general, the Chapter covers cotton fibres at the various stages of their conversion from raw material to woven fabrics, and includes mixed textile materials classified as cotton.

CLASSIFICATION OPINIONS

1. **Fabrics in the piece,** pleated (other than knitted or crocheted fabrics), having a semi-formed hem obtained merely by folding back the edge.
   Adoption : 1961

2. **Fabrics** of which the surface is decorated by the application of textile flock or dust to produce an embroidery effect.
   Classification according to the nature of the woven fabric base, regardless of the textile constituting the flock or dust
   Adoption : 1964

3. **Strips** of a width not exceeding 30 cm and of thickness of less than 3 mm simply cut from piece goods composed of two woven fabrics assembled in layers by gumming throughout and having no selvedges.
   Adoption : 1969

Heading 5201

Cotton, not carded or combed.

EXPLANATORY NOTES

52.01 - Cotton, not carded or combed.

The seeds contained in the bolls (pods, fruit) of the cotton plant (*Gossypium*) are covered with cotton fibres. The essential constituent of these fibres is cellulose, and they are covered with a waxy substance. Their outer surface is smooth, and their natural colour white, yellowish or even brownish or reddish. They are harvested when the ripened bolls are more or less widely opened; the bolls are not picked but the cotton fibres are normally pulled from them while on the plant itself, bringing with them the cotton seeds which must be removed subsequently by ginning.

This heading covers uncarded and uncombed cotton fibres as harvested (seed cotton), or merely ginned (in ginned cotton a certain amount of pod waste, leaves or earthy matter still remains); it also includes cotton fibres (**other than** linters and waste) which have been cleaned, bleached, dyed or rendered absorbent.

International trade in raw cotton is concerned almost wholly with ginned cotton which is usually in strongly compressed bales; cotton cleaned in opening or scutching machines is in the form of loose, wide, continuous sheets.

Cotton linters are classified in **heading 14.04**. The fibres classified in this heading are generally between 1 and 5 cm in length and so are easily distinguished from cotton linters which consist of fibres usually less than 5 mm in length.

The heading also **excludes** :

(a) Wadding (**heading 30.05** or **56.01**).

(b) Cotton waste (**heading 52.02**).

(c) Carded or combed cotton (**heading 52.03**).

5201.00

Cotton, not carded or combed.

Heading 5202

Cotton waste (including yarn waste and garnetted stock).

EXPLANATORY NOTES

52.02 - Cotton waste (including yarn waste and garnetted stock).

5202.10 - Yarn waste (including thread waste)

- Other :

5202.91 - - Garnetted stock

5202.99 - - Other

In general, this heading covers waste cotton obtained when cotton is prepared for spinning, or during spinning operations, weaving, knitting, etc., or from the garnetting of cotton goods.

It thus includes :

Combing waste, usually referred to as comber noils; strippings recovered from carding or combing cylinders; broken fibres detached during the drawing process; fragments of slivers or rovings; carding fly; tangled yarn and other yarn waste; yarn and fibres resulting from the garnetting of rags.

This waste may contain greasy matter, dust or other extraneous matter or may have been cleaned, bleached or dyed. It may be used for spinning or may serve for other purposes.

The heading **excludes** :

(a) Cotton linters (**heading 14.04**).

(b) Wadding (**heading 30.05** or **56.01**).

(c) Carded or combed cotton waste (**heading 52.03**).

(d) Textile flock and dust and mill neps (**heading 56.01**).

(e) Used or new rags and other scrap textile articles (**heading 63.10**).

5202.10

- Yarn waste (including thread waste)
5202.9

- Other :
5202.91

-- Garnetted stock
5202.99

-- Other
Heading 5203

Cotton, carded or combed.
EXPLANATORY NOTES

52.03 - Cotton, carded or combed.

This heading covers cotton (including garnetted stock and other cotton waste) which has been carded or combed, whether or not further prepared for spinning.

The main purpose of carding is to disentangle the cotton fibres, lay them more or less parallel, and entirely or largely free them from any extraneous matter they may still contain. The fibres are then in the form of wide webs (laps) which are generally condensed into slivers. These slivers may or may not be combed before being converted into rovings.

Combing, which is chiefly practised for the spinning of long staple cotton, removes the last traces of extraneous matter clinging to the fibres and eliminates the shorter fibres in the form of combing waste; only the longer fibres, lying parallel, remain.

The slivers, whether or not combed, undergo a series of doubling and drawing processes on drawing frames and roving frames, emerging from the latter as rovings. It should be noted that rovings may, on leaving the roving frames, have approximately the same diameter as the single yarn of heading 52.05 or 52.06, and that they are slightly twisted; however, since they have not been spun, they do not yet constitute yarns and remain in this heading.

Slivers are generally coiled into cans, whereas rovings are usually put up on large bobbins. Laps are normally rolled onto wooden rollers.

The products of this heading may be bleached or dyed.

Carded cotton in sliver form as used by hairdressers (sometimes called “barbers’ wadding”) is classified in this heading, but cotton wadding falls in **heading 56.01** or, if medicated or put up in packings for retail sale for medical or surgical purposes, in **heading 30.05**.

5203.00

Cotton, carded or combed.

Heading 5204

Cotton sewing thread, whether or not put up for retail sale.

EXPLANATORY NOTES

52.04 - Cotton sewing thread, whether or not put up for retail sale.

- Not put up for retail sale :

5204.11 - - Containing 85 % or more by weight of cotton

5204.19 - - Other

5204.20 - Put up for retail sale

This heading covers cotton sewing thread in the forms and subject to the conditions described in Part (I) (B) (4) of the General Explanatory Note to Section XI.

However, if such thread is within the definition of twine, etc. (see Part (I) (B) (2) of the General Explanatory Note to Section XI) it is **excluded** (**heading 56.07**).

Sewing thread remains in this heading whether or not put up for retail sale or processed as indicated in Part (I) (B) (1) of the General Explanatory Note to Section XI.

5204.1

- Not put up for retail sale :
5204.11

-- Containing 85 % or more by weight of cotton
5204.19

-- Other
5204.20

- Put up for retail sale
Heading 5205

Cotton yarn (other than sewing thread), containing 85 % or more by weight of cotton, not put up for retail sale.

EXPLANATORY NOTES

52.05 - Cotton yarn (other than sewing thread), containing 85 % or more by weight of cotton, not put up for retail sale.

- Single yarn, of uncombed fibres :

5205.11 - - Measuring 714.29 decitex or more (not exceeding 14 metric number)

5205.12 - - Measuring less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number)

5205.13 - - Measuring less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number)

5205.14 - - Measuring less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number)

5205.15 - - Measuring less than 125 decitex (exceeding 80 metric number)

- Single yarn, of combed fibres :

5205.21 - - Measuring 714.29 decitex or more (not exceeding 14 metric number)

5205.22 - - Measuring less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number)

5205.23 - - Measuring less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number)

5205.24 - - Measuring less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number)

5205.26 - - Measuring less than 125 decitex but not less than 106.38 decitex (exceeding 80 metric number but not exceeding 94 metric number)

5205.27 - - Measuring less than 106.38 decitex but not less than 83.33 decitex (exceeding 94 metric number but not exceeding 120 metric number)

5205.28 - - Measuring less than 83.33 decitex (exceeding 120 metric number)

- Multiple (folded) or cabled yarn, of uncombed fibres :

5205.31 - - Measuring per single yarn 714.29 decitex or more (not exceeding 14 metric number per single yarn)

5205.32 - - Measuring per single yarn less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number per single yarn)

5205.33 - - Measuring per single yarn less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number per single yarn)

5205.34 - - Measuring per single yarn less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number per single yarn)

5205.35 - - Measuring per single yarn less than 125 decitex (exceeding 80 metric number per single yarn)

- Multiple (folded) or cabled yarn, of combed fibres :

5205.41 - - Measuring per single yarn 714.29 decitex or more (not exceeding 14 metric number per single yarn)

5205.42 - - Measuring per single yarn less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number per single yarn)

5205.43 - - Measuring per single yarn less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number per single yarn)

5205.44 - - Measuring per single yarn less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number per single yarn)

5205.46 - - Measuring per single yarn less than 125 decitex but not less than 106.38 decitex (exceeding 80 metric number but not exceeding 94 metric number per single yarn)

5205.47 - - Measuring per single yarn less than 106.38 decitex but not less than 83.33 decitex (exceeding 94 metric number but not exceeding 120 metric number per single yarn)

5205.48 - - Measuring per single yarn less than 83.33 decitex (exceeding 120 metric number per single yarn)

This heading covers cotton yarn (other than sewing thread), whether single or multiple (folded), obtained by spinning the rovings of heading 52.03, provided that they contain 85 % or more by weight of cotton.

However, such yarn is **excluded** if it is within the definition of twine, cordage, rope, etc. (**heading 56.07**) or put up for retail sale (see Parts (I) (B) (2) and (3) of the General Explanatory Note to Section XI).

The yarns remain in this heading whether or not processed as indicated in Part (I) (B) (1) of the General Explanatory Note to Section XI.

5205.1

- Single yarn, of uncombed fibres :
5205.11

-- Measuring 714.29 decitex or more (not exceeding 14 metric number)
5205.12

-- Measuring less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number)
5205.13

-- Measuring less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number)
5205.14

-- Measuring less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number)
5205.15

-- Measuring less than 125 decitex (exceeding 80 metric number)
5205.2

- Single yarn, of combed fibres :
5205.21

-- Measuring 714.29 decitex or more (not exceeding 14 metric number)
5205.22

-- Measuring less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number)
5205.23

-- Measuring less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number)
5205.24

-- Measuring less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number)

5205.26

-- Measuring less than 125 decitex but not less than 106.38 decitex (exceeding 80 metric number but not exceeding 94 metric number)

5205.27

-- Measuring less than 106.38 decitex but not less than 83.33 decitex (exceeding 94 metric number but not exceeding 120 metric number)

5205.28

-- Measuring less than 83.33 decitex (exceeding 120 metric number)

5205.3

- Multiple (folded) or cabled yarn, of uncombed fibres :

5205.31

-- Measuring per single yarn 714.29 decitex or more (not exceeding 14 metric number per single yarn)

5205.32

-- Measuring per single yarn less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number per single yarn)

5205.33

-- Measuring per single yarn less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number per single yarn)

5205.34

-- Measuring per single yarn less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number per single yarn)

5205.35

-- Measuring per single yarn less than 125 decitex (exceeding 80 metric number per single yarn)

5205.4

- Multiple (folded) or cabled yarn, of combed fibres :

5205.41

-- Measuring per single yarn 714.29 decitex or more (not exceeding 14 metric number per single yarn)

5205.42

-- Measuring per single yarn less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number per single yarn)

5205.43

-- Measuring per single yarn less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number per single yarn)

5205.44

-- Measuring per single yarn less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number per single yarn)

5205.46

-- Measuring per single yarn less than 125 decitex but not less than 106.38 decitex (exceeding 80 metric number but not exceeding 94 metric number per single yarn)

5205.47

-- Measuring per single yarn less than 106.38 decitex but not less than 83.33 decitex (exceeding 94 metric number but not exceeding 120 metric number per single yarn)

5205.48

-- Measuring per single yarn less than 83.33 decitex (exceeding 120 metric number per single yarn)

Heading 5206

Cotton yarn (other than sewing thread), containing less than 85 % by weight of cotton, not put up for retail sale.

EXPLANATORY NOTES

52.06 - Cotton yarn (other than sewing thread), containing less than 85 % by weight of cotton, not put up for retail sale.

- Single yarn, of uncombed fibres :

5206.11 - - Measuring 714.29 decitex or more (not exceeding 14 metric number)

5206.12 - - Measuring less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number)

5206.13 - - Measuring less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number)

5206.14 - - Measuring less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number)

5206.15 - - Measuring less than 125 decitex (exceeding 80 metric number)

- Single yarn, of combed fibres :

5206.21 - - Measuring 714.29 decitex or more (not exceeding 14 metric number)

5206.22 - - Measuring less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number)

5206.23 - - Measuring less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number)

5206.24 - - Measuring less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number)

5206.25 - - Measuring less than 125 decitex (exceeding 80 metric number)

- Multiple (folded) or cabled yarn, of uncombed fibres :

5206.31 - - Measuring per single yarn 714.29 decitex or more (not exceeding 14 metric number per single yarn)

5206.32 - - Measuring per single yarn less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number per single yarn)

5206.33 - - Measuring per single yarn less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number per single yarn)

5206.34 - - Measuring per single yarn less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number per single yarn)

5206.35 - - Measuring per single yarn less than 125 decitex (exceeding 80 metric number per single yarn)

- Multiple (folded) or cabled yarn, of combed fibres :

5206.41 - - Measuring per single yarn 714.29 decitex or more (not exceeding 14 metric number per single yarn)

5206.42 - - Measuring per single yarn less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number per single yarn)

5206.43 - - Measuring per single yarn less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number per single yarn)

5206.44 - - Measuring per single yarn less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number per single yarn)

5206.45 - - Measuring per single yarn less than 125 decitex (exceeding 80 metric number per single yarn)

The Explanatory Note to heading 52.05 applies, *mutatis mutandis,* to the yarns of this heading.

5206.1

- Single yarn, of uncombed fibres :

5206.11

-- Measuring 714.29 decitex or more (not exceeding 14 metric number)

5206.12

-- Measuring less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number)

5206.13

-- Measuring less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number)

5206.14

-- Measuring less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number)
5206.15
-- Measuring less than 125 decitex (exceeding 80 metric number)
5206.2
- Single yarn, of combed fibres :
5206.21
-- Measuring 714.29 decitex or more (not exceeding 14 metric number)
5206.22
-- Measuring less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number)
5206.23
-- Measuring less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number)
5206.24
-- Measuring less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number)
5206.25
-- Measuring less than 125 decitex (exceeding 80 metric number)
5206.3
- Multiple (folded) or cabled yarn, of uncombed fibres :
5206.31
-- Measuring per single yarn 714.29 decitex or more (not exceeding 14 metric number per single yarn)
5206.32
-- Measuring per single yarn less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number per single yarn)
5206.33
-- Measuring per single yarn less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number per single yarn)
5206.34
-- Measuring per single yarn less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number per single yarn)
5206.35
-- Measuring per single yarn less than 125 decitex (exceeding 80 metric number per single yarn)
5206.4
- Multiple (folded) or cabled yarn, of combed fibres :
5206.41
-- Measuring per single yarn 714.29 decitex or more (not exceeding 14 metric number per single yarn)
5206.42

-- Measuring per single yarn less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number per single yarn)

5206.43

-- Measuring per single yarn less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number per single yarn)

5206.44

-- Measuring per single yarn less than 192.31 decitex but not less than 125 decitex (exceeding 52 metric number but not exceeding 80 metric number per single yarn)

5206.45

-- Measuring per single yarn less than 125 decitex (exceeding 80 metric number per single yarn)

Heading 5207

Cotton yarn (other than sewing thread) put up for retail sale.

EXPLANATORY NOTES

52.07 - Cotton yarn (other than sewing thread) put up for retail sale.

5207.10 - Containing 85 % or more by weight of cotton

5207.90 - Other

This heading covers cotton yarn (other than sewing thread) when put up for retail sale, i.e., in the forms and subject to the conditions described in Part (I) (B) (3) of the General Explanatory Note to Section XI.

5207.10

- Containing 85 % or more by weight of cotton

5207.90

- Other

Heading 5208

Woven fabrics of cotton, containing 85 % or more by weight of cotton, weighing not more than 200 g/m2.

EXPLANATORY NOTES

52.08 - Woven fabrics of cotton, containing 85 % or more by weight of cotton, weighing not more than 200 g/m^2.

- Unbleached :

5208.11 - - Plain weave, weighing not more than 100 g/m^2

5208.12 - - Plain weave, weighing more than 100 g/m^2

5208.13 - - 3-thread or 4-thread twill, including cross twill

5208.19 - - Other fabrics

- Bleached :

5208.21 - - Plain weave, weighing not more than 100 g/m^2

5208.22 - - Plain weave, weighing more than 100 g/m^2

5208.23 - - 3-thread or 4-thread twill, including cross twill

5208.29 - - Other fabrics

- Dyed :

5208.31 - - Plain weave, weighing not more than 100 g/m^2

5208.32 - - Plain weave, weighing more than 100 g/m^2

5208.33 - - 3-thread or 4-thread twill, including cross twill

5208.39 - - Other fabrics

- Of yarns of different colours :

5208.41 - - Plain weave, weighing not more than 100 g/m^2

5208.42 - - Plain weave, weighing more than 100 g/m^2

5208.43 - - 3-thread or 4-thread twill, including cross twill

5208.49 - - Other fabrics

- Printed :

5208.51 - - Plain weave, weighing not more than 100 g/m^2

5208.52 - - Plain weave, weighing more than 100 g/m^2

5208.59 - - Other fabrics

This heading covers woven fabrics (as defined in Part (I) (C) of the General Explanatory Note to Section XI) weighing not more than 200 g/m^2, containing 85 % or more by weight of cotton.

Cotton fabrics are produced in great variety and are used, according to their characteristics, for making clothing, household linen, bedspreads, curtains, other furnishing articles, etc.

The heading **does not include** :

(a) Bandages, medicated or put up for retail sale (**heading 30.05**).

(b) Fabrics of **heading 58.01**.

(c) Terry towelling and similar terry fabrics (**heading 58.02**).

(d) Gauze (**heading 58.03**).

(e) Woven fabrics for technical uses, of **heading 59.11**.

5208.1

- Unbleached :

5208.11

-- Plain weave, weighing not more than 100 g/m2

5208.12

-- Plain weave, weighing more than 100 g/m2

5208.13

-- 3-thread or 4-thread twill, including cross twill

5208.19

-- Other fabrics

5208.2

- Bleached :

5208.21

-- Plain weave, weighing not more than 100 g/m2

5208.22

-- Plain weave, weighing more than 100 g/m2

5208.23

-- 3-thread or 4-thread twill, including cross twill

5208.29

-- Other fabrics

5208.3

- Dyed :

5208.31

-- Plain weave, weighing not more than 100 g/m2

5208.32

-- Plain weave, weighing more than 100 g/m2

5208.33

-- 3-thread or 4-thread twill, including cross twill

5208.39

-- Other fabrics

5208.4

- Of yarns of different colours :

5208.41

-- Plain weave, weighing not more than 100 g/m2

5208.42

-- Plain weave, weighing more than 100 g/m2

5208.43

-- 3-thread or 4-thread twill, including cross twill

5208.49

-- Other fabrics

5208.5

- Printed :

5208.51

-- Plain weave, weighing not more than 100 g/m2

CLASSIFICATION OPINIONS

1. Plain weave cotton fabric, weighing less than 100 g/m2, rectangular in shape (320 cm x 110/112 cm), printed with various designs and colours and presented as a length of fabric, simply cut from a longer piece, which can be cut into two to make a pair of "Khangas" which are traditional women's costumes (an undecorated strip separates the two "Khangas"). "Khangas" obtained in this way can be used, without further working, as a dress, skirt, cape, etc.
Application of Note 7 to Section XI.
Adoption : 1998

5208.52

-- Plain weave, weighing more than 100 g/m2

5208.59

-- Other fabrics

Heading 5209

Woven fabrics of cotton, containing 85 % or more by weight of cotton, weighing more than 200 g/m2.

EXPLANATORY NOTES

52.09 - Woven fabrics of cotton, containing 85 % or more by weight of cotton, weighing more than 200 g/m².

- Unbleached :

5209.11 - - Plain weave

5209.12 - - 3-thread or 4-thread twill, including cross twill

5209.19 - - Other fabrics

- Bleached :

5209.21 - - Plain weave

5209.22 - - 3-thread or 4-thread twill, including cross twill

5209.29 - - Other fabrics

- Dyed :

5209.31 - - Plain weave

5209.32 - - 3-thread or 4-thread twill, including cross twill

5209.39 - - Other fabrics

- Of yarns of different colours :

5209.41 - - Plain weave

5209.42 - - Denim

5209.43 - - Other fabrics of 3-thread or 4-thread twill, including cross twill

5209.49 - - Other fabrics

- Printed :

5209.51 - - Plain weave

5209.52 - - 3-thread or 4-thread twill, including cross twill

5209.59 - - Other fabrics

The Explanatory Note to heading 52.08 applies, *mutatis mutandis,* to the products of this heading.

5209.1

- Unbleached :

5209.11

-- Plain weave

5209.12

-- 3-thread or 4-thread twill, including cross twill

5209.19

-- Other fabrics

5209.2

- Bleached :

5209.21

-- Plain weave

5209.22

-- 3-thread or 4-thread twill, including cross twill

5209.29

-- Other fabrics

5209.3

- Dyed :

5209.31

-- Plain weave
5209.32

-- 3-thread or 4-thread twill, including cross twill
5209.39

-- Other fabrics
5209.4

- Of yarns of different colours :
5209.41

-- Plain weave
5209.42

-- Denim
5209.43

-- Other fabrics of 3-thread or 4-thread twill, including cross twill
5209.49

-- Other fabrics
5209.5

- Printed :
5209.51

-- Plain weave
5209.52

-- 3-thread or 4-thread twill, including cross twill
5209.59

-- Other fabrics
Heading 5210

Woven fabrics of cotton, containing less than 85 % by weight of cotton, mixed mainly or solely with man-made fibres, weighing not more than 200 g/m2.

EXPLANATORY NOTES

52.10 - Woven fabrics of cotton, containing less than 85 % by weight of cotton, mixed mainly or solely with man-made fibres, weighing not more than 200 g/m^2.

- Unbleached :

5210.11 - - Plain weave

5210.19 - - Other fabrics

- Bleached :

5210.21 - - Plain weave

5210.29 - - Other fabrics

- Dyed :

5210.31 - - Plain weave

5210.32 - - 3-thread or 4-thread twill, including cross twill

5210.39 - - Other fabrics

- Of yarns of different colours :

5210.41 - - Plain weave

5210.49 - - Other fabrics

- Printed :

5210.51 - - Plain weave

5210.59 - - Other fabrics

This heading covers woven fabrics as defined in Part (I) (C) of the General Explanatory Note to Section XI.

It covers these fabrics provided they are classified as cotton fabrics by the application of Note 2 to Section XI (see also Part (I) (A) of the General Explanatory Note to Section XI) and provided they meet the following specification :

(a) Contain less than 85 % by weight of cotton;

(b) Are mixed mainly or solely with man-made fibres;

(c) Weigh not more than 200 g/m^2.

In calculating the proportions it must be remembered that the total weight of man-made fibres is to be taken into consideration, no distinction being made between filaments and staple fibres.

The heading **does not include** :

(a) Bandages, medicated or put up for retail sale (**heading 30.05**).

(b) Fabrics of **heading 58.01**.

(c) Terry towelling and similar terry fabrics (**heading 58.02**).

(d) Gauze (**heading 58.03**).

(e) Woven fabrics for technical uses, of **heading 59.11**.

5210.1

- Unbleached :

5210.11

-- Plain weave

5210.19

-- Other fabrics

5210.2

- Bleached :

5210.21

-- Plain weave

5210.29

-- Other fabrics

5210.3

- Dyed :

5210.31

-- Plain weave

5210.32

-- 3-thread or 4-thread twill, including cross twill

5210.39

-- Other fabrics

5210.4

- Of yarns of different colours :

5210.41

-- Plain weave

5210.49

-- Other fabrics

5210.5

- Printed :

5210.51

-- Plain weave

5210.59

-- Other fabrics

Heading 5211

Woven fabrics of cotton, containing less than 85 % by weight of cotton, mixed mainly or solely with man-made fibres, weighing more than 200 g/m2.

EXPLANATORY NOTES

52.11 - Woven fabrics of cotton, containing less than 85 % by weight of cotton, mixed mainly or solely with man-made fibres, weighing more than 200 g/m^2.

- Unbleached :

5211.11 - - Plain weave

5211.12 - - 3-thread or 4-thread twill, including cross twill

5211.19 - - Other fabrics

5211.20 - Bleached

- Dyed :

5211.31 - - Plain weave

5211.32 - - 3-thread or 4-thread twill, including cross twill

5211.39 - - Other fabrics

- Of yarns of different colours :

5211.41 - - Plain weave

5211.42 - - Denim

5211.43 - - Other fabrics of 3-thread or 4-thread twill, including cross twill

5211.49 - - Other fabrics

- Printed :

5211.51 - - Plain weave

5211.52 - - 3-thread or 4-thread twill, including cross twill

5211.59 - - Other fabrics

The Explanatory Note to heading 52.10 applies, *mutatis mutandis,* to the products of this heading.

5211.1

- Unbleached :

5211.11

-- Plain weave

5211.12

-- 3-thread or 4-thread twill, including cross twill

5211.19

-- Other fabrics

5211.20

- Bleached

5211.3

- Dyed :

5211.31

-- Plain weave

5211.32

-- 3-thread or 4-thread twill, including cross twill

5211.39

-- Other fabrics

5211.4

- Of yarns of different colours :

5211.41

-- Plain weave

5211.42

-- Denim

5211.43

-- Other fabrics of 3-thread or 4-thread twill, including cross twill

5211.49

-- Other fabrics

5211.5

- Printed :

5211.51

-- Plain weave

5211.52

-- 3-thread or 4-thread twill, including cross twill

5211.59

-- Other fabrics

Heading 5212

Other woven fabrics of cotton.

EXPLANATORY NOTES

52.12 - Other woven fabrics of cotton.

- Weighing not more than 200 g/m^2 :

5212.11 - - Unbleached

5212.12 - - Bleached

5212.13 - - Dyed

5212.14 - - Of yarns of different colours

5212.15 - - Printed

- Weighing more than 200 g/m^2 :

5212.21 - - Unbleached

5212.22 - - Bleached

5212.23 - - Dyed

5212.24 - - Of yarns of different colours

5212.25 - - Printed

This heading covers woven fabrics (as defined in Part (I) (C) of the General Explanatory Note to Section XI) made of cotton yarns. However, it should be noted that it covers only mixed woven fabrics, **other than** those of the preceding headings of this Chapter or specified or included in the second part of this Section (**Chapter 58** or **59**, usually).

Bandages, medicated or put up for retail sale, are **excluded** (**heading 30.05**).

5212.1

- Weighing not more than 200 g/m2 :

5212.11

-- Unbleached

5212.12

-- Bleached

5212.13

-- Dyed

5212.14

-- Of yarns of different colours

5212.15

-- Printed

5212.2

- Weighing more than 200 g/m2 :

5212.21

-- Unbleached

5212.22

-- Bleached

5212.23

-- Dyed

5212.24

-- Of yarns of different colours

5212.25

-- Printed

Chapter 53

Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn

EXPLANATORY NOTES

Chapter 53

Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn

GENERAL

The General Explanatory Note to Section XI should be taken into account in reading the Explanatory Notes to this Chapter.

In general, and with certain **exceptions** referred to in the Explanatory Note to heading 53.05, this Chapter deals with vegetable textile materials (**other than** cotton) at the various stages from the raw materials to their transformation into woven fabrics.

It also includes paper yarns and woven fabrics of paper yarn, and products of mixed textile materials assimilated to the products of this Chapter under the provisions of Note 2 to Section XI.

CLASSIFICATION OPINIONS

1. **Fabrics in the piece,** pleated (other than knitted or crocheted fabrics), having a semi-formed hem obtained merely by folding back the edge.
   Adoption : 1961

2. **Fabrics** of which the surface is decorated by the application of textile flock or dust to produce an embroidery effect.
   Classification according to the nature of the woven fabric base, regardless of the textile constituting the flock or dust
   Adoption : 1964

3. **Strips** of a width not exceeding 30 cm and of thickness of less than 3 mm simply cut from piece goods composed of two woven fabrics assembled in layers by gumming throughout and having no selvedges.
   Adoption : 1969

Heading 5301

Flax, raw or processed but not spun; flax tow and waste (including yarn waste and garnetted stock).

EXPLANATORY NOTES

53.01 - Flax, raw or processed but not spun; flax tow and waste (including yarn waste and garnetted stock) (+).

5301.10 - Flax, raw or retted

- Flax, broken, scutched, hackled or otherwise processed, but not spun :

5301.21 - - Broken or scutched

5301.29 - - Other

5301.30 - Flax tow and waste

Flax exists in many varieties, the best known being *Linum usitatissimum*. Flax (or linen) fibres occur in the plant as compact bundles of bast held together with a pectic substance. For use in the textile industry, the fibres must be separated from each other and from the rest of the plant, particularly from the inner woody part.

This heading covers flax, raw, retted, scutched, hackled or otherwise processed but not spun.

(A) **Raw flax (flax straw)**.

This is flax as harvested, whether or not rippled or bolled (i.e., with leaves and seeds removed).

(B) **Retted flax**.

Retting eliminates most of the pectic substance which surrounds the fibres, either by fermentation (by the action of bacteria or mould) or chemically. This process is normally effected either by :

(1) exposing the plant to dew or damp;

(2) immersing the plant in gently running streams or rivers, or in the stagnant water of ditches or pools;

(3) immersing it in warm water in large tanks; or

(4) treating it withsteam or with chemical or microbic agents.

Retted flax is then dried in the open air or mechanically. The fibres are then sufficiently loosened from the inner woody part of the plant and from one another to be separated by breaking and scutching.

(C) **Scutched flax**.

The flax is first crushed to break the woody part into pieces. It is then scutched, i.e., the woody part is knocked out by hand or mechanically, leaving the flax fibres. Some tow and waste is produced during this process.

(D) **Cottonised flax**.

In this process the raw flax is first boiled in a solution of sodium hydroxide and then impregnated with sodium carbonate; it is then treated with dilute acid, when the stalks are disintegrated by the liberation of carbon dioxide, leaving the flax fibres free. Flax so treated does not require retting or scutching. Cottonised flax is generally bleached.

(E) **Hackled (combed) flax**.

Hackling splits up the bast and lays the fibres parallel, eliminating any remaining foreign matter and any short or ruptured fibres (machine tow). Flax is normally in the form of a continuous loose bundle of fibres when it leaves the hackling machines. The fibres are then passed through spreaders and emerge as a continuous sliver. These slivers are subjected to a series of doubling and drawing operations and transformed into rovings. Slivers and rovings are included in this heading **provided** they have not yet been spun into yarn. In their final stage rovings may be drawn out very fine to approximately the thickness of a single yarn, usually with a slight twist but are nevertheless classified here and should not be confused with the single yarns covered by **heading 53.06**.

(F) **Flax tow and waste (including yarn waste and garnetted stock)**.

Tow consists generally of flax wastes of different qualities suitable for spinning; it consists mainly of short, knotted, broken or tangled fibres obtained during the various processes such as scutching, hackling (combing) and spinning.

The heading also covers yarn waste obtained during the spinning, reeling or weaving operations, and waste fibres obtained by tearing up waste pieces of fabric or made up articles into their constituent fibres; these are generally intended for re-spinning into yarns.

In view of the shortness of their component fibres, tow and other waste intended for spinning are usually carded and not hackled (combed). The slivers and rovings obtained after carding are also covered by this heading.

This heading also covers wastes unsuitable for spinning into yarns, mainly obtained from the scutching or carding operations, and used as padding or stuffing, as a binding in mortars, or as raw material in the manufacture of certain kinds of paper.

The products referred to above remain in this heading whether or not they have been bleached or dyed.

The heading **excludes** :

(a) Broken woody pieces arising from the scutching operations (**heading 44.01**).

(b) Certain fibrous vegetable materials sometimes known as flax, e.g., Indian flax (*Abroma augusta*) (**heading 53.03**) and New Zealand hemp or flax (*Phormium tenax*) (**heading 53.05**).

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Subheading Explanatory Note.

Subheading 5301.21

This subheading includes scutched flax obtained from tow.

5301.10

- Flax, raw or retted
5301.2

- Flax, broken, scutched, hackled or otherwise processed, but not spun :
5301.21

-- Broken or scutched
5301.29

-- Other
5301.30

- Flax tow and waste
Heading 5302

True hemp (Cannabis sativa L.), raw or processed but not spun; tow and waste of true hemp (including yarn waste and garnetted stock).
EXPLANATORY NOTES

53.02 - True hemp *(Cannabis sativa L.)*, raw or processed but not spun; tow and waste of true hemp (including yarn waste and garnetted stock).

5302.10 - True hemp, raw or retted

5302.90 - Other

This heading covers **only** true hemp (*Cannabis sativa L.*), a plant which grows in very varied climates and very varied soils. The fibres occur in the bast of the plant and are separated by a series of operations similar to those applied in the case of flax (see Explanatory Note to heading 53.01).

This heading covers :

(1) **Raw hemp** as harvested, whether or not the leaves and seeds have been removed.

(2) **Retted hemp** in which the fibres are still attached to the woody part of the plant, but have been loosened by the retting.

(3) **Scutched hemp** which comprises the isolated fibres, sometimes 2 m or more in length, separated from the plant by scutching.

(4) **Combed hemp** or hemp fibres otherwise prepared for spinning, generally in the form of slivers or rovings.

(5) **Tow and waste of hemp**. This includes waste obtained during scutching or combing processes, waste yarns obtained during spinning, weaving, etc., operations, and garnetted stock obtained from rags, scrap rope or cordage, etc. The tow and waste are classified here whether suitable for spinning into yarns (whether or not in the form of slivers or rovings) or suitable only for use as caulking material, for padding or stuffing, paper-making, etc.

Cottonisation (similar to that sometimes applied to flax), bleaching or dyeing does not affect classification in this heading.

The heading **does not cover** :

(a) Other fibrous vegetable materials sometimes known as hemps, e.g. :

(1) Tampico hemp (istle) (**heading 14.04** or **53.05**).

(2) Gambo or Ambari hemp (*Hibiscus cannabinus*), Rosella hemp (*Hibiscus sabdariffa*), abutilon hemp or China jute (*Abutilon avicennae*), Indian, sunn, Madras, Calcutta, Bombay or Benares hemp (*Crotalaria juncea*) and Queensland hemp (*Sida*) (**heading 53.03**).

(3) Haiti hemp (*Agave foetida*), Manila hemp (abaca), Mauritius hemp (*Furcraea gigantea*) and New Zealand hemp or flax (*Phormium tenax*) (**heading 53.05**).

(b) The hard woody part of the plant removed during scutching (**heading 44.01**).

(c) Yarn of true hemp (**heading 53.08**).

(d) Rags or scrap pieces of rope or cordage (**Chapter 63**).

5302.10

- True hemp, raw or retted

5302.90

- Other

Heading 5303

Jute and other textile bast fibres (excluding flax, true hemp and ramie), raw or processed but not spun; tow and waste of these fibres (including yarn waste and garnetted stock).

EXPLANATORY NOTES

53.03 - Jute and other textile bast fibres (excluding flax, true hemp and ramie), raw or processed but not spun; tow and waste of these fibres (including yarn waste and garnetted stock).

5303.10 - Jute and other textile bast fibres, raw or retted

5303.90 - Other

This heading covers all textile fibres extracted from the stems of dicotyledonous plants, **other than** flax (**heading 53.01**), true hemp (**heading 53.02**) and ramie (**heading 53.05**).

The textile bast fibres classified here are softer to the touch than most of the vegetable fibres of heading 53.05 and are also finer.

The fibres of this heading include :

(1) **True jute**, the two principal varieties of which are *Corchorus capsularis* or white jute and *Corchorus olitorius* or red jute, also known as Tossa.

(2) **Hibiscus cannabinus**, known in trade as Hibiscus hemp, Gambo hemp, Siam jute, Kenaf, Bimlipatam or Bimli jute, Ambari hemp, Papoula de Sao Francisco, Dah, Meshta, etc.

(3) **Hibiscus sabdariffa**, known in trade as Roselle or Rosella hemp, Siam jute, Kenaf, Java jute, etc.

(4) **Abutilon avicennae**, also known as abutilon hemp, China jute, Tien-Tsin, Ching-ma, King-ma, etc.

(5) **Broom** fibres, from the bast of the Spanish broom (*Spartium junceum*) or common broom (*Cytisus scoparius*).

(6) **Urena lobata** and **Urena sinuata**, which are known by different names according to the various countries of origin : Congo jute, Madagascar jute or Paka, Malva blanca or Cadillo (Cuba), Guaxima, Aramina or Malva roxa (Brazil), Caesarweed (Florida).

(7) **Crotalaria juncea**, known as Indian, Sunn, Madras, Calcutta, Bombay or Benares hemp, or as Julburpur jute.

(8) **Sida**, mainly known as Escobilla, Malvaisco, Queensland hemp or Cuba jute.

(9) **Thespesia**, known as Polompon (Vietnam).

(10) **Abroma augusta**, known as Devil's cotton or Indian flax.

(11) **Clappertonia ficifolia**, known as Punga (Congo) or Guaxima (Brazil).

(12) **Triumfetta**, known as Punga (Congo) or Carapicho (Brazil).

(13) **Nettles**.

The heading covers :

(I) Raw fibrous materials (in stalks, not yet retted or stripped); retted fibres; stripped fibres (extracted by machine), i.e., the fibres, sometimes 2 m or more in length, as extracted from the plant by retting and stripping; "cuttings" (the butt ends of the fibres which are cut off and marketed separately). However, vegetable materials, which when raw or in certain forms fall in Chapter 14 (for example, stalks of broom), are classified here **only** when they have undergone treatment indicating their use as textile materials (e.g., when they have been crushed, carded or combed in preparation for spinning).

(II) Fibres carded or combed or otherwise prepared for spinning, usually in the form of slivers.

(III) Fibrous tow and waste obtained mainly during the carding or combing of bast fibres; bast fibre yarn waste left during spinning, weaving, etc., and garnetted stock obtained from rags or scrap rope or cordage. Tow and waste are classified here whether suitable for spinning into yarns (whether or not in the form of slivers) or suitable only for use as caulking material, padding or stuffing or in felt-making, paper-making, etc.

Bleaching or dyeing does not affect the classification of the products covered by this heading.

The heading also **excludes** :

(a) Stalks of broom (**heading 14.04**).

(b) Tow, medicated or put up in packings for retail sale for medical or surgical purposes (**heading 30.05**).

(c) Yarn of jute or of other textile bast fibres of this heading (**heading 53.07**).

(d) Rags or scrap pieces of rope, cable or cordage (**Chapter 63**).

5303.10

- Jute and other textile bast fibres, raw or retted

5303.90

- Other

Heading 5305

Coconut, abaca (Manila hemp or Musa textilis Nee), ramie and other vegetable textile fibres, not elsewhere specified or included, raw or processed but not spun; tow, noils and waste of these fibres (including yarn waste and garnetted stock).

EXPLANATORY NOTES

53.05 - Coconut, abaca (Manila hemp or *Musa textilis Nee*), ramie and other vegetable textile fibres, not elsewhere specified or included, raw or processed but not spun; tow, noils and waste of these fibres (including yarn waste and garnetted stock).

This heading covers vegetable textile fibres obtained from the leaves or fruit of certain monocotyledonous plants (e.g., coconut, abaca or sisal) or, in the case of ramie, obtained from the stems of dicotyledonous plants of the family *urticaceae*, and not specified or included in any other heading.

These fibres are in most cases coarser and thicker than the textile bast fibres of heading 53.03.

Generally they are classified here whether raw, prepared for spinning (e.g., carded or combed into slivers), or in the form of tow or fibrous waste (obtained mainly during combing), yarn waste (obtained mainly during spinning or weaving) or garnetted stock (obtained from rags or scrap rope or cordage, etc.).

However, fibres obtained from vegetable materials which, when raw or in certain other forms, fall in Chapter 14 (in particular kapok), are classified here **only** when they have undergone treatment indicating their use as textile materials, e.g., when they have been crushed, carded or combed in preparation for spinning.

The vegetable textile fibres classified here include :

Coconut. Coconut fibres (coir) are obtained from the external covering of the nut and are coarse, brittle and brown in colour. They are classified here whether in the mass or in bundles.

Abaca. Abaca (or Manila hemp) fibres are obtained from the sheathing leaf stalks of a certain type of banana tree (the *Musa textilis Nee*) cultivated mainly in the Philippine Islands. The fibres are obtained by scraping away the non-fibrous matter with knives or mechanically, and are classified here whether or not combed or otherwise prepared for spinning (e.g., in the form of slivers or rovings).

Manila hemp fibres are very resistant to the action of weather and sea water and their main use is therefore for the making of ships' cables or fishing nets. They are also spun into yarns for weaving into coarse fabrics or for making hat braids.

Ramie. Ramie fibres are obtained from the bast of various plants, mainly the *Boehmeria tenacissima* (Rhea, green ramie) and the *Boehmeria nivea* (China grass, white ramie), cultivated mainly in the Far East.

The stalks are cut at ground level. Then, sometimes after preliminary drying, they are decorticated either by hand or mechanically to remove the skin of the stalk and to break and remove the inner woody part, the ramie then being obtained in the form of long ribbons. Decortication is followed by a process (generally by boiling in alkali) to remove the gummy pectic substance which binds the fibres together. The resulting fibres are then wrung out and dried and become pearly white.

Alfa or **esparto**. Alfa or esparto fibres are obtained from the leaves of the plants. They are, however, classified here only when they have been rolled, crushed, combed or otherwise processed in a way indicating their use for textile purposes. The untreated leaves are **excluded** (**Chapter 14**).

Aloe fibre.

Haiti hemp(*Agave foetida*).

Henequen (*Agave fourcroydes*).

Istle or **Ixtle** (Tampico or Mexican hemp). These fibres, extracted from the *Agave funkiana* or the *Agave lechugilla*, are used mainly in brush-making and usually fall in **heading 14.04**, but they are classified here when they have been processed in a way indicating their use for textile purposes.

Maguey or **Cantala**. These fibres are obtained from the *Agave cantala* (Philippines or Indonesia) or the *Agave tequilana* (Mexico).

Mauritius hemp (*Furcraea gigantea*), also known as piteira (Brazil).

New Zealand hemp or **flax** (*Phormium tenax*).

Peat fibre(sometimes known as Berandine or Beraudine peat). The fibres are obtained from a ligneous peat. They only fall here, however, when they have been treated in a manner indicating their use for textile purposes; otherwise they are **excluded** (**heading 27.03**).

Pineapple. The fibres, also known as Curana (Amazonas), Pina (Mexico) or Silkgrass, are obtained from leaves of pineapple plants of the *Bromeliaceae* family, which also includes fibres of Pita floja or Colombia pita or Arghan, Caroa (Brazil), Karates, etc.

Pita (*Agave americana*).

Sansevieria, also known as Bowstring hemp or Ife hemp.

Sisal (*Agave sisalana*).

Typha. The fibres are obtained from leaves of the Typha or cattail plant. These fibres should not be confused with the short seed hairs from the same plant which are used as a stuffing material in life-jackets, toys, etc., and are **excluded** (**heading 14.04**).

Yucca.

Bleaching or dyeing does not affect classification of the products in this heading.

5305.00

Coconut, abaca (Manila hemp or Musa textilis Nee), ramie and other vegetable textile fibres, not elsewhere specified or included, raw or processed but not spun; tow, noils and waste of these fibres (including yarn waste and garnetted stock).

CLASSIFICATION OPINIONS

1. Mat of sisal fibres laid randomly, very slightly coated with poly(vinyl acetate) (5 % by weight) to facilitate handling, the coating being insufficient to ensure a permanent bond even between the surface fibres.
Adoption : 1964

Heading 5306

Flax yarn.

EXPLANATORY NOTES

53.06 - Flax yarn.

5306.10 - Single

5306.20 - Multiple (folded) or cabled

This heading covers the single yarns obtained by spinning the rovings of flax fibres of heading 53.01, and multiple (folded) or cabled yarns produced by various combinations of such single yarns.

They are, however, **excluded** if within the definition of twine, cordage, etc. (**heading 56.07**) (see Part (I) (B) (2) of the General Explanatory Note to Section XI).

Yarn remains in this heading whether or not put up for retail sale or processed as indicated in Part (I) (B) (1) of the General Explanatory Note to Section XI.

Metallised yarn, including flax yarn combined with metal thread in any proportion, is **excluded** (**heading 56.05**).

5306.10

- Single
5306.20

- Multiple (folded) or cabled
Heading 5307

Yarn of jute or of other textile bast fibres of heading 53.03.

EXPLANATORY NOTES

53.07 - Yarn of jute or of other textile bast fibres of heading 53.03.

5307.10 - Single

5307.20 - Multiple (folded) or cabled

This heading covers yarns, whether single or multiple (folded), obtained by spinning slivers of jute or other textile bast fibres of heading 53.03.

However, if they are within the definition of twine, cordage, rope or cables (see Part (I) (B) (2) of the General Explanatory Note to Section XI) they are **excluded** (**heading 56.07**).

Yarn remains in this heading whether or not put up for retail sale or processed as indicated in Part (I) (B) (1) of the General Explanatory Note to Section XI.

5307.10

- Single
5307.20

- Multiple (folded) or cabled
Heading 5308

Yarn of other vegetable textile fibres; paper yarn.

EXPLANATORY NOTES

53.08 - Yarn of other vegetable textile fibres; paper yarn.

5308.10 - Coir yarn

5308.20 - True hemp yarn

5308.90 - Other

(A) **Yarn of other vegetable textile fibres**.

This group covers yarns, whether single or multiple (folded), obtained by spinning the fibres of true hemp of heading 53.02, of the vegetable textile fibres of heading 53.05, or of the vegetable fibres not classified in Section XI (in particular those of Chapter 14, e.g., kapok or istle).

However, if they are within the definition of twine, cordage, rope or cables (see Part (I) (B) (2) of the General Explanatory Note to Section XI) they are classified in **heading 56.07**.

Yarns of true hemp are used for sewing thread (e.g., in shoe or leather goods manufacture), or for weaving.

Yarn remains in this group whether or not put up for retail sale or processed as indicated in Part (I) (B) (1) of the General Explanatory Note to Section XI.

Metallised yarns, including yarns of this group, combined with metal thread in any proportion, are **excluded** (**heading 56.05**).

(B) **Paper yarn**.

This group covers yarns, whether single or multiple (folded), of paper. They are classified here whether or not put up for retail sale, and whether or not in the form of twine, cordage, rope or cables, but excluding plaited cordage, rope and cables.

Yarns remain in this group whether or not processed as indicated in Part (I) (B) (1) of the General Explanatory Note to Section XI.

Single yarns are obtained by twisting or rolling lengthwise strips of moist paper (sometimes coated); multiple (folded) yarns are obtained by doubling two or more single yarns.

The heading **does not include** :

(a) Paper simply folded one or more times lengthwise (**Chapter 48**).

(b) Paper yarns spun with metal thread or covered with metal by any process (metallised yarns) (**heading 56.05**).

(c) Paper yarns simply reinforced with metal, and plaited cordage, rope and cables, of paper yarn (**heading 56.07**).

5308.10

- Coir yarn

5308.20

- True hemp yarn

5308.90

- Other

Heading 5309

Woven fabrics of flax.

EXPLANATORY NOTES

53.09 - Woven fabrics of flax.

- Containing 85 % or more by weight of flax :

5309.11 - - Unbleached or bleached

5309.19 - - Other

- Containing less than 85 % by weight of flax :

5309.21 - - Unbleached or bleached

5309.29 - - Other

This heading covers woven fabrics (as defined in Part (I) (C) of the General Explanatory Note to Section XI) made of flax yarn.

These fabrics include fine lingerie and dress materials, materials for sheets, table linen, etc. Linen fabrics are also used for mattress covers, sacks, tarpaulins, sails, etc.

Bandages, medicated or put up for retail sale, are **excluded** (**heading 30.05**).

5309.1

- Containing 85 % or more by weight of flax :

5309.11

-- Unbleached or bleached

5309.19

-- Other

5309.2

- Containing less than 85 % by weight of flax :

5309.21

-- Unbleached or bleached

5309.29

-- Other

Heading 5310

Woven fabrics of jute or of other textile bast fibres of heading 53.03.

EXPLANATORY NOTES

53.10 - Woven fabrics of jute or of other textile bast fibres of heading 53.03.

5310.10 - Unbleached

5310.90 - Other

This heading covers woven fabrics (as defined in Part (I) (C) of the General Explanatory Note to Section XI) made from yarns of jute or of other textile bast fibres of heading 53.03.

Jute fabrics are used for sacks or packings, as base fabrics in the manufacture of linoleum, for lining furnishings, etc.

5310.10

- Unbleached

5310.90

- Other

Heading 5311

Woven fabrics of other vegetable textile fibres; woven fabrics of paper yarn.

EXPLANATORY NOTES

53.11 - Woven fabrics of other vegetable textile fibres; woven fabrics of paper yarn.

This heading covers woven fabrics (as defined in Part (I) (C) of the General Explanatory Note to Section XI) made from the yarns of heading 53.08.

These fabrics are used principally for packing, for sailcloth, for the manufacture of tarpaulins, sacks, tablecloths, matting, as base fabrics for linoleum, etc.

The heading **does not cover** woven fabrics made by interlacing paper strips (**heading 46.01**).

5311.00

Woven fabrics of other vegetable textile fibres; woven fabrics of paper yarn.

Chapter 54

Man-made filaments; strip and the like of man-made textile materials

LEGAL NOTES

Notes.

1.- Throughout the Nomenclature, the term “man-made fibres” means staple fibres and filaments of organic polymers produced by manufacturing processes, either :

a) By polymerisation of organic monomers to produce polymers such as polyamides, polyesters, polyolefins or polyurethanes, or by chemical modification of polymers produced by this process (for example, poly(vinyl alcohol) prepared by the hydrolysis of poly(vinyl acetate)); or

b) By dissolution or chemical treatment of natural organic polymers (for example, cellulose) to produce polymers such as cuprammonium rayon (cupro) or viscose rayon, or by chemical modification of natural organic polymers (for example, cellulose, casein and other proteins, or alginic acid), to produce polymers such as cellulose acetate or alginates.

The terms “synthetic” and “artificial”, used in relation to fibres, mean : synthetic : fibres as defined at (a); artificial : fibres as defined at (b). Strip and the like of heading 54.04 or 54.05 are not considered to be man-made fibres.

The terms “man-made”, “synthetic” and “artificial” shall have the same meanings when used in relation to “textile materials”.

2.- Headings54.02 and 54.03 do not apply to synthetic or artificial filament tow of Chapter 55.

EXPLANATORY NOTES

Chapter 54

Man-made filaments; strip and the like of man-made textile materials

Notes.

1.- Throughout the Nomenclature, the term “man-made fibres” means staple fibres and filaments of organic polymers produced by manufacturing processes, either :

a) By polymerisation of organic monomers to produce polymers such as polyamides, polyesters, polyolefins or polyurethanes, or by chemical modification of polymers produced by this process (for example, poly(vinyl alcohol) prepared by the hydrolysis of poly(vinyl acetate)); or

b) By dissolution or chemical treatment of natural organic polymers (for example, cellulose) to produce polymers such as cuprammonium rayon (cupro) or viscose rayon, or by chemical modification of natural organic polymers (for example, cellulose, casein and other proteins, or alginic acid), to produce polymers such as cellulose acetate or alginates.

The terms “synthetic” and “artificial”, used in relation to fibres, mean : synthetic : fibres as defined at (a); artificial : fibres as defined at (b). Strip and the like of heading 54.04 or 54.05 are not considered to be man-made fibres.

The terms “man-made”, “synthetic” and “artificial” shall have the same meanings when used in relation to “textile materials”.

2.- Headings54.02 and 54.03 do not apply to synthetic or artificial filament tow of Chapter 55.

GENERAL

The General Explanatory Note to Section XI should be taken into account in reading the Explanatory Note to this Chapter.

Under Note 1 to Chapter 54, the term “man-made fibres”, when used in Chapters 54 and 55 or elsewhere in the Nomenclature, means filaments or staple fibres composed of organic polymers produced by manufacturing processes, either by :

(1) Polymerisation of organic monomers or chemical modification of the resulting polymers (see the General Explanatory Note to Chapter 39) (synthetic fibres); or by

(2) Dissolution or chemical treatment of natural organic polymers, or chemical modification of natural organic polymers (artificial fibres).

(I) SYNTHETIC FIBRES

The basic materials for the manufacture of these fibres are generally derived from coal or oil distillation products or from natural gas. The substances produced by polymerisation are either melted or dissolved in a suitable solvent and then extruded through spinnerets (jets) into air or into a suitable coagulating bath where they solidify on cooling or evaporation of the solvent, or they may be precipitated from their solution in the form of filaments.

At this stage their properties are normally inadequate for direct use in subsequent textile processes, and they must then undergo a drawing process which orientates the molecules in the direction of the filament, thus considerably improving certain technical characteristics (e.g., strength).

The main **synthetic fibres** are :

(1) **Acrylic** : Fibres composed of linear macromolecules having in the macromolecular composition at least 85 % by weight of the acrylonitrilic unit.

(2) **Modacrylic** : Fibres composed of linear macromolecules having in the macromolecular composition at least 35 % but less than 85 % by weight of the acrylonitrilic unit.

(3) **Polypropylene** : Fibres composed of acyclic saturated hydrocarbon linear macromolecules having in the macromolecular composition at least 85 % by weight of units with every other carbon atom carrying a methyl side group in an isotactic position and without further substitution.

(4) **Nylon or other polyamides** : Fibres composed of synthetic linear macromolecules having in the macromolecular composition either at least 85 % of recurring amide linkages joined to acyclic or cyclic

groups or at least 85 % of aromatic groups joined by amide linkages directly to two aromatic rings and in which imide groups may be substituted for up to 50 % of the amide groups.

The term “nylon or other polyamides” includes **aramids** (see Note 12 to the Section).

(5) **Polyester** : Fibres composed of linear macromolecules having in the macromolecular composition at least 85 % by weight of an ester of a diol and terephthalic acid.

(6) **Polyethylene** : Fibres composed of linear macromolecules having in the macromolecular composition at least 85 % by weight of the ethylene unit.

(7) **Polyurethane** : Fibres resulting from the polymerisation of polyfunctional isocyanates with polyhydroxy compounds, such as, castor oil, butane-1,4-diol, polyether polyols, polyester polyols.

Other synthetic fibres include : chlorofibre, fluorofibre, polycarbamide, trivinyl and vinylal.

Where the constituent matter of the fibres is a copolymer or a mixture of homopolymers as understood for Chapter 39, e.g., a copolymer of ethylene and propylene, for the classification of the fibres, the respective percentages of each of the constituents must be taken into consideration. With the exception of polyamides these percentages refer to weight.

(II) ARTIFICIAL FIBRES

The basic materials for the manufacture of these fibres are organic polymers extracted from natural raw materials by processes which may involve dissolution or chemical treatment, or chemical modification.

The main **artificial fibres** are :

(A) **Cellulosic fibres**, namely :

(1) **Viscose rayon**, which is produced by treating cellulose (generally in the form of sulphite wood pulp) with sodium hydroxide; the resulting alkali-cellulose is then treated with carbon disulphide and transformed into sodium cellulose xanthate. The latter is in turn transformed into a thick solution known as viscose by dissolving it in dilute sodium hydroxide.

After purification and maturing, the viscose is then extruded through spinnerets into a coagulating acid bath to form filaments of regenerated cellulose. **Viscose rayon** also covers modal fibres, which are produced from regenerated cellulose by a modified viscose process.

(2) **Cuprammonium rayon (cupro)**, obtained by dissolving cellulose (generally in the form of linters or chemical wood pulp) in a cuprammonium solution; the resulting viscous solution is extruded into a bath where filaments of precipitated cellulose are formed.

(3) **Cellulose acetate (including tri-acetate)** : Fibres obtained from cellulose acetate wherein at least 74 % of the hydroxyl groups are acetylated. These are manufactured by treating cellulose (in the form of cotton linters or chemical wood pulp) with a mixture of acetic anhydride, acetic acid and sulphuric acid. The resulting primary cellulose acetate is modified

to a soluble form and dissolved in a volatile solvent such as acetone, then extruded (generally into warm air); the solvent then evaporates leaving filaments of cellulose acetate.

(B) **Protein fibres** of animal or vegetable origin, including :

(1) Those produced by dissolving milk casein in an alkali (generally sodium hydroxide); after maturing, the solution is extruded into an acid coagulating bath. The resulting filaments are subsequently hardened by treatment with formaldehyde, tannin, chromium salts or other chemical compounds.

(2) Other fibres produced in similar manner from the proteins of ground-nuts, soya beans, maize (zein), etc.

(C) **Alginate fibres**. Chemical treatment of various types of seaweed gives a viscous solution, generally of sodium alginate; this is extruded into a bath which converts it into certain metallic alginates. These include :

(1) Calcium chromium alginate fibres; these are non-inflammable.

(2) Calcium alginate fibres. These are readily soluble in a weak alkaline solution of soap; this makes them unsuitable for ordinary textile use, and they are most often used as temporary threads in certain manufacturing operations.

*

* *

The Chapter covers man-made filaments and yarns and woven fabrics of such filaments, including yarns and woven fabrics of mixed textile fibres classified by application of Note 2 to Section XI as yarns and woven fabrics of man-made filaments. It also covers monofilament and other products of heading 54.04 or 54.05 and woven fabrics of such products.

Filament tow, **other than** that defined in Note 1 to Chapter 55, is included. This is generally used for the manufacture of cigarette filters, whereas filament tow of Chapter 55 is used for the manufacture of staple fibres.

This Chapter **excludes** :

(a) Yarn used to clean between the teeth (dental floss), in individual retail packages, of **heading 33.06**.

(b) Products of **Chapter 40**, in particular thread and cord of **heading 40.07**.

(c) Products of **Chapter 55**, in particular staple fibres, yarns and woven fabrics of staple fibres and waste (including noils, yarn waste and garnetted stock) of man-made filaments.

(d) Carbon fibres and articles of carbon fibres, of **heading 68.15**.

(e) Glass fibres and articles of glass fibres, of **heading 70.19**.

CLASSIFICATION OPINIONS

1. **Fabrics in the piece,** pleated (other than knitted or crocheted fabrics), having a semi-formed hem obtained merely by folding back the edge.
Adoption : 1961

2. **Fabrics** of which the surface is decorated by the application of textile flock or dust to produce an embroidery effect.
Classification according to the nature of the woven fabric base, regardless of the textile constituting the flock or dust
Adoption : 1964

3. **Strips** of a width not exceeding 30 cm and of thickness of less than 3 mm simply cut from piece goods composed of two woven fabrics assembled in layers by gumming throughout and having no selvedges.
Adoption : 1969

Heading 5401

Sewing thread of man-made filaments, whether or not put up for retail sale.

EXPLANATORY NOTES

54.01 - Sewing thread of man-made filaments, whether or not put up for retail sale.

5401.10 - Of synthetic filaments

5401.20 - Of artificial filaments

This heading covers sewing thread of man-made filaments in the forms and subject to the conditions described in Part (I) (B) (4) of the General Explanatory Note to Section XI.

However, if such thread is within the definition of twine, etc. (see Part (I) (B) (2) of the General Explanatory Note to Section XI) it is **excluded** (**heading 56.07**).

Sewing thread remains in this heading whether or not put up for retail sale or processed as indicated in Part (I) (B) (1) of the General Explanatory Note to Section XI.

This heading also **excludes** single yarn and monofilament, even if used as sewing thread (**heading 54.02, 54.03, 54.04** or **54.05** as the case may be).

5401.10

- Of synthetic filaments

5401.20

- Of artificial filaments

Heading 5402

Synthetic filament yarn (other than sewing thread), not put up for retail sale, including synthetic monofilament of less than 67 decitex.

EXPLANATORY NOTES

54.02 - Synthetic filament yarn (other than sewing thread), not put up for retail sale, including synthetic monofilament of less than 67 decitex (+).

- High tenacity yarn of nylon or other polyamides, whether or not textured :

5402.11 - - Of aramids

5402.19 - - Other

5402.20 - High tenacity yarn of polyesters, whether or not textured

- Textured yarn :

5402.31 - - Of nylon or other polyamides, measuring per single yarn not more than 50 tex

5402.32 - - Of nylon or other polyamides, measuring per single yarn more than 50 tex

5402.33 - - Of polyesters

5402.34 - - Of polypropylene

5402.39 - - Other

- Other yarn, single, untwisted or with a twist not exceeding 50 turns per metre :

5402.44 - - Elastomeric

5402.45 - - Other, of nylon or other polyamides

5402.46 - - Other, of polyesters, partially oriented

5402.47 - - Other, of polyesters

5402.48 - - Other, of polypropylene

5402.49 - - Other

- Other yarn, single, with a twist exceeding 50 turns per metre :

5402.51 - - Of nylon or other polyamides

5402.52 - - Of polyesters

5402.53 - - Of polypropylene

5402.59 - - Other

- Other yarn, multiple (folded) or cabled :

5402.61 - - Of nylon or other polyamides

5402.62 - - Of polyesters

5402.63 - - Of polypropylene

5402.69 - - Other

This heading covers synthetic filament yarn (**other than** sewing thread). It includes :

(1) **Monofilament** (monofil) of less than 67 decitex.

(2) **Multifilament** obtained by grouping together a number of monofilaments (varying from two filaments to several hundred) generally as they emerge from the spinnerets. These yarns may be without twist or twisted (single, multiple (folded) or cabled). They therefore include :

(i) Single yarns consisting of the filaments reeled parallel without twist. Filament tow not provided for in Chapter 55 is also included.

(ii) Single yarns of such filaments twisted as they are taken from the spinnerets or in a subsequent twisting operation.

(iii) Multiple (folded) or cabled yarns produced by combining such single **yarns, including those** obtained from the monofilament of heading 54.04 (see Part (I) (B) (1) of the General Explanatory Note to Section XI).

The above yarns are, however, **excluded** if they constitute **twine** of **heading 56.07** or **yarn put up for retail sale** of **heading 54.06** (see Parts (I) (B) (2) and (3) of the General Explanatory Note to Section XI).

In addition to the normal forms in which textile yarns may be put up other than for retail sale, some yarns of this heading may also be put up in forms without internal support (cakes, etc.).

Apart from the exclusions already mentioned, the heading **does not include :**

(a) Synthetic monofilament and strip and the like of synthetic textile materials, of **heading 54.04**.

(b) Synthetic filament tow of a length exceeding 2 m of **heading 55.01**.

(c) Synthetic filament tow of a length not exceeding 2 m of **heading 55.03**.

(d) Tops (ruptured tow) of **heading 55.06**.

(e) Metallised yarns, including yarns of this heading combined with metal thread in any proportion or covered with metal (**heading 56.05**).

°

° °

Subheading Explanatory Notes.

Subheadings 5402.31 to 5402.39

Textured yarns are yarns that have been altered by a mechanical or physical process (e.g., twisting, untwisting, false-twisting, compression, ruffling, heat-setting or a combination of several of these processes), which results in individual fibres being set with introduced curls, crimps, loops, etc. These distortions may be partially or completely straightened by a stretching force but resume the shape into which they have been set upon being released.

Textured yarns are characterised by having either a high bulk or a very high extensibility. The high elasticity of both types makes them especially suitable for use in the manufacture of stretch garments (e.g., tights, hose, underwear) while the high bulk yarns give fabrics softness and warmth of touch.

Textured yarns may be distinguished from non-textured (flat) filament yarns by the presence of special twist characteristics, small loops or reduced parallel orientation of the filaments in the yarn.

Subheading 5402.46

This subheading covers yarns consisting of fibres whose molecules are partially oriented. These yarns, which are generally in a flat form, are not used directly for the production of fabric and must first undergo a drawing or draw-texturing process. They are also known under the name “POY”.

5402.1

- High tenacity yarn of nylon or other polyamides, whether or not textured :
5402.11

-- Of aramids
5402.19

-- Other
5402.20

- High tenacity yarn of polyesters, whether or not textured
CLASSIFICATION OPINIONS

1. High tenacity yarn of polyester, textured, not put up for retail sale. **Application of GIRs 1 and 6.**
Adoption : 2014

5402.3

- Textured yarn :
5402.31

-- Of nylon or other polyamides, measuring per single yarn not more than 50 tex
5402.32

-- Of nylon or other polyamides, measuring per single yarn more than 50 tex
5402.33

-- Of polyesters
5402.34

-- Of polypropylene

5402.39

-- Other

5402.4

- Other yarn, single, untwisted or with a twist not exceeding 50 turns per metre :

5402.44

-- Elastomeric

5402.45

-- Other, of nylon or other polyamides

5402.46

-- Other, of polyesters, partially oriented

5402.47

-- Other, of polyesters

5402.48

-- Other, of polypropylene

5402.49

-- Other

5402.5

- Other yarn, single, with a twist exceeding 50 turns per metre :

5402.51

-- Of nylon or other polyamides

5402.52

-- Of polyesters

5402.53

-- Of polypropylene

5402.59

-- Other

5402.6

- Other yarn, multiple (folded) or cabled :

5402.61

-- Of nylon or other polyamides

CLASSIFICATION OPINIONS

1. Textile yarn of man-made filaments, put up on a support indicating its use in textile industry, obtained by twisting together a single yarn and a gimped yarn. *Adoption : 1970*

5402.62

-- Of polyesters

CLASSIFICATION OPINIONS

1. Textile yarn of man-made filaments, put up on a support indicating its use in textile industry, obtained by twisting together a single yarn and a gimped yarn. *Adoption : 1970*

5402.63

-- Of polypropylene

CLASSIFICATION OPINIONS

1. Textile yarn of man-made filaments, put up on a support indicating its use in textile industry, obtained by twisting together a single yarn and a gimped yarn. *Adoption : 1970*

5402.69

-- Other

CLASSIFICATION OPINIONS

1. Textile yarn of man-made filaments, put up on a support indicating its use in textile industry, obtained by twisting together a single yarn and a gimped yarn. *Adoption : 1970*

Heading 5403

Artificial filament yarn (other than sewing thread), not put up for retail sale, including artificial monofilament of less than 67 decitex.

EXPLANATORY NOTES

54.03 - Artificial filament yarn (other than sewing thread), not put up for retail sale, including artificial monofilament of less than 67 decitex.

5403.10 - High tenacity yarn of viscose rayon

- Other yarn, single :

5403.31 - - Of viscose rayon, untwisted or with a twist not exceeding 120 turns per metre

5403.32 - - Of viscose rayon, with a twist exceeding 120 turns per metre

5403.33 - - Of cellulose acetate

5403.39 - - Other

- Other yarn, multiple (folded) or cabled :

5403.41 - - Of viscose rayon

5403.42 - - Of cellulose acetate

5403.49 - - Other

The Explanatory Note to heading 54.02 applies, *mutatis mutandis*, to the products of this heading.

5403.10

- High tenacity yarn of viscose rayon

5403.3

- Other yarn, single :

5403.31

-- Of viscose rayon, untwisted or with a twist not exceeding 120 turns per metre

5403.32

-- Of viscose rayon, with a twist exceeding 120 turns per metre

5403.33

-- Of cellulose acetate

5403.39

-- Other

5403.4

- Other yarn, multiple (folded) or cabled :

5403.41

-- Of viscose rayon

CLASSIFICATION OPINIONS

1. Textile yarn of man-made filaments, put up on a support indicating its use in textile industry, obtained by twisting together a single yarn and a gimped yarn. *Adoption : 1970*

5403.42

-- Of cellulose acetate

CLASSIFICATION OPINIONS

1. Textile yarn of man-made filaments, put up on a support indicating its use in textile industry, obtained by twisting together a single yarn and a gimped yarn. *Adoption : 1970*

5403.49

-- Other

CLASSIFICATION OPINIONS

1. Textile yarn of man-made filaments, put up on a support indicating its use in textile industry, obtained by twisting together a single yarn and a gimped yarn. *Adoption : 1970*

Heading 5404

Synthetic monofilament of 67 decitex or more and of which no cross-sectional dimension exceeds 1 mm; strip and the like (for example, artificial straw) of synthetic textile materials of an apparent width not exceeding 5 mm.

EXPLANATORY NOTES

54.04 - Synthetic monofilament of 67 decitex or more and of which no cross-sectional dimension exceeds 1 mm; strip and the like (for example, artificial straw) of synthetic textile materials of an apparent width not exceeding 5 mm.

- Monofilament :

5404.11 - - Elastomeric

5404.12 - - Other, of polypropylene

5404.19 - - Other

5404.90 - Other

This heading covers :

(1) **Synthetic monofilament**. These are filaments extruded as single filaments. They are classified here **only** if they measure 67 decitex or more and do not exceed 1 mm in any cross-sectional dimension. Monofilaments of this heading may be of any cross-sectional configuration and may be obtained not only by extrusion but by lamination or fusion.

(2) **Strip and the like, of synthetic textile materials**. The strips of this heading are flat, of a width not exceeding 5 mm, either produced as such by extrusion or cut from wider strips or from sheets.

Provided their apparent width (i.e., in the folded, flattened, compressed or twisted state) does not exceed 5 mm, this heading also covers :

(i) Strip folded along the length.

(ii) Flattened tubes, whether or not folded along the length.

(iii) Strip, and articles referred to in (i) and (ii) above, compressed or twisted.

If the width (or apparent width) is not uniform, classification is to be decided by reference to the average width.

This heading also includes multiple (folded) or cabled strip and the like.

All these products are generally in long lengths, but remain classified here even if cut into short lengths and whether or not put up for retail sale. They are used according to their different characteristics in the manufacture of brushes, sports rackets, fishing lines, surgical sutures, upholstery fabrics, belts, millinery, braids, etc.

The heading **does not include** :

(a) Sterile synthetic monofilament (**heading 30.06**).

(b) Synthetic monofilament of which any cross-sectional dimension exceeds 1 mm, or strip and flattened tubes (including strip and flattened tubes folded along the length), whether or not compressed

or twisted (for example, artificial straw), **provided** that the apparent width (i.e., in the folded, flattened, compressed or twisted state) exceeds 5 mm (**Chapter 39**).

(c) Synthetic monofilament measuring less than 67 decitex of **heading 54.02**.

(d) Strip and the like of **Chapter 56**.

(e) Synthetic monofilament, with hooks attached or otherwise made up into fishing lines (**heading 95.07**).

(f) Prepared knots and tufts for brush-making (**heading 96.03**).

5404.1

- Monofilament :

5404.11

-- Elastomeric

5404.12

-- Other, of polypropylene

5404.19

-- Other

5404.90

- Other

Heading 5405

Artificial monofilament of 67 decitex or more and of which no cross-sectional dimension exceeds 1 mm; strip and the like (for example, artificial straw) of artificial textile materials of an apparent width not exceeding 5 mm.

EXPLANATORY NOTES

54.05 - Artificial monofilament of 67 decitex or more and of which no cross-sectional dimension exceeds 1 mm; strip and the like (for example, artificial straw) of artificial textile materials of an apparent width not exceeding 5 mm.

The Explanatory Note to heading 54.04 applies, *mutatis mutandis*, to the products of this heading.

5405.00

Artificial monofilament of 67 decitex or more and of which no cross-sectional dimension exceeds 1 mm; strip and the like (for example, artificial straw) of artificial textile materials of an apparent width not exceeding 5 mm.

Heading 5406

Man-made filament yarn (other than sewing thread), put up for retail sale.

EXPLANATORY NOTES

54.06 - Man-made filament yarn (other than sewing thread), put up for retail sale.

This heading covers man-made filament yarn (other than sewing thread), when put up for retail sale, i.e., in the forms and subject to the conditions described in Part (I) (B) (3) of the General Explanatory Note to Section XI.

5406.00

Man-made filament yarn (other than sewing thread), put up for retail sale.

Heading 5407

Woven fabrics of synthetic filament yarn, including woven fabrics obtained from materials of heading 54.04.

EXPLANATORY NOTES

54.07 - Woven fabrics of synthetic filament yarn, including woven fabrics obtained from materials of heading 54.04.

5407.10 - Woven fabrics obtained from high tenacity yarn of nylon or other polyamides or of polyesters

5407.20 - Woven fabrics obtained from strip or the like

5407.30 - Fabrics specified in Note 9 to Section XI

- Other woven fabrics, containing 85 % or more by weight of filaments of nylon or other polyamides :

5407.41 - - Unbleached or bleached

5407.42 - - Dyed

5407.43 - - Of yarns of different colours

5407.44 - - Printed

- Other woven fabrics, containing 85 % or more by weight of textured polyester filaments :

5407.51 - - Unbleached or bleached

5407.52 - - Dyed

5407.53 - - Of yarns of different colours

5407.54 - - Printed

- Other woven fabrics, containing 85 % or more by weight of polyester filaments :

5407.61 - - Containing 85 % or more by weight of non-textured polyester filaments

5407.69 - - Other

- Other woven fabrics, containing 85 % or more by weight of synthetic filaments :

5407.71 - - Unbleached or bleached

5407.72 - - Dyed

5407.73 - - Of yarns of different colours

5407.74 - - Printed

- Other woven fabrics, containing less than 85 % by weight of synthetic filaments, mixed mainly or solely with cotton :

5407.81 - - Unbleached or bleached

5407.82 - - Dyed

5407.83 - - Of yarns of different colours

5407.84 - - Printed

- Other woven fabrics :

5407.91 - - Unbleached or bleached

5407.92 - - Dyed

5407.93 - - Of yarns of different colours

5407.94 - - Printed

This heading covers woven fabrics (as described in Part (I) (C) of the General Explanatory Note to Section XI) made of synthetic filament yarn or of monofilament or strip of heading 54.04; it includes a very large variety of dress fabrics, linings, curtain materials, furnishing fabrics, tent fabrics, parachute fabrics, etc.

This heading **does not include** :

(a) Bandages medicated or put up for retail sale (**heading 30.05**).

(b) Woven fabrics of synthetic monofilament of which any cross-sectional dimension exceeds 1 mm or of strip or the like of an apparent width exceeding 5 mm, of synthetic textile materials (**heading 46.01**).

(c) Woven fabrics of synthetic staple fibres (**headings 55.12 to 55.15**).

(d) Tyre cord fabric of **heading 59.02**.

(e) Woven fabrics for technical uses, of **heading 59.11**.

5407.10

- Woven fabrics obtained from high tenacity yarn of nylon or other polyamides or of polyesters

5407.20

- Woven fabrics obtained from strip or the like

CLASSIFICATION OPINIONS

1. Tubular woven fabric, made from strips of plastics of an apparent width not exceeding 5 mm. The fabric is presented lay-flat, in rolls of a length of 1500 m and a width of 70 cm. It does not have any sewing on the edges, nor has it been glued or stapled in any way, and is used for making bags for packing a variety of products. **Application of GIRs 1 and 6.** *Adoption : 2017*



5407.30

- Fabrics specified in Note 9 to Section XI

5407.4

- Other woven fabrics, containing 85 % or more by weight of filaments of nylon or other polyamides :

5407.41

-- Unbleached or bleached

5407.42

-- Dyed

5407.43

-- Of yarns of different colours

5407.44

-- Printed

5407.5

- Other woven fabrics, containing 85 % or more by weight of textured polyester filaments :

5407.51

-- Unbleached or bleached

5407.52

-- Dyed

5407.53

-- Of yarns of different colours

5407.54

-- Printed

5407.6

- Other woven fabrics, containing 85 % or more by weight of polyester filaments :

5407.61

-- Containing 85 % or more by weight of non-textured polyester filaments

5407.69

-- Other

5407.7

- Other woven fabrics, containing 85 % or more by weight of synthetic filaments :

5407.71

-- Unbleached or bleached

5407.72

-- Dyed

5407.73

-- Of yarns of different colours

5407.74

-- Printed

5407.8

- Other woven fabrics, containing less than 85 % by weight of synthetic filaments, mixed mainly or solely with cotton :

5407.81

-- Unbleached or bleached

5407.82

-- Dyed

5407.83

-- Of yarns of different colours

5407.84

-- Printed

5407.9

- Other woven fabrics :

5407.91

-- Unbleached or bleached

5407.92

-- Dyed

5407.93

-- Of yarns of different colours

5407.94

-- Printed

Heading 5408

Woven fabrics of artificial filament yarn, including woven fabrics obtained from materials of heading 54.05.

EXPLANATORY NOTES

54.08 - Woven fabrics of artificial filament yarn, including woven fabrics obtained from materials of heading 54.05.

5408.10 - Woven fabrics obtained from high tenacity yarn of viscose rayon

- Other woven fabrics, containing 85 % or more by weight of artificial filament or strip or the like :

5408.21 - - Unbleached or bleached

5408.22 - - Dyed

5408.23 - - Of yarns of different colours

5408.24 - - Printed

- Other woven fabrics :

5408.31 - - Unbleached or bleached

5408.32 - - Dyed

5408.33 - - Of yarns of different colours

5408.34 - - Printed

This heading covers woven fabrics (as described in Part (I) (C) of the General Explanatory Note to Section XI) made of artificial filament yarn or of monofilament or strip of heading 54.05; it includes a very large variety of dress fabrics, linings, curtain materials, furnishing fabrics, tent fabrics, parachute fabrics, etc.

This heading **does not include** :

(a) Bandages medicated or put up for retail sale (**heading 30.05**).

(b) Woven fabrics of artificial monofilament of which any cross-sectional dimension exceeds 1 mm or of strip or the like of an apparent width exceeding 5 mm, of artificial textile materials (**heading 46.01**).

(c) Woven fabrics of artificial staple fibres (**heading 55.16**).

(d) Tyre cord fabric of **heading 59.02**.

(e) Woven fabrics for technical uses, of **heading 59.11**.

5408.10

- Woven fabrics obtained from high tenacity yarn of viscose rayon

5408.2

- Other woven fabrics, containing 85 % or more by weight of artificial filament or strip or the like :

5408.21

-- Unbleached or bleached

5408.22

-- Dyed

5408.23

-- Of yarns of different colours

5408.24

-- Printed

5408.3

- Other woven fabrics :

5408.31

-- Unbleached or bleached

5408.32

-- Dyed

5408.33

-- Of yarns of different colours

5408.34

-- Printed

Chapter 55

Man-made staple fibres

LEGAL NOTES

Note.

1.- Headings 55.01 and 55.02 apply only to man-made filament tow, consisting of parallel filaments of a uniform length equal to the length of the tow, meeting the following specifications :

(a) Length of tow exceeding 2 m;

(b) Twist less than 5 turns per metre;

(c) Measuring per filament less than 67 decitex;

(d) Synthetic filament tow only : the tow must be drawn, that is to say, be incapable of being stretched by more than 100 % of its length;

(e) Total measurement of tow more than 20,000 decitex.

Tow of a length not exceeding 2 m is to be classified in heading 55.03 or 55.04.

EXPLANATORY NOTES

Chapter 55

Man-made staple fibres

Note.

1.- Headings 55.01 and 55.02 apply only to man-made filament tow, consisting of parallel filaments of a uniform length equal to the length of the tow, meeting the following specifications :

(a) Length of tow exceeding 2 m;

(b) Twist less than 5 turns per metre;

(c) Measuring per filament less than 67 decitex;

(d) Synthetic filament tow only : the tow must be drawn, that is to say, be incapable of being stretched by more than 100 % of its length;

(e) Total measurement of tow more than 20,000 decitex.

Tow of a length not exceeding 2 m is to be classified in heading 55.03 or 55.04.

GENERAL

The General Explanatory Note to Section XI should be taken into account in reading the Explanatory Notes to this Chapter.

The Chapter covers the man-made fibres described in the General Explanatory Note to Chapter 54 when in the form of staple fibres (i.e., discontinuous fibres) or of certain filament tow; it also covers the products arising at the various stages of working these fibres or tow, up to and including yarn and woven fabrics. It further includes mixed textile products classified as products of man-made staple fibres by application of Note 2 to Section XI.

Man-made staple fibres are usually manufactured by extrusion through spinnerets (jets) having a large number of holes (sometimes several thousand); the filaments from a large number of spinnerets (jets) are then collected together in the form of a tow. This tow may be stretched and then cut into short lengths, either immediately or after having undergone various processes (washing, bleaching, dyeing, etc.) while in the tow form. The length into which the fibres are cut is usually between 25 mm and 180 mm and varies according to the particular man-made fibre concerned, the type of yarn to be manufactured and the nature of any other textile fibres with which they are to be mixed.

Waste (including noils, yarn waste and garnetted stock) of man-made filaments or staple fibres is also included in this Chapter.

This Chapter **does not include** :

(a) Textile fibres, not exceeding 5 mm in length (flock), of **heading 56.01**.

(b) Asbestos of **heading 25.24** and articles of asbestos and other products of **heading 68.12** or **68.13**.

(c) Carbon fibres and articles of carbon fibres, of **heading 68.15**.

(d) Glass fibres and articles of glass fibres, of **heading 70.19**.

CLASSIFICATION OPINIONS

1. Fabrics in the piece, pleated (other than knitted or crocheted fabrics), having a semi-formed hem obtained merely by folding back the edge.
Adoption : 1961

2. Fabrics of which the surface is decorated by the application of textile flock or dust to produce an embroidery effect.
Classification according to the nature of the woven fabric base, regardless of the textile constituting the flock or dust
Adoption : 1964

3. Strips of a width not exceeding 30 cm and of thickness of less than 3 mm simply cut from piece goods composed of two woven fabrics assembled in layers by gumming throughout and having no

selvedges.
Adoption : 1969

Heading 5501

Synthetic filament tow.
EXPLANATORY NOTES

55.01 - Synthetic filament tow.

- Of nylon or other polyamides :

5501.11 - - Of aramids

5501.19 - - Other

5501.20 - Of polyesters

5501.30 - Acrylic or modacrylic

5501.40 - Of polypropylene

5501.90 - Other

This heading covers synthetic filament tow produced as described in the General Explanatory Note to this Chapter, **only** if it meets the following specifications (see also Chapter Note 1) :

(A) The tow must exceed 2 m in length.

(B) The tow must be untwisted or be twisted less than 5 turns per metre.

(C) Each filament must measure less than 67 decitex.

(D) The tow must have been drawn, i.e., it must be incapable of being stretched by more than 100 % of its length.

(E) The total measurement of the tow must exceed 20,000 decitex.

The requirement under paragraph (D) is designed to ensure that the tow is in a state ready for conversion into staple fibres. After extrusion synthetic filaments are insufficiently oriented and must be drawn in order to effect orientation of their molecules and give them their required properties. Drawn tow still retains a certain elasticity but normally breaks on being stretched by considerably less than 100 % of its length. On the other hand, undrawn tow can be stretched to between three and four times its length before it breaks.

Tow of this heading is generally used for the manufacture of yarn of synthetic staple fibres either by being :

(1) Cut into staple fibres and then converted into slivers, rovings and yarn by processes generally similar to those used for cotton or wool; or

(2) Converted into tops by the “tow-to-top” process (see Explanatory Note to heading 55.06) and subsequently into yarns.

The heading **does not cover** :

(a) Assemblies of synthetic filaments satisfying conditions (A), (B) and (C) above of a total measurement not exceeding 20,000 decitex or whatever the total measurement in the case of undrawn filaments (**heading 54.02**).

(b) Assemblies of synthetic filaments (each filament measuring 67 decitex or more) untwisted or twisted less than 5 turns per metre, whether or not drawn and whatever the total measurement (**heading 54.04** if no cross-sectional dimension of the individual filaments exceeds 1 mm or **Chapter 39** otherwise).

(c) Synthetic filament tow satisfying conditions (B) and (C) above, but of a length not exceeding 2 m, whether or not drawn and whatever the total measurement (**heading 55.03**).

5501.1

- Of nylon or other polyamides :
5501.11

-- Of aramids
5501.19

-- Other
5501.20

- Of polyesters
5501.30

- Acrylic or modacrylic
5501.40

- Of polypropylene
5501.90

- Other
Heading 5502

Artificial filament tow.
EXPLANATORY NOTES

55.02 - Artificial filament tow.

5502.10 - Of cellulose acetate

5502.90 - Other

With the exception of Note 1 (d) to the Chapter, the Explanatory Note to heading 55.01 applies, *mutatis mutandis*, to the products of this heading.

5502.10

- Of cellulose acetate

5502.90

- Other

Heading 5503

Synthetic staple fibres, not carded, combed or otherwise processed for spinning.

EXPLANATORY NOTES

55.03 - Synthetic staple fibres, not carded, combed or otherwise processed for spinning.

- Of nylon or other polyamides :

5503.11 - - Of aramids

5503.19 - - Other

5503.20 - Of polyesters

5503.30 - Acrylic or modacrylic

5503.40 - Of polypropylene

5503.90 - Other

The fibres of this heading are manufactured as described in the General Explanatory Note to this Chapter.

Synthetic staple fibres are usually press-packed in bales. The fibres are generally of uniform length, which distinguishes them from the waste material of **heading 55.05**.

The heading also covers synthetic filament tow of a length not exceeding 2 m **provided** that each filament measures less than 67 decitex. Synthetic filament tow of a length exceeding 2 m is **excluded** (**heading 54.02** or **55.01**).

Synthetic staple fibres which have been carded, combed or otherwise processed for spinning are also **excluded** (**heading 55.06**).

5503.1

- Of nylon or other polyamides :

5503.11

-- Of aramids

5503.19

-- Other

5503.20

- Of polyesters

5503.30

- Acrylic or modacrylic
5503.40

- Of polypropylene
5503.90

- Other
Heading 5504

Artificial staple fibres, not carded, combed or otherwise processed for spinning.
EXPLANATORY NOTES

55.04 - Artificial staple fibres, not carded, combed or otherwise processed for spinning.

5504.10 - Of viscose rayon

5504.90 - Other

The Explanatory Note to heading 55.03 applies, *mutatis mutandis*, to the products of this heading.

5504.10

- Of viscose rayon
5504.90

- Other
Heading 5505

Waste (including noils, yarn waste and garnetted stock) of man-made fibres.
EXPLANATORY NOTES

55.05 - Waste (including noils, yarn waste and garnetted stock) of man-made fibres.

5505.10 - Of synthetic fibres

5505.20 - Of artificial fibres

This heading covers waste of man-made fibres (filaments and staple fibres - see the General Explanatory Note to Chapter 54) and includes :

(1) **Fibre wastes (soft waste)**, such as relatively long fibres obtained as waste during the formation and processing of filaments; short fibres obtained as waste from the carding, combing and other processes preparatory to the spinning of staple fibres (e.g., noils, small broken pieces of laps, slivers or rovings).

(2) **Yarn wastes (hard waste)**, i.e., broken, knotted or tangled yarns collected as waste during the spinning, doubling, reeling, weaving, knitting, etc., operations.

(3) **Garnetted stock**, i.e., fibres obtained by tearing rags or yarns into their component fibres.

Such wastes are classified in this heading whether or not they have been bleached or dyed, **provided** that they have not been carded, combed or otherwise processed for spinning.

The heading **does not include** :

(a) Wadding (**heading 30.05** or **56.01**).

(b) Waste fibres, carded, combed or otherwise processed for spinning (**heading 55.06** or **55.07**).

(c) Textile flock and dust and mill neps (**heading 56.01**).

(d) New or used rags (**Chapter 63**).

5505.10

- Of synthetic fibres

5505.20

- Of artificial fibres

Heading 5506

Synthetic staple fibres, carded, combed or otherwise processed for spinning.

EXPLANATORY NOTES

55.06 - Synthetic staple fibres, carded, combed or otherwise processed for spinning.

5506.10 - Of nylon or other polyamides

5506.20 - Of polyesters

5506.30 - Acrylic or modacrylic

5506.40 - Of polypropylene

5506.90 - Other

This heading covers synthetic staple fibres (including waste of synthetic staple fibres or filaments) after they have been carded, combed or otherwise processed for spinning.

In carding, staple and waste fibres are passed through machines which render the fibres more or less parallel, and deliver them in the form of a wide web or lap which is then generally condensed into a sliver (a strand of fibres loosely combined without twist).

In combing, the carded sliver is passed through further machines which render the fibres almost perfectly parallel and, in the case of waste, remove the shorter fibres (noils). The combed sliver is usually wound in coils or balls, known as “tops”.

Tops are also made directly from filament tow by what are known as “tow-to-top” processes.

The tow is passed through a device which breaks or cuts the filaments without disturbing their continuity or their parallel arrangement. The operation may be carried out, for example, by passing the tow through rollers operating at different speeds thus causing a tension which breaks the filaments; or toothed rollers may break the filaments by direct pressure; or the tow may be cut diagonally with knife mechanisms. During passage through the machine the tow is drawn out into slivers. These processes

avoid the necessity for cutting up the tow into staple fibres and eliminate carding or, usually, both carding and combing.

Slivers, whether produced by carding, combing or by the “tow-to-top” processes, are drawn out into rovings - thinner strands of parallel fibres with a slight twist - which can be spun in one operation into yarn.

The heading **does not cover** wadding (**heading 30.05** or **56.01**).

5506.10

- Of nylon or other polyamides

5506.20

- Of polyesters

5506.30

- Acrylic or modacrylic

5506.40

- Of polypropylene

5506.90

- Other

Heading 5507

Artificial staple fibres, carded, combed or otherwise processed for spinning.

EXPLANATORY NOTES

55.07 - Artificial staple fibres, carded, combed or otherwise processed for spinning.

The Explanatory Note to heading 55.06 applies, *mutatis mutandis*, to the products of this heading.

5507.00

Artificial staple fibres, carded, combed or otherwise processed for spinning.

Heading 5508

Sewing thread of man-made staple fibres, whether or not put up for retail sale.

EXPLANATORY NOTES

55.08 - Sewing thread of man-made staple fibres, whether or not put up for retail sale.

5508.10 - Of synthetic staple fibres

5508.20 - Of artificial staple fibres

This heading covers sewing thread in the forms and subject to the conditions described in Part (I) (B) (4) of the General Explanatory Note to Section XI.

However, if such thread is within the definition of twine, etc. (see Part (I) (B) (2) of the General Explanatory Note to Section XI) it is **excluded** (**heading 56.07**).

Sewing thread remains in this heading whether or not put up for retail sale or processed as indicated in Part (I) (B) (1) of the General Explanatory Note to Section XI.

5508.10

- Of synthetic staple fibres

5508.20

- Of artificial staple fibres

Heading 5509

Yarn (other than sewing thread) of synthetic staple fibres, not put up for retail sale.

EXPLANATORY NOTES

55.09 - Yarn (other than sewing thread) of synthetic staple fibres, not put up for retail sale.

- Containing 85 % or more by weight of staple fibres of nylon or other polyamides :

5509.11 - - Single yarn

5509.12 - - Multiple (folded) or cabled yarn

- Containing 85 % or more by weight of polyester staple fibres :

5509.21 - - Single yarn

5509.22 - - Multiple (folded) or cabled yarn

- Containing 85 % or more by weight of acrylic or modacrylic staple fibres :

559.31 - - Single yarn

5509.32 - - Multiple (folded) or cabled yarn

- Other yarn, containing 85 % or more by weight of synthetic staple fibres :

5509.41 - - Single yarn

5509.42 - - Multiple (folded) or cabled yarn

- Other yarn, of polyester staple fibres :

5509.51 - - Mixed mainly or solely with artificial staple fibres

5509.52 - - Mixed mainly or solely with wool or fine animal hair

5509.53 - - Mixed mainly or solely with cotton

5509.59 - - Other

- Other yarn, of acrylic or modacrylic staple fibres :

5509.61 - - Mixed mainly or solely with wool or fine animal hair

5509.62 - - Mixed mainly or solely with cotton

5509.69 - - Other

- Other yarn :

5509.91 - - Mixed mainly or solely with wool or fine animal hair

5509.92 - - Mixed mainly or solely with cotton

5509.99 - - Other

This heading covers yarns (**other than** sewing thread), whether single or multiple (folded), obtained by spinning rovings of synthetic staple fibres of heading 55.06.

Yarn of synthetic staple fibres is, however, **excluded** if put up for retail sale (**heading 55.11**) or if within the definition of twine, cordage, etc. (**heading 56.07**) (see Parts (I) (B) (2) and (3) of the General Explanatory Note to Section XI).

The heading includes yarn which has been processed as indicated in Part (I) (B) (1) of the General Explanatory Note to Section XI.

5509.1

- Containing 85 % or more by weight of staple fibres of nylon or other polyamides :

5509.11

-- Single yarn

5509.12

-- Multiple (folded) or cabled yarn

5509.2

- Containing 85 % or more by weight of polyester staple fibre :

5509.21

-- Single yarn

5509.22

-- Multiple (folded) or cabled yarn

5509.3

- Containing 85 % or more by weight of acrylic or modacrylic staple fibres :

5509.31

-- Single yarn

5509.32

-- Multiple (folded) or cabled yarn

5509.4

- Other yarn, containing 85 % or more by weight of synthetic staple fibres :

5509.41

-- Single yarn

5509.42

-- Multiple (folded) or cabled yarn

5509.5

- Other yarn, of polyester staple fibres :

5509.51

-- Mixed mainly or solely with artificial staple fibres

5509.52

-- Mixed mainly or solely with wool or fine animal hair

5509.53

-- Mixed mainly or solely with cotton

5509.59

-- Other

5509.6

- Other yarn, of acrylic or modacrylic staple fibres :

5509.61

-- Mixed mainly or solely with wool or fine animal hair

5509.62

-- Mixed mainly or solely with cotton

5509.69

-- Other

5509.9

- Other yarn :

5509.91

-- Mixed mainly or solely with wool or fine animal hair

5509.92

-- Mixed mainly or solely with cotton

5509.99

-- Other

Heading 5510

Yarn (other than sewing thread) of artificial staple fibres, not put up for retail sale.

EXPLANATORY NOTES

55.10 - Yarn (other than sewing thread) of artificial staple fibres, not put up for retail sale.

- Containing 85 % or more by weight of artificial staple fibres :

5510.11 - - Single yarn

5510.12 - - Multiple (folded) or cabled yarn

5510.20 - Other yarn, mixed mainly or solely with wool or fine animal hair

5510.30 - Other yarn, mixed mainly or solely with cotton

5510.90 - Other yarn

The Explanatory Note to heading 55.09 applies, *mutatis mutandis*, to the products of this heading.

5510.1

- Containing 85 % or more by weight of artificial staple fibres :

5510.11

-- Single yarn

5510.12

-- Multiple (folded) or cabled yarn

5510.20

- Other yarn, mixed mainly or solely with wool or fine animal hair

5510.30

- Other yarn, mixed mainly or solely with cotton

5510.90

- Other yarn

Heading 5511

Yarn (other than sewing thread) of man-made staple fibres, put up for retail sale.

EXPLANATORY NOTES

55.11 - Yarn (other than sewing thread) of man-made staple fibres, put up for retail sale.

5511.10 - Of synthetic staple fibres, containing 85 % or more by weight of such fibres

5511.20 - Of synthetic staple fibres, containing less than 85 % by weight of such fibres

5511.30 - Of artificial staple fibres

This heading covers yarns (**other than** sewing thread) of man-made staple fibres when put up for retail sale, i.e., in the forms and subject to the conditions described in Part (I) (B) (3) of the General Explanatory Note to Section XI.

5511.10

- Of synthetic staple fibres, containing 85 % or more by weight of such fibres

5511.20

- Of synthetic staple fibres, containing less than 85 % by weight of such fibres

5511.30

- Of artificial staple fibres

Heading 5512

Woven fabrics of synthetic staple fibres, containing 85 % or more by weight of synthetic staple fibres.

EXPLANATORY NOTES

55.12 - Woven fabrics of synthetic staple fibres, containing 85 % or more by weight of synthetic staple fibres.

- Containing 85 % or more by weight of polyester staple fibres :

5512.11 - - Unbleached or bleached

5512.19 - - Other

- Containing 85 % or more by weight of acrylic or modacrylic staple fibres :

5512.21 - - Unbleached or bleached

5512.29 - - Other

- Other :

5512.91 - - Unbleached or bleached

5512.99 - - Other

This heading covers woven fabrics (as defined in Part (I) (C) of the General Explanatory Note to Section XI), containing 85 % or more by weight of synthetic staple fibres. Such fabrics include a very large variety of dress materials, curtain or other furnishing fabrics, and materials for table cloths, blankets, towels, etc.

Bandages, medicated or put up for retail sale, are **excluded** (**heading 30.05**).

5512.1

- Containing 85 % or more by weight of polyester staple fibres :

5512.11

-- Unbleached or bleached

5512.19

-- Other

5512.2

- Containing 85 % or more by weight of acrylic or modacrylic staple fibres :

5512.21

-- Unbleached or bleached

5512.29

-- Other

5512.9

- Other :

5512.91

-- Unbleached or bleached

5512.99

-- Other

Heading 5513

Woven fabrics of synthetic staple fibres, containing less than 85 % by weight of such fibres, mixed mainly or solely with cotton, of a weight not exceeding 170 g/m².

EXPLANATORY NOTES

55.13 - Woven fabrics of synthetic staple fibres, containing less than 85 % by weight of such fibres, mixed mainly or solely with cotton, of a weight not exceeding 170 g/m².

- Unbleached or bleached :

5513.11 - - Of polyester staple fibres, plain weave

5513.12 - - 3-thread or 4-thread twill, including cross twill, of polyester staple fibres

5513.13 - - Other woven fabrics of polyester staple fibres

5513.19 - - Other

- Dyed :

5513.21 - - Of polyester staple fibres, plain weave

5513.23 - - Other woven fabrics of polyester staple fibres

5513.29 - - Other woven fabrics

- Of yarns of different colours :

5513.31 - - Of polyester staple fibres, plain weave

5513.39 - - Other woven fabrics

- Printed :

5513.41 - - Of polyester staple fibres, plain weave

5513.49 - - Other woven fabrics

This heading covers woven fabrics as defined in Part (I) (C) of the General Explanatory Note to Section XI.

It covers these fabrics provided they are classified as fabrics of synthetic staple fibres by the application of Note 2 to Section XI (see also Part (I) (A) of the General Explanatory Note to Section XI) and provided they meet the following specifications :

(a) Contain less than 85 % by weight of synthetic staple fibres;

(b) Are mixed mainly or solely with cotton;

(c) Weigh not more than 170 g/m^2.

Bandages, medicated or put up for retail sale, are **excluded** (**heading 30.05**).

5513.1

- Unbleached or bleached :
5513.11

-- Of polyester staple fibres, plain weave
5513.12

-- 3-thread or 4-thread twill, including cross twill, of polyester staple fibres
5513.13

-- Other woven fabrics of polyester staple fibres
5513.19

-- Other woven fabrics
5513.2

- Dyed :
5513.21

-- Of polyester staple fibres, plain weave
5513.23

-- Other woven fabrics of polyester staple fibres
5513.29

-- Other woven fabrics
5513.3

- Of yarns of different colours :
5513.31

-- Of polyester staple fibres, plain weave
5513.39

-- Other woven fabrics
5513.4

- Printed :
5513.41

-- Of polyester staple fibres, plain weave
5513.49

-- Other woven fabrics
Heading 5514

Woven fabrics of synthetic staple fibres, containing less than 85 % by weight of such fibres, mixed mainly or solely with cotton, of a weight exceeding 170 g/m².
EXPLANATORY NOTES

55.14 - Woven fabrics of synthetic staple fibres, containing less than 85 % by weight of such fibres, mixed mainly or solely with cotton, of a weight exceeding 170 g/m^2.

- Unbleached or bleached :

5514.11 - - Of polyester staple fibres, plain weave

5514.12 - - 3 thread or 4-thread twill, including cross twill, of polyester staple fibres

5514.19 - - Other woven fabrics

- Dyed :

5514.21 - - Of polyester staple fibres, plain weave

5514.22 - - 3-thread or 4-thread twill, including cross twill, of polyester staple fibres

5514.23 - - Other woven fabrics of polyester staple fibres

5514.29 - - Other woven fabrics

5514.30 - Of yarns of different colours

- Printed :

5514.41 - - Of polyester staple fibres, plain weave

5514.42 - - 3-thread or 4-thread twill, including cross twill, of polyester staple fibres

5514.43 - - Other woven fabrics of polyester staple fibres

5514.49 - - Other woven fabrics

The Explanatory Note to heading 55.13 applies, *mutatis mutandis*, to the products of this heading.

5514.1

- Unbleached or bleached :

5514.11

-- Of polyester staple fibres, plain weave

5514.12

-- 3-thread or 4-thread twill, including cross twill, of polyester staple fibres

5514.19

-- Other woven fabrics

5514.2

- Dyed :

5514.21

-- Of polyester staple fibres, plain weave

5514.22

-- 3-thread or 4-thread twill, including cross twill, of polyester staple fibres

5514.23

-- Other woven fabrics of polyester staple fibres

5514.29

-- Other woven fabrics

5514.30

- Of yarns of different colours

5514.4

- Printed :

5514.41

-- Of polyester staple fibres, plain weave

5514.42

-- 3-thread or 4-thread twill, including cross twill, of polyester staple fibres

5514.43

-- Other woven fabrics of polyester staple fibres

5514.49

-- Other woven fabrics

Heading 5515

Other woven fabrics of synthetic staple fibres.

EXPLANATORY NOTES

55.15 - Other woven fabrics of synthetic staple fibres.

- Of polyester staple fibres :

5515.11 - - Mixed mainly or solely with viscose rayon staple fibres

5515.12 - - Mixed mainly or solely with man-made filaments

5515.13 - - Mixed mainly or solely with wool or fine animal hair

5515.19 - - Other

- Of acrylic or modacrylic staple fibres :

5515.21 - - Mixed mainly or solely with man-made filaments

5515.22 - - Mixed mainly or solely with wool or fine animal hair

5515.29 - - Other

- Other woven fabrics :

5515.91 - - Mixed mainly or solely with man-made filaments

5515.99 - - Other

This heading covers woven fabrics (as defined in Part (I) (C) of the General Explanatory Note to Section XI) made of yarns of synthetic staple fibres. However it should be noted that it covers only mixed woven fabrics as defined in Note 2 to Section XI, **other than** those of the preceding headings of this Chapter or specified or included in the second part of this Section (**Chapter 58** or **59**, usually).

Bandages, medicated or put up for retail sale, are **excluded** (**heading 30.05**).

5515.1

- Of polyester staple fibres :

5515.11

-- Mixed mainly or solely with viscose rayon staple fibres

5515.12

-- Mixed mainly or solely with man-made filaments

5515.13

-- Mixed mainly or solely with wool or fine animal hair

5515.19

-- Other

5515.2

- Of acrylic or modacrylic staple fibres :

5515.21

-- Mixed mainly or solely with man-made filaments

5515.22

-- Mixed mainly or solely with wool or fine animal hair

5515.29

-- Other

5515.9

- Other woven fabrics :

5515.91

-- Mixed mainly or solely with man-made filaments

5515.99

-- Other

Heading 5516

Woven fabrics of artificial staple fibres.

EXPLANATORY NOTES

55.16 - Woven fabrics of artificial staple fibres.

- Containing 85 % or more by weight of artificial staple fibres :

5516.11 - - Unbleached or bleached

5516.12 - - Dyed

5516.13 - - Of yarns of different colours

5516.14 - - Printed

- Containing less than 85 % by weight of artificial staple fibres, mixed mainly or solely with man-made filaments :

5516.21 - - Unbleached or bleached

5516.22 - - Dyed

5516.23 - - Of yarns of different colours

5516.24 - - Printed

- Containing less than 85 % by weight of artificial staple fibres, mixed mainly or solely with wool or fine animal hair :

5516.31 - - Unbleached or bleached

5516.32 - - Dyed

5516.33 - - Of yarns of different colours

5516.34 - - Printed

- Containing less than 85 % by weight of artificial staple fibres, mixed mainly or solely with cotton :

5516.41 - - Unbleached or bleached

5516.42 - - Dyed

5516.43 - - Of yarns of different colours

5516.44 - - Printed

- Other :

5516.91 - - Unbleached or bleached

5516.92 - - Dyed

5516.93 - - Of yarns of different colours

5516.94 - - Printed

This heading covers woven fabrics (as defined in Part (I) (C) of the General Explanatory Note to Section XI) made of yarns of artificial staple fibres. Such fabrics include a very large variety of dress materials, curtain or other furnishing fabrics, and materials for table cloths, blankets, towels, etc.

Bandages, medicated or put up for retail sale, are **excluded** (**heading 30.05**).

5516.1

- Containing 85 % or more by weight of artificial staple fibres :

5516.11

-- Unbleached or bleached

5516.12

-- Dyed

5516.13

-- Of yarns of different colours

5516.14

-- Printed

5516.2

- Containing less than 85 % by weight of artificial staple fibres, mixed mainly or solely with man-made filaments :

5516.21

-- Unbleached or bleached

5516.22

-- Dyed

5516.23

-- Of yarns of different colours

5516.24

-- Printed

5516.3

- Containing less than 85 % by weight of artificial staple fibres, mixed mainly or solely with wool or fine animal hair :

5516.31

-- Unbleached or bleached

5516.32

-- Dyed

5516.33

-- Of yarns of different colours

5516.34

-- Printed

5516.4

- Containing less than 85 % by weight of artificial staple fibres, mixed mainly or solely with cotton :

5516.41

-- Unbleached or bleached

5516.42

-- Dyed

5516.43

-- Of yarns of different colours
5516.44
-- Printed
5516.9
- Other :
5516.91
-- Unbleached or bleached
5516.92
-- Dyed
5516.93
-- Of yarns of different colours
5516.94
-- Printed

Chapter 56

Wadding, felt and nonwovens; special yarns; twine, cordage, ropes and cables and articles thereof

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Wadding, felt or nonwovens, impregnated, coated or covered with substances or preparations (for example, perfumes or cosmetics of Chapter 33, soaps or detergents of heading 34.01, polishes, creams or similar preparations of heading 34.05, fabric softeners of heading 38.09) where the textile material is present merely as a carrying medium;

(b) Textile products of heading 58.11;

(c) Natural or artificial abrasive powder or grain, on a backing of felt or nonwovens (heading 68.05);

(d) Agglomerated or reconstituted mica, on a backing of felt or nonwovens (heading 68.14);

(e) Metal foil on a backing of felt or nonwovens (generally Section XIV or XV); or

(f) Sanitary towels (pads) and tampons, napkins (diapers) and napkin liners and similar articles of **heading 96.19**.

2.- The term “felt” includes needleloom felt and fabrics consisting of a web of textile fibres the cohesion of which has been enhanced by a stitch-bonding process using fibres from the web itself.

3.- Headings 56.02 and 56.03 cover respectively felt and nonwovens, impregnated, coated, covered or laminated with plastics or rubber whatever the nature of these materials (compact or cellular).

Heading 56.03 also includes nonwovens in which plastics or rubber forms the bonding substance.

Headings 56.02 and 56.03 do not, however, cover :

(a) Felt impregnated, coated, covered or laminated with plastics or rubber, containing 50 % or less by weight of textile material or felt completely embedded in plastics or rubber (Chapter 39 or 40);

(b) Nonwovens, either completely embedded in plastics or rubber, or entirely coated or covered on both sides with such materials, provided that such coating or covering can be seen with the naked eye with no account being taken of any resulting change of colour (Chapter 39 or 40); or

(c) Plates, sheets or strip of cellular plastics or cellular rubber combined with felt or nonwovens, where the textile material is present merely for reinforcing purposes (Chapter 39 or 40).

4.- Heading 56.04 does not cover textile yarn, or strip or the like of heading 54.04 or 54.05, in which the impregnation, coating or covering cannot be seen with the naked eye (usually Chapters 50 to 55); for the purpose of this provision, no account should be taken of any resulting change of colour.

EXPLANATORY NOTES

Chapter 56

Wadding, felt and nonwovens; special yarns;

twine, cordage, ropes and cables and articles thereof

Notes.

1.- This Chapter does not cover :

(a) Wadding, felt or nonwovens, impregnated, coated or covered with substances or preparations (for example, perfumes or cosmetics of Chapter 33, soaps or detergents of heading 34.01, polishes, creams or similar preparations of heading 34.05, fabric softeners of heading 38.09) where the textile material is present merely as a carrying medium;

(b) Textile products of heading 58.11;

(c) Natural or artificial abrasive powder or grain, on a backing of felt or nonwovens (heading 68.05);

(d) Agglomerated or reconstituted mica, on a backing of felt or nonwovens (heading 68.14);

(e) Metal foil on a backing of felt or nonwovens (generally Section XIV or XV); or

(f) Sanitary towels (pads) and tampons, napkins (diapers) and napkin liners and similar articles of **heading 96.19**.

2.- The term “felt” includes needleloom felt and fabrics consisting of a web of textile fibres the cohesion of which has been enhanced by a stitch-bonding process using fibres from the web itself.

3.- Headings 56.02 and 56.03 cover respectively felt and nonwovens, impregnated, coated, covered or laminated with plastics or rubber whatever the nature of these materials (compact or cellular).

Heading 56.03 also includes nonwovens in which plastics or rubber forms the bonding substance.

Headings 56.02 and 56.03 do not, however, cover :

(a) Felt impregnated, coated, covered or laminated with plastics or rubber, containing 50 % or less by weight of textile material or felt completely embedded in plastics or rubber (Chapter 39 or 40);

(b) Nonwovens, either completely embedded in plastics or rubber, or entirely coated or covered on both sides with such materials, provided that such coating or covering can be seen with the naked eye with no account being taken of any resulting change of colour (Chapter 39 or 40); or

(c) Plates, sheets or strip of cellular plastics or cellular rubber combined with felt or nonwovens, where the textile material is present merely for reinforcing purposes (Chapter 39 or 40).

4.- Heading 56.04 does not cover textile yarn, or strip or the like of heading 54.04 or 54.05, in which the impregnation, coating or covering cannot be seen with the naked eye (usually Chapters 50 to 55); for the purpose of this provision, no account should be taken of any resulting change of colour.

GENERAL

This Chapter covers a number of textile products of a special character, e.g., wadding, felt, nonwovens, special yarns, cordage and certain articles of these materials.

Heading 5601

Wadding of textile materials and articles thereof; textile fibres, not exceeding 5 mm in length (flock), textile dust and mill neps.

EXPLANATORY NOTES

5601.2

- Wadding of textile materials and articles thereof :

5601.21

-- Of cotton

5601.22

-- Of man-made fibres

CLASSIFICATION OPINIONS

1. Rods for making cigarette filter tips consisting of cellulose acetate fibres treated with triacetin and wrapped in cigarette paper. **Application of GIR 4.** *Adoption : 1969*

5601.29

-- Other

5601.30

- Textile flock and dust and mill neps

CLASSIFICATION OPINIONS

1. Fragments of nylon yarn made from 100 % nylon multiple yarn, dyed black, consisting of two strands of single yarn each composed of multifilament, measuring 933 decitex (840/2 denier) and cut to lengths of approximately 2 to 6 mm specifically for use as reinforcement in the manufacture of lorry (truck) tyres.
Application of GIR 4.
Adoption : 1994

Heading 5602

Felt, whether or not impregnated, coated, covered or laminated.

EXPLANATORY NOTES

56.02 - Felt, whether or not impregnated, coated, covered or laminated.

5602.10 - Needleloom felt and stitch-bonded fibre fabrics

- Other felt, not impregnated, coated, covered or laminated :

5602.21 - - Of wool or fine animal hair

5602.29 - - Of other textile materials

5602.90 - Other

Felt is usually obtained by superimposing, one on the other, a number of layers of textile fibres (usually the laps as produced by carding or by air-laying); these are then moistened (generally with steam or hot soapy water) and subjected to heavy pressure and a rubbing or beating action. This causes the fibres to interlock and produces sheets of even thickness, much more compact and difficult to disintegrate than wadding, and quite distinct from felted woven fabrics (generally **Chapters 50 to 55**).

Felt is usually produced from wool or other animal hair, or from mixtures of these fibres with other natural fibres (e.g., vegetable fibres, horsehair) or with man-made fibres.

Felt is used in the manufacture of clothing, hats, shoes, shoe soles, piano hammers, furnishing articles, fancy articles, etc., for various technical uses, as heat or sound insulating materials, etc.

This heading also includes **needleloom felt** which is made either :

(1) by punching a sheet or web of textile staple fibres (natural or man-made), without a textile fabric base, with notched needles; or

(2) by needling such textile fibres through a base of textile fabric or other material which is finally more or less hidden by the fibres.

The needleloom technique makes it possible to obtain felt from non-felting vegetable fibres (for example, jute) or man-made fibres.

Needled webs of staple fibres in which the needling is complementary to other types of bonding and needled filament-based webs are regarded as nonwovens (**heading 56.03**).

This heading also covers those **stitch-bonded fabrics** the essential feature of which is that they consist of a web of textile fibres the cohesion of which has been enhanced by picking up fibres from the web itself, and not by means of textile yarns. The fibres are drawn by needles through the web, and form on the surface rows of chain stitches. Some of these fabrics may have a pile surface (whether or not cut) and may be reinforced by a ground of textile or other material. The stitch-bonding knitting process is described in the General Explanatory Note to Chapter 60.

Except where it is covered more specifically by other headings in the Nomenclature, the heading includes felt in the piece or cut to length or simply cut to rectangular (including square) shape from larger pieces without other working (e.g., certain dusters or blankets), whether or not presented folded or put up in packings (e.g., for retail sale).

Felt may be dyed, printed, impregnated, coated, covered, laminated or reinforced (e.g., with textile threads, or wire). It may be covered on one or both surfaces with paper, cardboard, textile fabric, etc. (e.g., sewn or glued), **provided** the essential character of the product is that of felt.

However, the heading **does not cover** the following products which fall in **Chapter 39** or **40** :

(a) Felt impregnated, coated, covered or laminated with plastics or rubber, containing 50 % or less by weight of textile material, or felt completely embedded in plastics or rubber;

(b) Plates, sheets or strip of cellular plastics or cellular rubber combined with felt, where the textile material is present merely for reinforcing purposes (see the General Explanatory Note to Chapter 39, part entitled "**Plastics and textile combinations**", and Item (A) of the Explanatory Note to heading 40.08).

The heading includes **roofing felt** made by the normal felting process and subsequently impregnated with tar or similar substances.

The heading also **excludes** :

(a) Felt, impregnated, coated or covered with substances or preparations (e.g., perfumes or cosmetics (**Chapter 33**), soaps or detergents (**heading 34.01**), polishes, creams or similar preparations (**heading 34.05**), fabric softeners (**heading 38.09**)) where the textile material is present merely as a carrying medium.

(b) Saddle cloths and pads (**heading 42.01**).

(c) Carpets and other floor coverings of felt of **Chapter 57**.

(d) Tufted felt of **heading 58.02**.

(e) Embroidered felt in the piece, in strips or in motifs (**heading 58.10**).

(f) Quilted textile products in the piece, composed of one or more layers of textile materials assembled by stitching or otherwise with padding material **other than** embroidery of heading 58.10 (**heading 58.11**).

(g) Floor coverings consisting of a coating or covering on a backing of felt, whether or not cut to shape (**heading 59.04**).

(h) Felt coated, covered or laminated with rubber, leather or other material, of a kind used for card clothing, and other similar fabric of a kind used for other technical purposes, of **heading 59.11**.

(ij) Felt covered with abrasive powder or grain (**heading 68.05**) or with agglomerated or reconstituted mica (**heading 68.14**).

(k) Building board made of several layers of textile fibres completely enveloped in asphalt or similar material (**heading 68.07**).

(l) Metal foil on a backing of felt (**generally Section XIV** or **XV**).

5602.10

- Needleloom felt and stitch-bonded fibre fabrics

5602.2

- Other felt, not impregnated, coated, covered or laminated :

5602.21

-- Of wool or fine animal hair

5602.29

-- Of other textile materials

5602.90

- Other

Heading 5603

Nonwovens, whether or not impregnated, coated, covered or laminated.

EXPLANATORY NOTES

56.03 - Nonwovens, whether or not impregnated, coated, covered or laminated.

- Of man-made filaments :

5603.11 - - Weighing not more than 25 g/m^2

5603.12 - - Weighing more than 25 g/m^2but not more than 70 g/m^2

5603.13 - - Weighing more than 70 g/m^2 but not more than 150 g/m^2

5603.14 - - Weighing more than 150 g/m^2

- Other :

5603.91 - - Weighing not more than 25 g/m^2

5603.92 - - Weighing more than 25 g/m^2but not more than 70 g/m^2

5603.93 - - Weighing more than 70 g/m^2but not more than 150 g/m^2

5603.94 - - Weighing more than 150 g/m^2

A **nonwoven** is a sheet or web of predominantly textile fibres oriented directionally or randomly and bonded. These fibres may be of natural or man-made origin. They may be staple fibres (natural or man-made) or man-made filaments or be formed in situ.

Nonwovens can be produced in various ways and production can be conveniently divided into the three stages : web formation, bonding and finishing.

I. **Web formation**

Four basic methods exist :

(a) by carding or air-laying fibres in order to form a sheet. These fibres may be parallel, cross or random oriented (dry-laid process);

(b) by extruding filaments which are directionally oriented, cooled and laid down directly into a web or which are coagulated, washed and laid down directly into a web in a wet form of the process (spun laid process);

(c) by suspending and dispersing fibres in water, depositing the resultant slurry onto a wire screen and forming a web by removal of the water (wet-laid process);

(d) by various specialised technologies in which fibre production, web formation and usually bonding occur simultaneously (in situ process).

II. **Bonding**

After web formation the fibres are assembled throughout the thickness and width of the web (continuous method) or in spots or patches (intermittent method).

This bonding can be divided into three types :

(a) Chemical bonding, in which the fibres are assembled by means of a bonding substance. This may be done by impregnation with an adhesive binder such as rubber, gum, starch, glue or plastics, in solution or emulsion, by heat treatment with plastics in powder form, by solvents, etc. Binding fibres can also be used for chemical bonding.

(b) Thermal bonding, in which the fibres are assembled by submitting them to a heat (or ultrasonic) treatment, passing the web through ovens or between heated rollers (area bonding) or through heated embossing calenders (point bonding). Binding fibres can also be used for thermal bonding.

(c) Mechanical bonding, in which webs are strengthened by the physical entanglement of the constituent fibres. This may be achieved by means of high pressure air or water jets. It may also be achieved by needling but not by stitch-bonding. However, needled products regarded as nonwovens are restricted to :

- filament-based webs;

- staple fibre webs where the needling is complementary to other types of bonding.

These various bonding processes may also frequently be combined.

III. **Finishing**

Nonwovens may be dyed, printed, impregnated, coated, covered or laminated. Those covered on one or both surfaces (by gumming, sewing or by any other process) with textile fabric or with sheets of any other material are classified in this heading only if they derive their essential character from the nonwoven.

The heading includes, *inter alia*, adhesive tape consisting of a nonwoven coated with an adhesive of rubber, of plastics or of a mixture of these materials.

The heading also covers certain “roofing felts” in which the textile fibres are agglomerated with tar or similar substances, and certain products known as “bitumen felts” obtained in the same way but incorporating a small quantity of cork fragments.

However, the heading **does not cover** the following products which fall in **Chapter 39** or **40** :

(a) Nonwovens, either completely embedded in plastics or rubber, or entirely coated or covered on both sides with such materials, provided that such coating or covering can be seen with the naked eye with no account being taken of any resulting change of colour.

(b) Plates, sheets or strip of cellular plastics or cellular rubber combined with nonwovens, where the textile material is present merely for reinforcing purposes (see the General Explanatory Note to Chapter 39, part entitled “**Plastics and textile combinations**”, and Item (A) of the Explanatory Note to heading 40.08).

*

* *

Nonwovens differ in thickness and in their characteristic features (flexibility, elasticity, resistance to tearing, absorbency, stability, etc.) according to the manufacturing or bonding process, the density of the fibres or filaments and the number of webs. Some nonwovens resemble paper, paperboard, cellulose wadding, chamois leather, or wadding of heading 56.01. They can be distinguished from paper, paperboard or cellulose wadding by the fact that the textile fibres are not digested during the process of manufacture.

Finally, the fact that the textile fibres or filaments are bonded throughout the thickness, and generally throughout the width, of the web or sheet also helps to distinguish these fabrics from certain types of wadding of heading 56.01 (see the Explanatory Note to that heading).

Certain nonwovens can be washed or wrung like other textile fabrics.

Except where they are covered more specifically by other headings in the Nomenclature, the heading covers nonwovens in the piece, cut to length or simply cut to rectangular (including square) shape from larger pieces without other working, whether or not presented folded or put up in packings (e.g., for retail sale). These include : facing webs (overlay) for incorporation in laminated plastics; top-sheets for the manufacture of disposable napkins (diapers) or sanitary towels; fabrics for the manufacture of protective clothing or garment linings; sheets for filtering liquids or air, for use as stuffing materials, for

sound insulation, for filtration or separation in road building or other civil engineering works; substrates for manufacturing bituminous roofing fabrics; primary or secondary backing for tufted carpets, etc.; handkerchiefs, bed linen, table linen, etc.

The heading also **excludes** :

(a) Bandages, medicated or put up for retail sale (**heading 30.05**).

(b) Nonwovens, impregnated, coated or covered with substances or preparations (e.g., perfumes or cosmetics (**Chapter 33**), soaps or detergents (**heading 34.01**), polishes, creams or similar preparations (**heading 34.05**), fabric softeners (**heading 38.09**)) where the textile material is present merely as a carrying medium.

(c) Needleloom felts (**heading 56.02**).

(d) Carpets and other floor coverings of nonwovens of **Chapter 57**.

(e) Tufted nonwovens of **heading 58.02**.

(f) Bolducs (**heading 58.06**).

(g) Embroidered nonwovens in the piece, in strips or in motifs (**heading 58.10**).

(h) Quilted textile products in the piece, composed of one or more layers of textile materials assembled by stitching or otherwise with padding material of nonwovens, **other than** embroidery of heading 58.10 (**heading 58.11**).

(ij) Nonwovens for technical uses, of **heading 59.11**.

(k) Nonwovens covered with abrasive powder or grain (**heading 68.05**) or with agglomerated or reconstituted mica (**heading 68.14**).

(l) Metal foil on a backing of nonwovens (**generally Section XIV** or **XV**).

5603.1

- Of man-made filaments :

5603.11

-- Weighing not more than 25 g/m²

5603.12

-- Weighing more than 25 g/m² but not more than 70 g/m²

CLASSIFICATION OPINIONS

Nonwovens manufactured using the wet-laid process, consisting of a mixture of man-made fibres of different thicknesses and cellulose fibres (10 to 35 %), impregnated together with an acrylate binding agent, weighing between 60 and 80 g per m² and put up in rolls between 100 and 1500 mm wide; these products may be used in a wide variety of applications including for the manufacture of disposable milk filters, waistbands for garments, backing material for embroidery, and sole material

for shoes.
Application of GIRs 1 and 6. Adoption :2007

5603.13

-- Weighing more than 70 g/m² but not more than 150 g/m²
CLASSIFICATION OPINIONS

1. Nonwovens manufactured using the wet-laid process, consisting of a mixture of man-made fibres of different thicknesses and cellulose fibres (10 to 35 %), impregnated together with an acrylate binding agent, weighing between 60 and 80 g per m² and put up in rolls between 100 and 1500 mm wide; these products may be used in a wide variety of applications including for the manufacture of disposable milk filters, waistbands for garments, backing material for embroidery, and sole material for shoes.
Application of GIRs 1 and 6.
Adoption : 2007

5603.14

-- Weighing more than 150 g/m²
5603.9

- Other :
5603.91

-- Weighing not more than 25 g/m²
5603.92

-- Weighing more than 25 g/m² but not more than 70 g/m²
5603.93

-- Weighing more than 70 g/m² but not more than 150 g/m²
5603.94

-- Weighing more than 150 g/m²
Heading 5604

Rubber thread and cord, textile covered; textile yarn, and strip and the like of heading 54.04 or 54.05, impregnated, coated, covered or sheathed with rubber or plastics.
EXPLANATORY NOTES

56.04 - Rubber thread and cord, textile covered; textile yarn, and strip and the like of heading 54.04 or 54.05, impregnated, coated, covered or sheathed with rubber or plastics.

5604.10 - Rubber thread and cord, textile covered

5604.90 - Other

(A) RUBBER THREAD AND CORD, TEXTILE COVERED

Provided they are covered with textiles (e.g., by gimping or plaiting), this group includes, thread (single strand) of rubber, of any cross-section, and cord (multiple strand) of rubber, made of these threads.

(B) TEXTILE YARN, AND STRIP AND THE LIKE OF HEADING 54.04 OR 54.05, IMPREGNATED, COATED, COVERED OR SHEATHED WITH RUBBER OR PLASTICS

This group covers textile yarn, and strip and the like of heading 54.04 or 54.05, which have been impregnated, coated, covered or sheathed with rubber or plastics, **provided that**, in the case of impregnated, coated or covered yarns, etc., the impregnation, coating or covering can be seen with the naked eye with no account being taken of any resulting change of colour.

Impregnated textile yarn includes dipped yarn consisting of textile yarn surface-treated to improve its adhesion to the rubber in which it is subsequently incorporated during the manufacture of articles such as tyres, machinery belts or belting, and tubes.

Among the products included in this group are imitation catguts consisting of textile yarn with a heavy dressing of plastics, which are used according to their different characteristics in the manufacture of sports rackets, fishing lines, belts, braids, upholstery fabrics, surgical sutures, etc., and clothes-lines consisting of textile yarn incorporated in a sheath of plastics.

The heading **does not include** :

(a) Fabrics composed of parallel textile yarns agglomerated with rubber (**heading 59.06**).

(b) Imitation catgut with hooks attached or otherwise made up into fishing lines (**heading 95.07**).

5604.10

- Rubber thread and cord, textile covered

5604.90

- Other

Heading 5605

Metallised yarn, whether or not gimped, being textile yarn, or strip or the like of heading 54.04 or 54.05, combined with metal in the form of thread, strip or powder or covered with metal.

EXPLANATORY NOTES

56.05 - Metallised yarn, whether or not gimped, being textile yarn, or strip or the like of heading 54.04 or 54.05, combined with metal in the form of thread, strip or powder or covered with metal.

This heading covers :

(1) **Yarn consisting of any textile material (including monofilament, strip and the like and paper yarn) combined with metal thread or strip**, whether obtained by a process of twisting, cabling or by gimping, whatever the proportion of the metal present. The gimped yarns are obtained by wrapping metal thread or strip spirally round the textile core which does not twist with the metal. Precious metals or plated metals are frequently used.

(2) **Yarn of any textile material (including monofilament, strip and the like, and paper yarn) covered with metal by any other process**. This category includes yarn covered with metal by electro-deposition, or by giving it a coating of adhesive (e.g., gelatin) and then sprinkling it with metal powder (e.g., aluminium or bronze).

The heading also covers products consisting of a core of metal foil (generally of aluminium), or of a core of plastic film coated with metal dust, sandwiched by means of an adhesive between two layers of plastic film.

The heading covers multiple (folded) or cabled yarn containing plies of the yarn referred to above (e.g., fancy cords as used by confectioners, obtained by twisting together two or more metallised yarns as described above). It further includes certain other forms of yarn made in the same way and used for similar purposes, consisting of two or more parallel metallised yarns held together with a binding of metal thread or strip, and yarn or bundles of yarn gimped with yarn of this heading.

Metallised yarn may be gimped. It is used in the manufacture of trimmings and lace and of certain fabrics, as fancy cords, etc.

The heading **does not include** :

(a) Yarn composed of a mixture of textile materials and metal fibres conferring on them an antistatic effect (**Chapters 50 to 55**, as the case may be).

(b) Yarn reinforced with metal thread (**heading 56.07**).

(c) Cords, galloons or other articles having the character of ornamental trimmings (**heading 58.08**).

(d) Wire or strip of gold, silver, copper, aluminium or other metals (**Sections XIV** and **XV**).

5605.00

Metallised yarn, whether or not gimped, being textile yarn, or strip or the like of heading 54.04 or 54.05, combined with metal in the form of thread, strip or powder or covered with metal.

Heading 5606

Gimped yarn, and strip and the like of heading 54.04 or 54.05, gimped (other than those of heading 56.05 and gimped horsehair yarn); chenille yarn (including flock chenille yarn); loop wale-yarn.

EXPLANATORY NOTES

56.06 - Gimped yarn, and strip and the like of heading 54.04 or 54.05, gimped (other than those of heading 56.05 and gimped horsehair yarn); chenille yarn (including flock chenille yarn); loop wale-yarn.

(A) GIMPED YARN, AND STRIP AND THE LIKE OF HEADING 54.04 OR 54.05, GIMPED (OTHER THAN THOSE OF HEADING

56.05 AND GIMPED HORSEHAIR YARN)

These products are composed of a core, usually of one or more textile yarns, around which other yarn or yarns are wound spirally. Most frequently the covering threads completely cover the core, but in some cases the turns of the spiral are spaced; in the latter case, the product may have somewhat the appearance of certain multiple (folded), cabled or fancy yarns of **Chapters 50 to 55**, but may be distinguished from them by the characteristic of gimped yarn that the core does not itself undergo a twisting with the cover threads.

The core of the gimped yarn of this heading is usually of cotton, other vegetable fibres or man-made fibres and the covering threads are usually finer and more glossy (e.g., silk, mercerised cotton or man-made fibres).

Gimped yarns with cores of other materials are not necessarily excluded **provided** the product has the essential character of a textile article.

Gimped yarns are used as a trimming and also very largely for the manufacture of such trimmings. Some, however, are also suitable for other uses, for example, as buttonhole cord, in embroidery or for tying parcels.

The heading **excludes** :

(a) Gimped horsehair yarn (**heading 51.10**).

(b) Rubber thread gimped with textiles (**heading 56.04**).

(c) Gimped metallised yarn (**heading 56.05**).

(d) Milanaise and similar cords and other gimped textile products of **heading 58.08**.

(e) Gimped metal wire, e.g. :

(i) Iron or steel wire for the manufacture of hat frames (milliners' wire) and stems of iron or steel wire for artificial flowers or hair curlers (**heading 72.17**).

(ii) Insulated electric wire (**heading 85.44**).

(B) CHENILLE YARN (INCLUDING FLOCK CHENILLE YARN)

Chenille yarn consists generally of two or more strands of textile yarn twisted together and gripping short ends of textile yarn that may be practically perpendicular to them; the strands are sometimes maintained in loops formed on a hosiery loom. In all cases, it looks like yarn tufted with pile threads throughout its length. It is usually manufactured directly on special looms (ring twister and Raschel knitting machines, for example) or by cutting up special leno fabric; in the latter process, after the fabric has been cut along either side of each group of warp threads, it is these warp threads (ground and crossing threads) which serve as support in the chenille yarn, and the weft which forms the pile.

The heading also covers chenille yarn obtained by fixing textile flock to a core of textile yarn. In this process the core yarn passes through a glue bath and subsequently through a chamber where the textile flock is fixed radially to the core under influence of a high-tension electrostatic field.

Chenille yarn is used, *inter alia*, in the manufacture of chenille fabrics (**heading 58.01**) or of numerous articles such as furnishings, bedding, carpets, trimmings, apparel.

(C) LOOP WALE-YARN

Loop wale-yarn is a tubular yarn made on a circular knitting machine and is 1.5 to 2 mm wide when pressed flat. This yarn is used for making fringes and other textile accessories and for making woven fabrics on conventional warp and weft looms.

5606.00

Gimped yarn, and strip and the like of heading 54.04 or 54.05, gimped (other than those of heading 56.05 and gimped horsehair yarn); chenille yarn (including flock chenille yarn); loop wale-yarn.

CLASSIFICATION OPINIONS

1. **Yarn having a hairy appearance along its entire length**, made directly by cutting at the centre, up the weft, fabrics consisting of two "wales" forming two chains of loops linked up wale-wise by another thread, the latter forming the tufts after cutting.
   These yarns are put up in balls of 50 grams for sale by retail and are used for handicraft work such as hand knitting.
   Application of GIR 1.
   Adoption : 2000

   Illustration of "cutting up the weft"

A Before cutting up**B** After cutting up



2. **Yarn having a hairy appearance along its entire length** and consisting of a chain of loops in the direction of the warp, with additional warp threads cut after manufacture to form the tufts.
   These yarns are put up in balls of 50 grams for sale by retail and are used for handicraft work such as hand knitting.
   Application of GIR 1.
   Adoption : 2000

   Illustration of "cutting up the weft"

A Before cutting up**B** After cutting up



Heading 5607

Twine, cordage, ropes and cables, whether or not plaited or braided and whether or not impregnated, coated, covered or sheathed with rubber or plastics.

EXPLANATORY NOTES

56.07 - Twine, cordage, ropes and cables, whether or not plaited or braided and whether or not impregnated, coated, covered or sheathed with rubber or plastics (+).

- Of sisal or other textile fibres of the genus *Agave* :

5607.21 - - Binder or baler twine

5607.29 - - Other

- Of polyethylene or polypropylene :

5607.41 - - Binder or baler twine

5607.49 - - Other

5607.50 - Of other synthetic fibres

5607.90 - Other

This heading covers twine, cordage, ropes and cables, produced by twisting or by plaiting or braiding.

(1) **Twine, cordage, ropes and cables, not plaited or braided**.

Parts (I) (B) (1) and (2) (particularly the Table) of the General Explanatory Note to Section XI set out the circumstances in which single, multiple (folded) or cabled yarns are regarded as twine, cordage, ropes or cables of this heading.

Textile yarn reinforced with metal thread is always classified here and differs from metallised yarn of **heading 56.05** in that the metal strand is usually thicker and acts as a reinforcing agent only and not for any ornamental purpose.

This group also includes twine, cordage, ropes and cables obtained from fibrillating strip which has been more or less completely split into filaments by twisting.

(2) **Plaited or braided twine, cordage, ropes and cables**.

These are in all cases classified here regardless of their weight per metre. They are usually tubular braids which are generally made of coarser materials than the braids of heading 58.08. However, the plaited goods of this heading differ from those of heading 58.08 less by the nature of the yarn used than by the fact that they are tightly plaited, with a compact structure, making them suitable for use as twine, cordage, ropes or cables. In addition, they are usually uncoloured.

The most important fibres used in the manufacture of twine, cordage, ropes or cables are hemp, jute, sisal, cotton, coir and synthetic fibres.

Twine, cordage, ropes and cables of paper yarn are classified here **only** if plaited or reinforced with metal thread.

Twine, cordage, ropes and cables are used as binder twine, for tying packages, towing, loading, etc. Their cross-section is usually round but some (e.g., some transmission cables) have a square, trapezoidal or triangular section. They are normally unbleached, but may be dyed, impregnated to make them rot-proof, formed of different coloured strands, or impregnated, coated, covered or sheathed with rubber or plastics.

These products are classified here whether or not cut to length.

The heading **excludes** :

(a) Fancy cords as used by confectioners, florists, etc., of **heading 56.05**.

(b) Gimped yarn, chenille yarn and loop wale-yarn of **heading 56.06**.

(c) Articles of **heading 56.09**.

(d) Milanaise and similar cords and other gimped textile products of **heading 58.08**.

(e) Cords, braids and the like, whether or not coated, impregnated or reinforced with metal, of a kind used in industry as packing or lubricating materials (**heading 59.11**).

(f) Scrap twine, cordage, ropes and cables of **heading 63.10**.

(g) Abrasive coated twine, cord, etc. (**heading 68.05**).

(h) Articles for gymnastics (**heading 95.06**).

°

° °

Subheading Explanatory Notes.

Subheading 5607.21

This subheading covers single twine of sisal or other textile fibres of the genus *Agave* having a "Z" twist and a minimum twine breaking force calculated by means of the following formula :

$$R = \frac{17,400}{n} - 18$$

(R being the twine breaking force in decanewtons (daN) and n being the runnage of twine in metres per kg.)

For example, the minimum breaking force for twine number 150 (150 m per kg) is 98 daN, for twine number 200 (200 m per kg) is 69 daN and for twine number 300 (300 m per kg) is 40 daN.

Subheading 5607.41

This subheading covers single twine of polyethylene or polypropylene, stabilised against degradation by sunlight, having a "Z" twist, and :

(a) a minimum twine breaking force calculated by means of the following formula :

$$R = \frac{32,400}{n}$$

(R being the twine breaking force in decanewtons (daN) and n being the runnage of the twine in metres per kg);

(b) an average minimum knot breaking force calculated by means of the following formula :

$$R' = 0.58\ R$$

(R' being the average knot breaking force in daN).

5607.2

- Of sisal or other textile fibres of the genus Agave :

5607.21

-- Binder or baler twine

5607.29

-- Other

5607.4

- Of polyethylene or polypropylene :

5607.41

-- Binder or baler twine

5607.49

-- Other

5607.50

- Of other synthetic fibres

CLASSIFICATION OPINIONS

1. Tubular braids, of close-knit texture, whether or not comprising a core of multiple yarn, of circular nearly solid cross-section (approx. 1 mm in diameter), composed of yarns of polyester fibres lightly impregnated with paraffin wax, for use as harness cords on dobby looms. *Adoption : 1964*

5607.90

- Other

Heading 5608

Knotted netting of twine, cordage or rope; made up fishing nets and other made up nets, of textile materials.

EXPLANATORY NOTES

56.08 - Knotted netting of twine, cordage or rope; made up fishing nets and other made up nets, of textile materials.

- Of man-made textile materials :

5608.11 - - Made up fishing nets

5608.19 - - Other

5608.90 - Other

(1) **Knotted netting of twine, cordage or rope**.

These products are simply lengths of netting, i.e., open mesh knotted fabric made either by hand or by machine. They differ from the net fabrics of heading 58.04 in that they are made of the twine, cordage or rope of heading 56.07.

(2) **Made up fishing nets and other made up nets, of textile materials**.

As distinct from the products referred to in paragraph (1) above, made up articles of this group may be made of yarn and the open mesh may be obtained by knotting or otherwise.

Made up nets are nets, whether or not ready for use, made directly to shape or assembled from pieces of netting. The presence of handles, rings, weights, floats, cords or other accessories does not affect the classification of the goods of this group.

Made up nets of this heading are **restricted** to those nets not covered more specifically by other headings of the Nomenclature. The heading includes fishing nets, camouflage nets, theatrical scenery nets, safety nets, net shopping bags and similar carrying nets (e.g., for tennis balls or footballs), hammocks, balloon or air-ship nets, nets for protection against insects, etc.

The products of this heading remain here even if impregnated (e.g., to preserve them against the weather, water).

The heading **does not cover** :

(a) Netting in the piece produced by knitting or crochet work (**headings 60.02** to **60.06**).

(b) Hair nets (**heading 65.05**).

(c) Sports nets (e.g., goal nets and tennis nets), fish landing nets and other nets of **Chapter 95**.

5608.1

- Of man-made textile materials :

5608.11

-- Made up fishing nets

5608.19

-- Other

5608.90

- Other

Heading 5609

Articles of yarn, strip or the like of heading 54.04 or 54.05, twine, cordage, rope or cables, not elsewhere specified or included.

EXPLANATORY NOTES

56.09 - Articles of yarn, strip or the like of heading 54.04 or 54.05, twine, cordage, rope or cables, not elsewhere specified or included.

This heading covers articles of the yarns of Chapters 50 to 55, articles of strip or the like of heading 54.04 or 54.05, and also articles of twine, cordage, rope or cables of heading 56.07, **other than** those covered by a more specific heading in the Nomenclature.

It includes yarns, cordage, rope, etc., cut to length and looped at one or both ends, or fitted with tags, rings, hooks, etc., (e.g., shoe laces, clothes lines, towing ropes), ships' fenders, unloading cushions, rope ladders, loading slings, dish "cloths" made of a bundle of yarns folded in two and bound together at the folded end, etc.

The heading **does not cover** :

(a) Bridles, reins, halters, harness, etc. (**heading 42.01**).

(b) Cords cut to length, with knots, loops, or metal or glass eyelets, of a kind used on Jacquard or other machines (**heading 59.11**).

(c) Textile fabrics and articles made from such fabrics, which are classified in their appropriate headings (e.g., shoe laces made from braids are classified in **heading 63.07**).

(d) Rope soles for sandals (**heading 64.06**).

(e) Articles for gymnastics and other articles of **Chapter 95**.

5609.00

Articles of yarn, strip or the like of heading 54.04 or 54.05, twine, cordage, rope or cables, not elsewhere specified or included.

Chapter 57

Carpets and other textile floor coverings

LEGAL NOTES

Notes.

1.- For the purposes of this Chapter, the term “carpets and other textile floor coverings” means floor coverings in which textile materials serve as the exposed surface of the article when in use and includes articles having the characteristics of textile floor coverings but intended for use for other purposes.

2.- This Chapter does not cover floor covering underlays.

EXPLANATORY NOTES

Chapter 57

Carpets and other textile floor coverings

Notes.

1.- For the purposes of this Chapter, the term “carpets and other textile floor coverings” means floor coverings in which textile materials serve as the exposed surface of the article when in use and includes articles having the characteristics of textile floor coverings but intended for use for other purposes.

2.- This Chapter does not cover floor covering underlays.

GENERAL

This Chapter covers carpets and other textile floor coverings in which textile materials serve as the exposed surface of the article when in use. It includes articles having the characteristics of textile floor coverings (e.g., thickness, stiffness and strength) but intended for use for other purposes (for example, as wall hangings or table covers or for other furnishing purposes).

The above products are classified in this Chapter whether made up (i.e., made directly to size, hemmed, lined, fringed, assembled, etc.), in the form of carpet squares, bedside rugs, hearth rugs, or in the form of carpeting for installation in rooms, corridors, passages or stairs, in the length for cutting and making up.

They may also be impregnated (e.g., with latex) or backed with woven or nonwoven fabrics or with cellular rubber or plastics.

The Chapter **does not cover** :

(a) Floor covering underlays, i.e., coarse fabric or felt padding placed between the floor and the carpet (classified according to its constituent material).

(b) Linoleum and other floor coverings consisting of a coating or covering applied on a textile backing (**heading 59.04**).

Heading 5701

Carpets and other textile floor coverings, knotted, whether or not made up.

EXPLANATORY NOTES

57.01 - Carpets and other textile floor coverings, knotted, whether or not made up.

5701.10 - Of wool or fine animal hair

5701.90 - Of other textile materials

Knotted carpets and other knotted textile floor coverings are composed of a taut warp around which the pile threads are knotted or twisted in a complete turn round at least one warp thread, the pile threads being kept in place by the insertion of tightly woven weft threads. This knotting or twisting characterises the articles of this heading.

The knots most commonly used are :

(1) **Ghiordes or Turkish knot** : the pile thread is placed over two adjacent warp threads and its two ends brought back between these two threads so as to make a complete turn round them (see Figure 1), the two ends standing up to form the surface of the carpet.

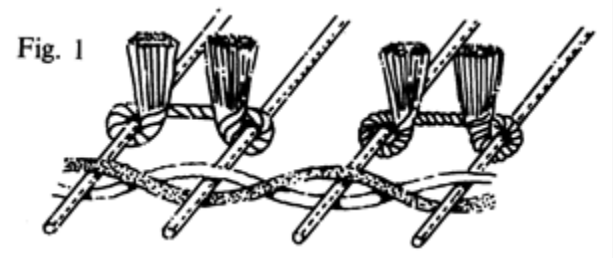

Fig. 1

(2) **Senna or Persian knot** : the pile thread is twisted round one warp thread and then passed under a following warp thread (see Figure 2), the two ends standing up to form the surface of the carpet.

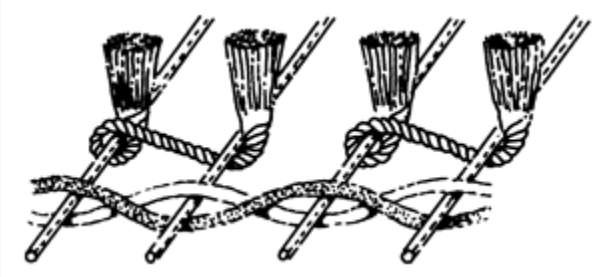

Fig. 2

In the Ghiordes and Senna knots the pile threads may also cover four warp threads.

(3) **Single warp knots** in which each pile thread is twisted or knotted on to one warp thread; each pile thread makes one and a half turns round a warp thread (see Figure 3), the two ends standing up to form the surface of the carpet.

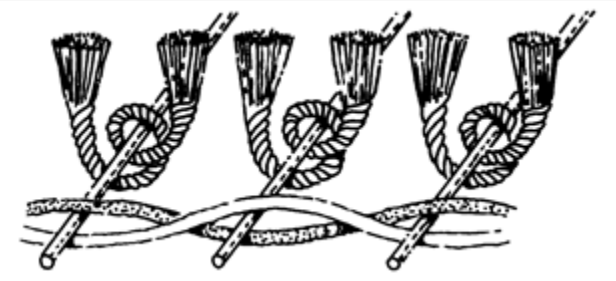

Fig. 3

There is thus a series of such knots, adjacent but completely independent of each other, over the whole width of the carpet thus covering the ground fabric.

The heading also includes certain carpets made by knotting pile threads on to a loosely woven backing.

Most knotted carpets, carpeting and rugs are hand made to size ready for use, with different coloured pile threads forming a pattern. They are, however, also made on mechanical looms and are then generally of more even texture and the selvedges are more parallel than in the case of those hand made. The pile threads are usually of wool or silk but sometimes of mohair or Kashmir (cashmere) goat hair. The ground fabric is generally of cotton, wool or hair in the case of hand-made carpets, and of cotton, flax, hemp or jute in the case of machine-made carpets.

The products of this heading are normally used for floor covering but are also sometimes used otherwise for furnishings (e.g., as wall hangings or table covers) (see General Explanatory Note to this Chapter).

These carpets remain classified here if they are edged with fringes (produced during weaving or added subsequently) or if they are otherwise finished for use.

These products are mainly of Oriental origin (Iran, Turkey, Turkestan, Afghanistan, Pakistan, China, India), or from North Africa (Algeria, Tunisia, Morocco, Egypt).

The heading **excludes** carpets in which the pile threads are simply looped under the warp threads without making a turn round them (see Figures 4 and 5 below) (**heading 57.02**).

5701.10

- Of wool or fine animal hair

5701.90

- Of other textile materials

Heading 5702

Carpets and other textile floor coverings, woven, not tufted or flocked, whether or not made up, including «Kelem», «Schumacks», «Karamanie» and similar hand-woven rugs.

EXPLANATORY NOTES

57.02 - Carpets and other textile floor coverings, woven, not tufted or flocked, whether or not made up, including “Kelem”, “Schumacks”, “Karamanie” and similar hand-woven rugs.

5702.10 - “Kelem”, “Schumacks”, “Karamanie” and similar hand-woven rugs

5702.20 - Floor coverings of coconut fibres (coir)

- Other, of pile construction, not made up :

5702.31 - - Of wool or fine animal hair

5702.32 - - Of man-made textile materials

5702.39 - - Of other textile materials

- Other, of pile construction, made up :

5702.41 - - Of wool or fine animal hair

5702.42 - - Of man-made textile materials

5702.49 - - Of other textile materials

5702.50 - Other, not of pile construction, not made up

- Other, not of pile construction, made up :

5702.91 - - Of wool or fine animal hair

5702.92 - - Of man-made textile materials

5702.99 - - Of other textile materials

The carpets and other textile floor coverings of this heading include :

(1) **Wilton and similar carpets**. These have a strong, heavy ground fabric covered by a pile surface (i.e., a right side formed by adjacent threads or tufts standing upright) or by a looped surface.

The surface of these carpets is formed by additional warp threads which are made to form loops on the right side of the fabric during the weaving process by the temporary insertion of metal rods or wires. When these loops are cut the result is a pile carpet (such as a Wilton, see Figure 4); in this type the pile is simply looped under the weft threads. If, on the contrary, the loops are left uncut, the resulting carpets have a looped pile, such as a Brussels carpet (see Figures 4 and 5).

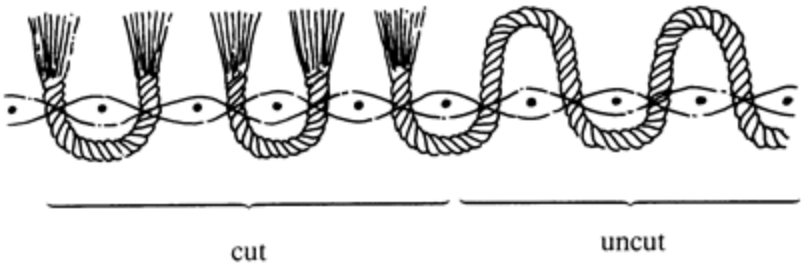

Fig. 4

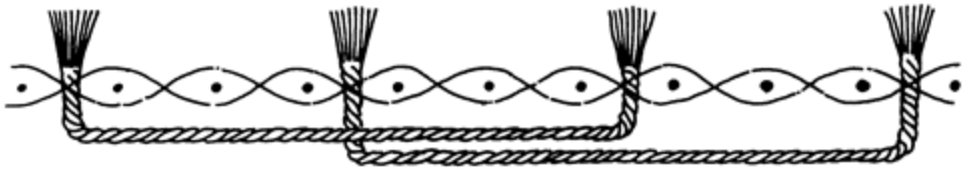

Fig. 5

These carpets may be plain or patterned, the pattern being woven on a loom (e.g., Jacquard loom) specially equipped so as to be able to produce a design obtained by the use of two to five different coloured yarns.

Wilton carpets are also produced by weaving two fabrics with a common pile thread which is cut after weaving to form two pile carpets (face-to-face Wilton).

The pile yarn is usually of wool or a wool/nylon mixture, but it may also be of cotton, polyamide, acrylic, viscose or a blend of these fibres. The ground fabric is usually of cotton, jute or polypropylene.

(2) **Axminster carpets**. These are machine-woven carpets in which successive weft-wise rows of pile are inserted during weaving according to a predetermined arrangement of colours.

(3) **Chenille carpets**. The principal characteristic of these is that their pile surface is produced by the use of chenille yarns (see Explanatory Note to heading 56.06). These yarns may be used as an additional weftwoven in the normal way; in some cases short pieces of chenille yarn are inserted as an extra discontinuous warp held in place by the ground fabric.

(4) **Flat weave carpets** which have no loops or pile but can be distinguished from the textile fabrics of Chapters 50 to 55 in that, being heavy and strong, they are clearly intended for use as floor coverings.

These include Kidderminster or so-called “Belgian” carpets which are double fabrics, the design being produced by the interchange at intervals of the two fabrics. Apart from these relatively fine house carpets, the heading also covers coarse carpets or carpeting (such as drugget) of jute, coir, hair, paper yarns, etc. (usually plain, twill or chevron weaves), and rag carpets with a warp of jute yarn and a weft made of strips of waste fabric tied end to end.

(5) **Door mats and matting**. These are essentially composed of rigid tufts, usually of coconut fibre or sisal, simply looped under the warp threads of the ground fabric; they are produced in small sizes appropriate for their intended uses.

(6) **Terry towelling or similar bath-mats**.

It should be noted that certain carpets are obtained in a way similar to many pile or chenille fabrics of **heading 58.01**, but being essentially intended as floor coverings, they are distinguished by their solidity, by the coarseness of the materials used in their manufacture or by the stiffness of the ground fabric, which generally has an additional warp (stuffer).

(7) **"Kelem", "Schumacks", "Karamanie" and similar hand-woven rugs**. Kelem (or Khilim), also called Karamanie, is obtained by the same method of manufacture as the hand-woven tapestries described in the Explanatory Note to heading 58.05, Part (A). Its texture is, therefore, comparable to that of the above-mentioned tapestries and generally the same gaps are to be found with the line of the warp. Nevertheless, as far as the pattern is concerned, Kelem generally has no flowers or foliage, but mostly rectilinear designs. Although the front may be distinguished from the reverse, the difference is so slight that both sides may be used.

Kelem is sometimes made up of two long strips sewn together, the design being worked in such a way as to conceal the stitching. That is why it has a border (woven ends) only on its short edges or even none at all. This clearly does not exclude added borders.

Generally, the warp is woollen and the weft is wool or cotton.

The heading also covers items manufactured according to Kelem techniques (in central Europe in particular) which are patterned with decorative designs of the same type as those of the light, oriental Kelem.

Schumacks is woven in the same way as Kelem but differs from the latter in the following ways :

- as soon as one or two weft lines forming the pattern are completely finished, a supplementary weft thread is inserted throughout the width of the piece, which prevents gaps in the warp;

- as regards the pattern, the background is usually decorated with three to five flat multicoloured stars which look like medallions; the border generally consists of one wide main band and from two to three secondary bands. The reverse side has a hairy appearance caused by the ends, several centimetres in length, which remain after the weft threads have been broken off.

The weft of Schumacks is woollen while the warp may be woollen or cotton, or even goat hair.

The similar carpets include in particular Sileh which is manufactured in a similar way to Schumacks. The pattern of Sileh is basically made up of S-shaped motifs either the right way round or back to front, and animal figure motifs dotted across the whole of the surface. The warp and the weft of the Sileh are woollen (the warp is, in rare cases, of cotton).

The heading **excludes** mats and matting of plaiting materials (**Chapter 46**).

5702.10

- «Kelem», «Schumacks», «Karamanie» and similar hand-woven rugs

5702.20

- Floor coverings of coconut fibres (coir)

5702.3

- Other, of pile construction, not made up :

5702.31

-- Of wool or fine animal hair

5702.32

-- Of man-made textile materials

5702.39

-- Of other textile materials

5702.4

- Other, of pile construction, made up :

5702.41

-- Of wool or fine animal hair

5702.42

-- Of man-made textile materials

5702.49

-- Of other textile materials

5702.50

- Other, not of pile construction, not made up

CLASSIFICATION OPINIONS

1. Mats, woven, with warp of textile yarn and weft of strip of plastics; the weft strip is obtained from a strip (width : 17 mm) which has been folded, slightly twisted and compressed by beating up the weft to the fell of the cloth so that it shows an apparent width in the fabric varying between 2 and 5 mm.
Adoption : 1966

5702.9

- Other, not of pile construction, made up :

5702.91

-- Of wool or fine animal hair

CLASSIFICATION OPINIONS

1. Mats, woven, with warp of textile yarn and weft of strip of plastics; the weft strip is obtained from a strip (width : 17 mm) which has been folded, slightly twisted and compressed by beating up the weft to the fell of the cloth so that it shows an apparent width in the fabric varying between 2 and 5 mm.
Adoption : 1966

5702.92

-- Of man-made textile materials

CLASSIFICATION OPINIONS

1. Mats, woven, with warp of textile yarn and weft of strip of plastics; the weft strip is obtained from a strip (width : 17 mm) which has been folded, slightly twisted and compressed by beating up the weft to the fell of the cloth so that it shows an apparent width in the fabric varying between 2 and 5 mm.
Adoption : 1966

5702.99

-- Of other textile materials
CLASSIFICATION OPINIONS

1. Mats, woven, with warp of textile yarn and weft of strip of plastics; the weft strip is obtained from a strip (width : 17 mm) which has been folded, slightly twisted and compressed by beating up the weft to the fell of the cloth so that it shows an apparent width in the fabric varying between 2 and 5 mm.
Adoption : 1966

Heading 5703

Carpets and other textile floor coverings (including turf), tufted, whether or not made up.
EXPLANATORY NOTES

57.03 - Carpets and other textile floor coverings (including turf), tufted, whether or not made up.

5703.10 - Of wool or fine animal hair

- Of nylon or other polyamides :

5703.21 - -Turf

5703.29 - - Other

- Of other man-made textile materials :

5703.31 - - Turf

5703.39 - - Other

5703.90 - Of other textile materials

This heading covers tufted carpets and other tufted textile floor coverings produced on tufting machines which, by means of a system of needles and hooks, insert textile yarn into a pre-existing backing (usually a woven fabric or a nonwoven) thus producing loops, or, if the needles and hooks are combined with a cutting device, tufts. The yarns forming the pile are then normally fixed by a coating of rubber or plastics. Usually before the coating is allowed to dry it is either covered by a secondary backing of loosely woven textile material, e.g., jute, or by foamed rubber.

This heading also covers turf, which is a tufted textile floor covering that imitates grass, irrespective of colour. The turf is used indoors or outdoors for sports playing surfaces (e.g., football, baseball, field hockey, golf, tennis) and other applications (e.g., landscaping, airports). This heading **does not cover** articles of plastics of **Chapter 39**.

The heading also covers tufted textile floor coverings made using a tufting gun or made by hand.

Products of this heading are distinguished from the tufted textile fabrics of **heading 58.02** by, for example, their stiffness, thickness and strength, which render them suitable for use as floor coverings.

5703.10

- Of wool or fine animal hair

5703.2

- Of nylon or other polyamides :

5703.21

-- Turf

5703.29

-- Other

5703.3

- Of other man-made textile materials :

5703.31

-- Turf

5703.39

-- Other

5703.90

- Of other textile materials

Heading 5704

Carpets and other textile floor coverings, of felt, not tufted or flocked, whether or not made up.

EXPLANATORY NOTES

57.04 - Carpets and other textile floor coverings, of felt, not tufted or flocked, whether or not made up.

5704.10 - Tiles, having a maximum surface area of 0.3 m^2

5704.20 - Tiles, having a maximum surface area exceeding 0.3 m^2 but not exceeding 1 m^2

5704.90 - Other

This heading covers carpets and other textile floor coverings, of felt. For the meaning of the term “felt”, see the Explanatory Note to heading 56.02.

The heading includes :

(1) Tiles, usually of felt of wool or other animal hair.

(2) Textile floor coverings of needleloom felt, generally backed or impregnated on the underside with rubber or plastics in order to strengthen the products or give them anti-slip properties.

5704.10

- Tiles, having a maximum surface area of 0.3 m^2

5704.20

- Tiles, having a maximum surface area exceeding 0.3 m² but not exceeding 1 m²

5704.90

- Other

CLASSIFICATION OPINIONS

1. Electrically warmed carpet made of textile materials (176 cm long x 88 cm wide x 6 mm thick), consisting of two layers of needleloom felt of polyester, an S-shaped resistance wire as a heat source, and a control device. The resistance wire is enclosed between two polyester layers and the edges of the product are hemmed. It has two surface temperature settings (low : 35 °C, high : 45 °C). According to the warning notice in the user's manual and on the control device, it should be used with a covering to avoid the risk of burns. The product is designed for placing on the floor or ground to warm the user. **Application of GIRs 1 (Note 1 to Chapter 57) and 6.** *Adoption : 2015*

A Exposed surface**B** Control device



Heading 5705

Other carpets and other textile floor coverings, whether or not made up.

EXPLANATORY NOTES

57.05 - Other carpets and other textile floor coverings, whether or not made up.

This heading covers carpets and textile floor coverings, **other than** those covered by a more specific heading of this Chapter.

The heading includes :

(1) Bonded pile carpets, where the pile use surface is bonded either to a substrate or directly to an adhesive which forms the substrate. The bonding may be achieved by adhesion or heat or a combination of both or by ultrasonic welding. The pile can be bonded either to a single backing surface or between two backing surfaces, in the latter case for separation into two carpets.

(2) Nonwoven carpets, consisting of a layer of carded textile fibres crimped between grooved rollers to form loops, which may either be held in position by a thick coating of rubber, plastics, etc., which also serves as a backing, or be bonded to a backing fabric by similar adhesives.

(3) Carpets made by “flocking”, i.e., by implanting textile fibres upright in a textile backing, coated with rubber, plastics, etc.

(4) Knitted carpets and carpeting. These generally have the appearance of moquette or, sometimes, of furskins.

5705.00

Other carpets and other textile floor coverings, whether or not made up.
CLASSIFICATION OPINIONS

1. Electrically warmed carpet made of textile materials (90 cm long x 45 cm wide x 1 cm thick), consisting of two layers sandwiching an S shaped resistance wire as a heat source, and a control device.
One layer is a pile knitted fabric (100 % polyester) combined with cellular plastics made of polyurethane. The other layer is a lining which combines a nonwoven polyester layer with felt. The resistance wire is enclosed between two polyester layers and the edges of the product are hemmed. It has two surface temperature settings (low : 40 °C, high : 50 °C). The product is designed for placing on the floor or ground to warm the user. **Application of GIR 1 (Note 1 to Chapter 57).**
Adoption : 2015

A Exposed surface**B** Underside



Chapter 58

Special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery

LEGAL NOTES

Notes.

1.- This Chapter does not apply to textile fabrics referred to in Note 1 to Chapter 59, impregnated, coated, covered or laminated, or to other goods of Chapter 59.

2.- Heading 58.01 also includes woven weft pile fabrics which have not yet had the floats cut, at which stage they have no pile standing up.

3.- For the purposes of heading 58.03, “gauze” means a fabric with a warp composed wholly or in part of standing or ground threads and crossing or doup threads which cross the standing or ground threads making a half turn, a complete turn or more to form loops through which weft threads pass.

4.- Heading 58.04 does not apply to knotted net fabrics of twine, cordage or rope, of heading 56.08.

5.- For the purposes of heading 58.06, the expression “narrow woven fabrics” means :

(a) Woven fabrics of a width not exceeding 30 cm, whether woven as such or cut from wider pieces, provided with selvedges (woven, gummed or otherwise made) on both edges;

(b) Tubular woven fabrics of a flattened width not exceeding 30 cm; and

(c) Bias binding with folded edges, of a width when unfolded not exceeding 30 cm.

Narrow woven fabrics with woven fringes are to be classified in heading 58.08.

6.- In heading 58.10, the expression “embroidery” means, *inter alia*, embroidery with metal or glass thread on a visible ground of textile fabric, and sewn appliqué work of sequins, beads or ornamental motifs of textile or other materials. The heading does not apply to needlework tapestry (heading 58.05).

7.- In addition to the products of heading 58.09, this Chapter also includes articles made of metal thread and of a kind used in apparel, as furnishing fabrics or for similar purposes.

EXPLANATORY NOTES

Chapter 58

Special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery

Notes.

1.- This Chapter does not apply to textile fabrics referred to in Note 1 to Chapter 59, impregnated, coated, covered or laminated, or to other goods of Chapter 59.

2.- Heading 58.01 also includes woven weft pile fabrics which have not yet had the floats cut, at which stage they have no pile standing up.

3.- For the purposes of heading 58.03, “gauze” means a fabric with a warp composed wholly or in part of standing or ground threads and crossing or doup threads which cross the standing or ground threads making a half turn, a complete turn or more to form loops through which weft threads pass.

4.- Heading 58.04 does not apply to knotted net fabrics of twine, cordage or rope, of heading 56.08.

5.- For the purposes of heading 58.06, the expression “narrow woven fabrics” means :

(a) Woven fabrics of a width not exceeding 30 cm, whether woven as such or cut from wider pieces, provided with selvedges (woven, gummed or otherwise made) on both edges;

(b) Tubular woven fabrics of a flattened width not exceeding 30 cm; and

(c) Bias binding with folded edges, of a width when unfolded not exceeding 30 cm.

Narrow woven fabrics with woven fringes are to be classified in heading 58.08.

6.- In heading 58.10, the expression “embroidery” means, *inter alia*, embroidery with metal or glass thread on a visible ground of textile fabric, and sewn appliqué work of sequins, beads or ornamental motifs of textile or other materials. The heading does not apply to needlework tapestry (heading 58.05).

7.- In addition to the products of heading 58.09, this Chapter also includes articles made of metal thread and of a kind used in apparel, as furnishing fabrics or for similar purposes.

GENERAL

Except for **heading 58.09**, this Chapter covers a wide variety of textile products whose classification at heading level is independent of their constituent textile materials. Some of these products fall in this Chapter only if they are not “made up” in the sense of Part (II) of the General Explanatory Note to Section XI, but others are included whether or not made up.

It should be noted that, subject to the Notes of Chapter 59, gauze of heading 58.03, narrow woven fabrics of heading 58.06 and braids and ornamental trimmings in the piece of heading 58.08, impregnated, coated, covered or laminated, are **excluded** from Chapter 58 (usually **Chapter 39, 40** or **59**), whereas the other articles of this Chapter which have undergone the same treatments remain classified here, **provided** they have not thereby assumed the character of products of Chapter 39 or 40.

Heading 5801

Woven pile fabrics and chenille fabrics, other than fabrics of heading 58.02 or 58.06.

EXPLANATORY NOTES

58.01 - Woven pile fabrics and chenille fabrics, other than fabrics of heading 58.02 or 58.06 (+).

5801.10 - Of wool or fine animal hair

- Of cotton :

5801.21 - - Uncut weft pile fabrics

5801.22 - - Cut corduroy

5801.23 - - Other weft pile fabrics

5801.26 - - Chenille fabrics

5801.27 - - Warp pile fabrics

- Of man-made fibres :

5801.31 - - Uncut weft pile fabrics

5801.32 - - Cut corduroy

5801.33 - - Other weft pile fabrics

5801.36 - - Chenille fabrics

5801.37 - - Warp pile fabrics

5801.90 - Of other textile materials

(A) WOVEN PILE FABRICS, OTHER THAN FABRICS OF HEADING 58.02

Woven pile fabrics are composed of at least three series of threads : tight warp and weft forming the ground fabric and a warp or weft forming a pile. This pile consists of either tufts or loops over the whole or part of the surface; it is generally on one side only, but sometimes on both.

Warp pile fabrics (velvets, plushes, moquettes, etc.) may be produced by raising the pile warp over wires inserted in the direction of the weft. The loops thus formed are cut either during the weaving or subsequently, or occasionally left uncut for looped or uncut pile fabrics. The loops or tufts of cut pile are held in place by the weft threads.

Warp pile fabrics are also produced by weaving two fabrics face to face with a common pile warp; the two fabrics are then separated by cutting to produce two fabrics with a cut pile.

Cut weft pile fabrics (velveteens, corduroys, etc.) have a pile usually produced by weft threads which alternately pass under the warp and then float on the surface over two or more warp threads. After weaving, the portions floating on the surface are cut, the cut ends standing up to form the pile. A similar result is obtained by inserting wire parallel to the warp, the weft pile being cut during weaving. The tufts of pile are thus held in place by the warp threads.

Weft pile fabrics which have not yet had the floats cut, at which stage they have no pile standing up, are included in this heading (see Chapter Note 2).

(B) CHENILLE FABRICS

Chenille fabrics are very similar to the chenille carpets of heading 57.02; like these, their pile surface (usually on both sides) is produced by chenille yarns. They are generally manufactured by means of an additional weft of chenille yarn or by inserting chenille yarn, in different lengths and colours, into the warp during weaving of the ground fabric.

*

* *

Pile fabrics and chenille fabrics are made of various materials but silk, wool, fine animal hair, cotton and man-made fibres are most commonly used for the pile.

All these fabrics may be plain, ribbed or figured or may be embossed after weaving; figured pile fabrics include those with a surface only partly covered with pile, or with a surface of partly cut or partly looped pile (ciselé velvets) thus producing very varied designs. Woven pile fabrics imitating furskins (e.g., astrakhan, caracul or imitation leopard skins) are also classified here, but imitation furskins made, for example, by sewing or gumming in the pile are **excluded** (**heading 43.04**).

It should be noted that many of the fabrics of this heading are manufactured in the same way as the carpets of heading 57.02; they are, however, easily distinguished from carpets by the fact that, being designed primarily as furnishing or clothing fabrics and not as floor coverings, they are made with finer materials and have a much more supple ground fabric.

The heading **does not cover** :

(a) Bouclé fabrics, ratines and other fabrics which present an appearance similar to pile fabrics, but which are woven with special yarn (e.g., bouclé yarn) or produced by treatment (e.g., scraping or teasing) of normal woven fabrics (in general **Chapters 50 to 55**).

(b) Terry towelling and similar woven terry fabrics and tufted textile fabrics of **heading 58.02**.

(c) Pile, etc., fabrics within the definition of narrow woven fabrics (**heading 58.06**).

(d) Knitted fabrics or stitch-bonded goods with a cut or looped pile surface (**heading 60.01** or **56.02**, as the case may be).

(e) Pile, etc., fabrics made up within the meaning of Part (II) of the General Explanatory Note to Section XI.

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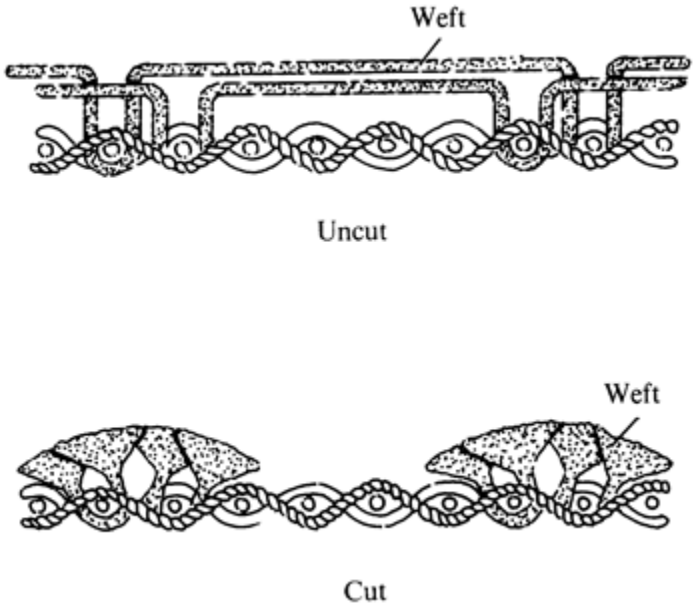
° °

Subheading Explanatory Note.

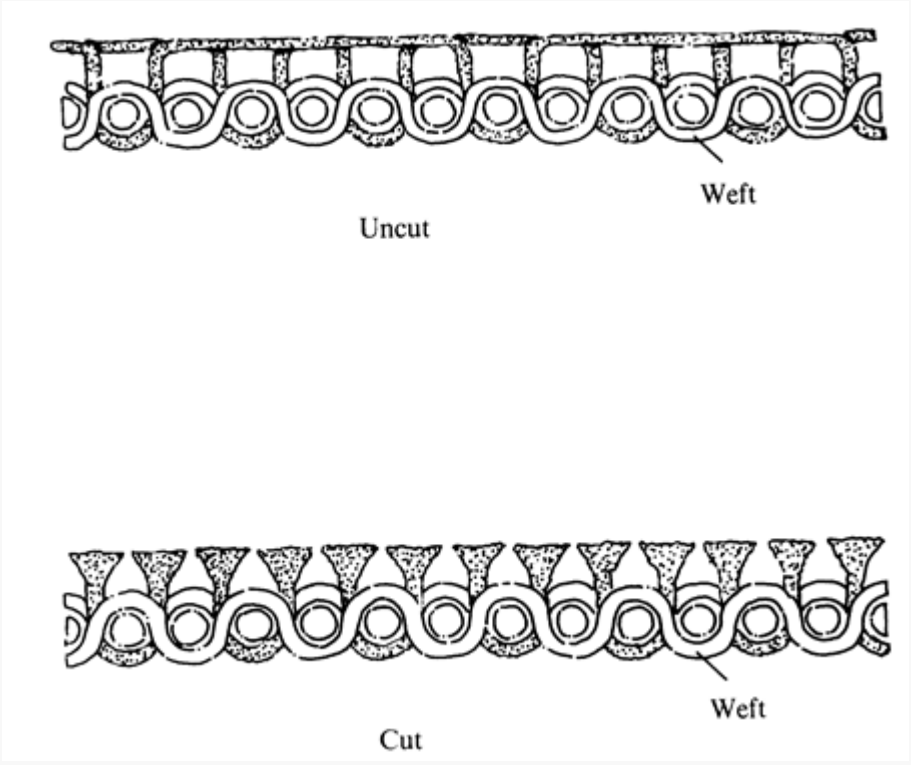
Subheadings 5801.22 and 5801.32

For the purposes of subheadings 5801.22 and 5801.32, the following illustrations of the section through the warp should be used to distinguish cut corduroy from other cut weft pile fabrics :

Corduroy :



Velveteen :



5801.10

- Of wool or fine animal hair

5801.2

- Of cotton :

5801.21

-- Uncut weft pile fabrics

5801.22

-- Cut corduroy

5801.23

-- Other weft pile fabrics

5801.26

-- Chenille fabrics

5801.27

-- Warp pile fabrics

5801.3

- Of man-made fibres :

5801.31

-- Uncut weft pile fabrics

5801.32

-- Cut corduroy

5801.33

-- Other weft pile fabrics

5801.36

-- Chenille fabrics

5801.37

-- Warp pile fabrics

5801.90

- Of other textile materials

Heading 5802

Terry towelling and similar woven terry fabrics, other than narrow fabrics of heading 58.06; tufted textile fabrics, other than products of heading 57.03.

EXPLANATORY NOTES

58.02 - Terry towelling and similar woven terry fabrics, other than narrow fabrics of heading 58.06; tufted textile fabrics, other than products of heading 57.03.

5802.10 - Terry towelling and similar woven terry fabrics, of cotton

5802.20 - Terry towelling and similar woven terry fabrics, of other textile materials

5802.30 - Tufted textile fabrics

(A) TERRY TOWELLING AND SIMILAR WOVEN TERRY FABRICS

These fabrics are those looped pile fabrics such as are used for towelling, bathrobes, beachrobes, leisure robes, toilet gloves, etc. They have a tight weft and two series of warp threads, one tight and one slack, the latter forming loops on the surface of the fabric. The proportion of the two kinds of warp threads in the fabric may differ, but usually there are the same number of ground warp threads as of pile warp threads.

The loops often appear twisted and are generally produced on both sides of the cloth, but sometimes on one only; they may sometimes be cut. The loops may cover the entire surface uniformly or form stripes, checks, diamonds or more complicated patterns. However this heading **does not cover** fabrics having pile on one side only, all of the loops of which are cut **(heading 58.01)**.

The heading also **excludes :**

(a) Terry fabrics, knitted or crocheted **(heading 60.01)**.

(b) Fabric in the piece which, by the simple process of cutting along defined lines indicated by the absence of weft threads, may be converted into separate fringed articles **(heading 63.02)**.

(B) TUFTED TEXTILE FABRICS

These fabrics are made by inserting yarns, by means of a system of needles and hooks, into a pre-existing textile ground fabric (woven, knitted or crocheted, felt, nonwoven, etc.) so as to form loops or, if the hooks are combined with a cutting device, tufts of cut pile.

Products of this heading are distinguished from the tufted carpets and floor coverings of heading 57.03 by, for example, their lack of stiffness, thickness and strength which renders them unsuitable for use as floor coverings.

Furthermore, these fabrics can be distinguished from the pile fabrics of heading 60.01, which have rows of chain stitches on the back of the fabric, by their characteristic rows of stitches having the appearance of running stitches along the length of the back of the fabric.

5802.10

- Terry towelling and similar woven terry fabrics, of cotton

5802.20

- Terry towelling and similar woven terry fabrics, of other textile materials

5802.30

- Tufted textile fabrics

Heading 5803

Gauze, other than narrow fabrics of heading 58.06.

EXPLANATORY NOTES

58.03 - Gauze, other than narrow fabrics of heading 58.06.

Gauze (sometimes known as leno weave) is defined in Note 3 to this Chapter.

In plain gauze the crossing threads run alternately to the right and left of each standing thread passing over the weft every time but crossing under the standing threads; the standing warp threads are always

on one side of the weft, and the standing warp and the weft are not interlaced but are held together by the crossing warp.

Variations can be obtained by the crossing threads crossing with each other (so-called crocheted gauze, Marly gauze), by inserting two or more weft threads together through the loops formed by the standing and crossing threads, by using two or more standing threads per crossing thread and *vice versa*, etc.

This heading also includes :

(1) Broché gauze, manufactured with an extra thread (broché thread) introduced during the weaving process to give the effect of designs on a gauze background.

(2) Fabrics comprising parts of gauze and parts woven by any other weave whatever their relative proportions. These usually have the effect of stripes running warpwise, checks or other varied designs.

Gauze is usually loosely woven and therefore lightweight; it is chiefly used for curtaining; certain varieties are manufactured into chenille yarn by cutting into narrow strips in the direction of the warp.

The different types of gauze vary greatly in appearance, and the designs produced during the weaving process are also very varied, and they should not be confused with the broché or other fabrics of **Chapters 50 to 55**, hand or machine made lace, embroidery, tulle or other net fabrics of this Chapter.

The heading **does not apply** to plain loosely woven fabrics of plain weave, such as those chiefly used for bandages and dressings; these are often called gauze but fall in **heading 30.05** (if medicated or put up in forms or packings for retail sale for medical, surgical, dental or veterinary purposes) or **Chapters 50 to 55**.

The heading also **excludes** bolting cloth (**heading 59.11**).

5803.00

Gauze, other than narrow fabrics of heading 58.06.

Heading 5804

Tulles and other net fabrics, not including woven, knitted or crocheted fabrics; lace in the piece, in strips or in motifs, other than fabrics of headings 60.02 to 60.06.

EXPLANATORY NOTES

58.04 - Tulles and other net fabrics, not including woven, knitted or crocheted fabrics; lace in the piece, in strips or in motifs, other than fabrics of headings 60.02 to 60.06 (+).

5804.10 - Tulles and other net fabrics

- Mechanically made lace :

5804.21 - - Of man-made fibres

5804.29 - - Of other textile materials

5804.30 - Hand-made lace

(I) TULLES AND OTHER NET FABRICS

These products are used for making curtains, bedspreads or similar household furnishings, veils, ladies' garments, in embroidery, etc. They are generally of silk, man-made fibres, cotton or linen.

(A) **Tulle and other bobbin-net fabrics** consist of warp threads with weft threads which twist round each warp thread and run diagonally from selvedge to selvedge, half the weft being inclined in one direction and the other half inclined in the other direction (see Figure 1). These wefts form an open mesh with the warp; the meshes may be in regular hexagonal form, square, or diamond-shaped (Neuville net). Another variety of tulle in hexagonal form (Mechlin net) consists of warp threads and a system of bobbin threads which pass longitudinally between two warp threads only (see Figure 2).

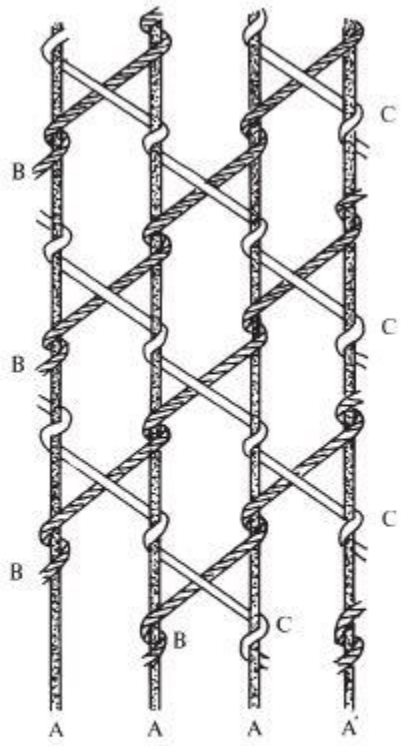


Fig. 1
TULLE
A - Warp threads
B and C - Oblique weft threads

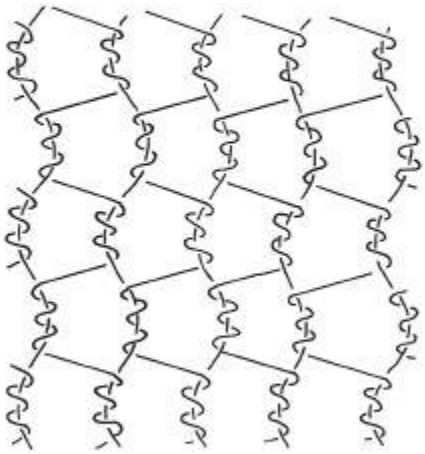


Fig. 2
MECHELIN NET

(B) **Tulle bobinot** is a special tulle composed of three series of threads : certain straight parallel warp threads as in ordinary tulle, pattern threads (so called because they produce the pattern) running alternately alongside the straight threads and temporarily away from them to another (usually

adjacent) straight thread, thus producing triangular meshes interspersed with spaces of trapezoid or other form, and crossing threads which twist round the straight warp and bind the pattern threads to it (see Figure 3). Opaque parts in the design are produced by grouping together closely a number of such triangular meshes.

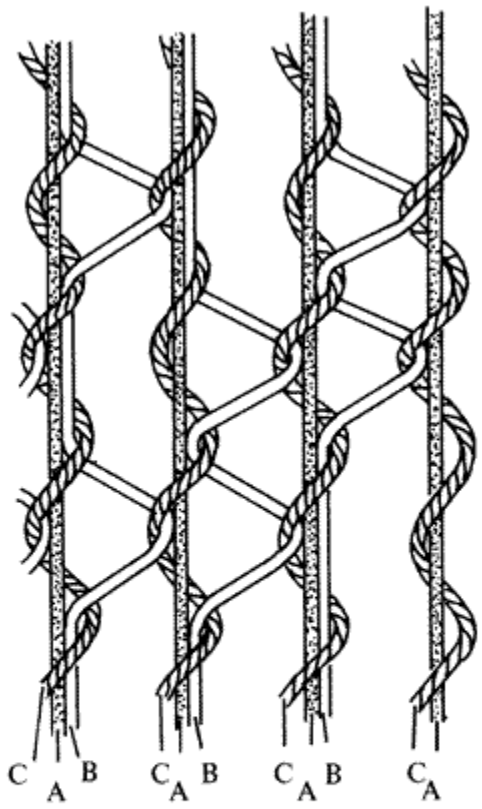


Fig. 3
TULLE BOBINOT.
A - Warp thread.
B - Pattern thread.
C - Crossing thread.

(C) **Net fabrics** have three series of threads : parallel warp threads, mesh threads and binding threads (e.g., filet net). Each mesh thread runs alternately alongside different warps forming square meshes as it passes from one to the other. The binding threads hold the fabric together by binding the mesh threads to the warp threads in certain places (see Figure 4).

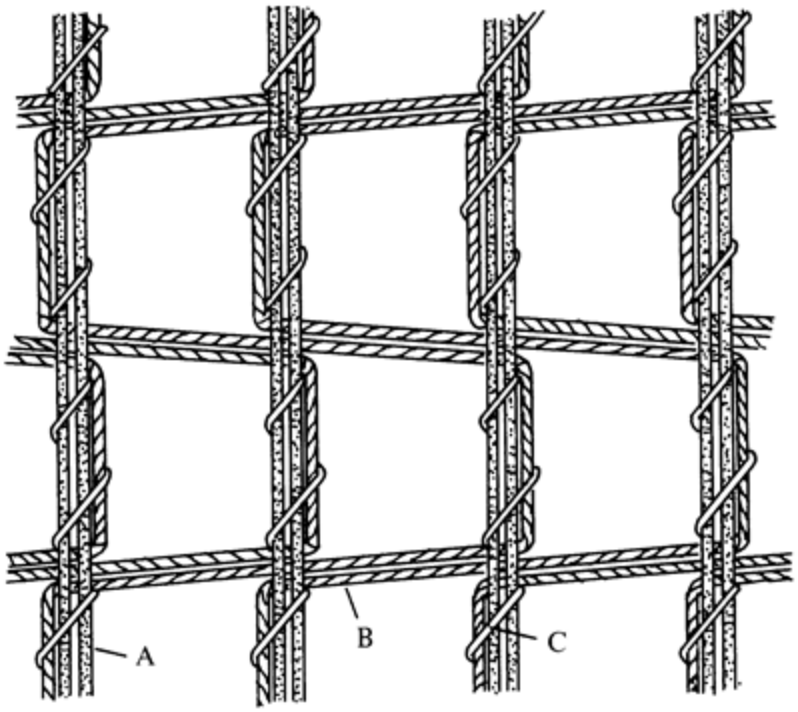


Fig. 4
PLAIN FILET NET.
A - Warp thread.
B - Mesh thread.
C - Binding thread.

(D) **Knotted net fabrics** have a uniform square or diamond shaped mesh knotted at each corner so that the threads cannot be pulled apart. They may be hand or machine made.

The heading **does not include** :

(a) Loosely woven fabrics of **Chapters 50 to 55**, and gauze of **heading 58.03**.

(b) Nets or netting of **heading 56.08**.

(c) Bolting cloth (**heading 59.11**).

(d) Knitted or crocheted fabrics of **Chapter 60**.

(e) Tulle and other net fabrics made up as indicated in Part (II) of the General Explanatory Note to Section XI.

(II) LACE

Lace is an ornamental or decorative openwork fabric in which design elements (more or less intricate) formed by the intertwisting of threads are joined either by meshes, usually of regular size and shape, forming an apparent openwork ground fabric, or by ornamental links (brides) which themselves give pattern effects. The design elements and background of mesh or brides are usually produced simultaneously but sometimes the design elements are made separately and assembled afterwards.

It is an essential characteristic of lace that the design element is not worked on a **pre-existing** ground. For the purposes of this heading the term therefore **does not extend** to products of similar appearance and, indeed, sometimes known as lace (e.g. filet lace), made by filling in or decorating the meshes of a pre-existent ground of tulle or net, or by sewn appliqué work on a ground, whether or not the ground is subsequently wholly or partly removed. Such products are classified as embroidery in **heading 58.10**, as are also true laces which have been subsequently embroidered, and encrusted lace produced by sewn appliqué work.

The heading also **excludes** openwork products of any kind produced by knitting by hand or machine (**Chapter 60**); these can be recognised usually by the characteristic knitting stitch, particularly at the solid parts.

Unlike tulles, gauzes or other loosely woven fabrics, lace does not have distinct warp and weft. It is often executed with a single thread and when more than one thread is used it fulfils the same function.

Lace may be made by hand or machine.

The principal classes of **hand-made** lace are :

(A) **Needlepoint lace**, executed with a needle on a sheet of paper or parchment bearing the design. The lace follows the outline of the pattern, its component threads lying on the paper but not piercing it; the frame threads, i.e., those forming the initial skeleton of the lace are temporarily attached to the pattern by crossing stitches in order to facilitate the work.

Needlepoint lace includes Alençon, Argentan, Venetian, etc.

(B) **Bobbin lace** (pillow lace) worked with several threads wound on bobbins and twisted together on a “pillow” or “cushion” on which the pattern is fastened and in which are temporarily inserted pins to facilitate production of the lace.

Bobbin or pillow laces include Valenciennes, Chantilly, Malines, Bruges, Duchesse, Puy, etc.

(C) **Crochet lace** (e.g., that known as Irish crochet lace). Unlike the varieties described above, crochet lace is not laid on a design or support when being made; it is made by hand with a crochet hook.

(D) **Various other kinds of lace**, more or less resembling the other varieties, e.g. :

(1) **Teneriffe lace**, made in the same manner as needlepoint lace.

(2) **Lacet work**, needlepoint lace in which certain parts are obtained by the use of lacet braid; made on a pillow or mechanically.

(3) **Tatting lace**, similar to crochet lace but with round designs and knotted by means of a shuttle.

(4) **Macramé lace**, a heavy lace made by knotting in various ways a series of threads fixed at right angles to a leading thread.

Machine-made lace is similar to hand-made lace in general appearance but, except in the case of bobbin laces, the method of interlacing the threads is different and machine-made lace is more uniform than hand-made.

Hand or machine made lace is classified here whether :

(i) **In the piece** or **in strips of any length**.

or (ii) **In the form of motifs**, i.e., individual pieces designed solely to be incorporated in, or appliqued on, other articles such as nightdresses, slips, blouses or other articles of apparel, handkerchiefs, table cloths or other furnishings.

These goods are classified in this heading whether made directly in one piece by the lace maker, or cut from larger pieces or assembled from several separate lace elements.

The heading **does not cover** articles of lace; these are classified according to their character, generally in **Chapter 62** or **63** (e.g., lace mantillas in **heading 62.14**, lace yokes and collars for women's garments in **heading 62.17**, and lace table mats in **heading 63.04**).

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° °

Subheading Explanatory Note.

Subheadings 5804.21, 5804.29 and 5804.30

Mechanically made imitations of hand-made lace, are similar in general appearance to hand-made lace but can be distinguished on the basis of the following criteria :

Mechanically made lace is often produced in fairly wide pieces which are cut into strips during the finishing process. In this case, the lace edges of the cut strips nearly always retain the stitches or parts of stitches from the openwork fabric which joined one strip to the next on the loom. These stitches or parts of stitches are found on the outside of the lace. They are usually seen where the line on the edge forms a recessed angle, i.e., where it is difficult to reach them without at the same time destroying the edge itself. The presence of these stitches or parts of stitches is a clear indication that the lace is mechanically made.

A distinction can also be made by examination of the decorative motifs of the lace, the flow of the relief (or contour) threads and of the filling-in threads. In hand-made lace, these threads can run in any direction and may in fact be returned to their original direction. In mechanically made lace, such reverse stitching is not possible; these threads can therefore slant to the right or to the left, but they must follow the progressive direction of the work.

The method of filling in the opaque parts of the design is a third factor to be borne in mind in distinguishing between hand-made lace and mechanically made lace. In hand-made lace, only the following are used :

- the lock-stitch, i.e., the scallop stitch or buttonhole stitch if it is needlepoint lace

- the cloth or gate stitch if it is bobbin lace.

The cloth stitch reproduces exactly the plain weave. In a gate stitch, the threads serve as warp threads and are divided into two superimposed series which between them form an angle of approximately 90°; the weft thread passes across this surface, passing alternately on top of one thread of the first series (top series) and under the thread(s) of the second series immediately following.

In mechanically made lace, the most widely used methods of filling are as follows :

- the cloth stitch, but with one peculiarity in that the threads which form the weft do not necessarily run from one edge of the design to the other. In some cases, they run only part of the way across and another thread meets the first to complete the section;

- a method of mounting similar to that used in obtaining the full parts in tulle bobinot (straight threads, pattern threads, tie threads);

- inserting through the net, a thread which forms with the warp threads a plain weave. In the above two procedures, the net ends at the point where the design begins, but this is not so in this case.

The following considerations can also help to distinguish hand-made lace from mechanically made lace. Indeed, in some cases such considerations provide the only means by which a distinction can be made, particularly when distinguishing between hand-made bobbin lace and mechanically made bobbin lace :

(a) Small faults or imperfections found in hand-made lace are irregularly spaced and are rarely similar in appearance, whereas in mechanically made lace they are repeated regularly, due to the action of the mechanical device used in their manufacture.

(b) The picot loops which often trim the edges of hand-made lace are always formed by the threads which make up the net, whereas they are sometimes added to mechanically made lace. In such cases they are much less firmly attached and can be pulled away without destroying the lace itself. This is not possible with hand-made lace.

(c) The method of dispatch and packing is also a means of distinguishing hand-made lace from mechanically made lace. Hand-made lace is not usually dispatched in lengths greater than 20 metres, and each piece in a consignment is generally of a different pattern. Mechanically made lace is always longer and may be as much as 500 metres in length; such consignments always include a considerable number of pieces of the same pattern.

In addition there is “mixed” lace, known as lacet lace, renaissance lace, Luxeuil lace and princess lace. The manufacture of such lace begins from a lacet (braid) obtained mechanically, which is laid flat on a tracing and follows the lines of the design. At the angles the braid is folded again so as to follow the tracing; the parts which overlap are sewn together; the ends of the cut braids are delicately sewn into place. The loops and filling-in stitches are then made with the needle.

In addition to the fact that the braid has been folded over, cut, and sewn as described above, such lace may sometimes be recognised by the gathers in the braid on the concave edges of the design.

This lace is regarded as hand-made lace.

5804.10

- Tulles and other net fabrics

5804.2

- Mechanically made lace :

5804.21

-- Of man-made fibres

5804.29

-- Of other textile materials

5804.30

- Hand-made lace

Heading 5805

Hand-woven tapestries of the type Gobelins, Flanders, Aubusson, Beauvais and the like, and needle-worked tapestries (for example, petit point, cross stitch), whether or not made up.

EXPLANATORY NOTES

58.05 - Hand-woven tapestries of the type Gobelins, Flanders, Aubusson, Beauvais and the like, and needle-worked tapestries (for example, petit point, cross stitch), whether or not made up.

This heading covers tapestries either woven by hand or needle-worked on a ground fabric (usually canvas). Their essential characteristic is that they are made in the form of panels bearing a complete, individual design, frequently of a pictorial character.

(A) HAND-WOVEN TAPESTRIES

Hand-woven tapestries are produced by stretching warp threads on a weaving loom and interlacing weft threads of different colours which cover the warp, produce the designs and also form the woven fabric.

Contrary to the procedure used for ordinary warp and weft fabrics the different coloured weft threads are no longer than are needed to produce the design, so that in general these weft threads do not cross the whole width of the fabric; thus along each line of weft the warp threads are covered by a succession of different coloured weft threads, the loose ends of the weft threads appearing on the reverse of the design. Unwoven gaps left in the warp through this method of weaving are usually reinforced by sewing.

Such tapestries include the types Gobelins, Flanders, Aubusson or Beauvais.

Tapestries produced by machine (on a Jacquard or similar loom) in imitation of these hand-woven tapestries are normal warp and weft fabrics in which the coloured weft threads run from one selvedge to the other, and are classified as **woven fabrics** in their relative headings or as **made up articles** as the case may be.

(B) NEEDLE-WORKED TAPESTRIES

Needle-worked tapestries (also known as point tapestries) are characterised by the fact that they are made with a fabric ground (usually square meshed canvas), on which the desired design is filled in by needle-work using a great many different coloured threads.

Needle-worked tapestries are sometimes over-worked with further stitches but remain in this heading and are **not** regarded as embroidery.

Contrary to the case of most embroideries of **heading 58.10**, the ground fabric (usually canvas) is completely covered except perhaps at the edges. The stitches used are differently named according to the way in which they are executed : petit point, gros point, cross stitch, double cross stitch, Gobelins stitch, etc.

*

* *

Tapestries are used mainly for furnishing purposes, as wall coverings or for upholstering chairs, etc., and are usually made of silk, wool, man-made fibres or even metallised yarn.

They remain in this heading even if hemmed, bordered, lined, etc., but if made up into articles such as evening handbags, cushions, slippers, etc., they are, of course, **excluded**.

The heading also **excludes** :

(a) Kelem, Schumacks, Karamanie and similar rugs (**heading 57.02**).

(b) Sets consisting of woven fabric and yarn for making up into tapestries (**heading 63.08**).

(c) Tapestries of an age exceeding one hundred years (**Chapter 97**).

5805.00

Hand-woven tapestries of the type Gobelins, Flanders, Aubusson, Beauvais and the like, and needle-worked tapestries (for example, petit point, cross stitch), whether or not made up.

Heading 5806

Narrow woven fabrics, other than goods of heading 58.07; narrow fabrics consisting of warp without weft assembled by means of an adhesive (bolducs).

EXPLANATORY NOTES

58.06 - Narrow woven fabrics, other than goods of heading 58.07; narrow fabrics consisting of warp without weft assembled by means of an adhesive (bolducs).

5806.10 - Woven pile fabrics (including terry towelling and similar terry fabrics) and chenille fabrics

5806.20 - Other woven fabrics, containing by weight 5 % or more of elastomeric yarn or rubber thread

- Other woven fabrics :

5806.31 - - Of cotton

5806.32 - - Of man-made fibres

5806.39 - - Of other textile materials

5806.40 - Fabrics consisting of warp without weft assembled by means of an adhesive (bolducs)

(A) NARROW WOVEN FABRICS

In accordance with Note 5 to this Chapter, this heading includes as **narrow woven fabrics** :

(1) Warp and weft fabrics in strips of a width not exceeding 30 cm, provided with selvedges (flat or tubular) on both edges. These articles are produced on special ribbon looms several ribbons often being produced simultaneously; in some cases the ribbons may be woven with wavy edges on one or both sides.

(2) Strips of a width not exceeding 30 cm, cut (or slit) from wider pieces of warp and weft fabric (whether cut (or slit) longitudinally or on the cross) and provided with false selvedges on both edges, or a normal woven selvedge on one edge and a false selvedge on the other. False selvedges are designed to prevent unravelling of a piece of cut (or slit) fabric and may, for example, consist of a row of gauze stitches woven into the wider fabric before cutting (or slitting), of a simple hem, or they may be produced by gumming the edges of strips, or by fusing the edges in the case of certain ribbons of man-made fibres. They may also be created when a fabric is treated before it is cut into strips in a manner that prevents the edges of those strips from unravelling. No demarcation between the narrow fabric and its false selvedges need be evident in that case. Strips cut (or slit) from fabric but not provided with a selvedge, either real or false, on each edge, are **excluded** from this heading and classified with ordinary woven fabrics. (As regards bias binding, see paragraph (4) below.)

(3) Seamless tubular warp and weft fabrics, of a width when flattened, not exceeding 30 cm. Fabrics consisting of strips with the edges joined to form a tube (by sewing, gumming or otherwise) are, however, **excluded** from this heading.

(4) Bias binding consisting of strips, with folded edges, of a width, when unfolded, not exceeding 30 cm, cut on the cross from warp and weft fabrics. These products are cut from wide fabrics and not provided, therefore, with a selvedge, either real or false.

The products referred to above include both ribbons and webbing as well as certain galloons having the characteristics of woven ribbons.

Ribbons are usually of silk, wool, cotton or man-made fibres, whether or not containing elastomeric yarn or rubber thread, and are used in underwear, in women’s apparel, in the manufacture of hats and fancy collars, as medal ribbons, as a decorative binding material, in furnishing, etc.

The heading also includes narrow woven fabrics made from metal thread provided such fabrics are clearly of a kind used for apparel, furnishing or similar purposes (see Chapter Note 7).

The galloons classified here are narrow ribbons; webbings are thick, strong, narrow woven fabrics, usually of cotton, flax, hemp or jute, used in saddlery, harness-making, for the manufacture of straps, belting or waist bands, chair seats, etc.

The heading also includes webbing for blinds, consisting of two tapes connected at regular intervals by narrow bands, the whole being obtained by a single, continuous weaving operation.

The goods covered by this heading are usually woven with the same weaves as the fabrics of **Chapters 50 to 55** or **heading 58.01** (velvets), and they differ from these fabrics only as regards the criteria referred to in paragraphs (1) to (4) above.

These products remain classified here when watered ("moiré"), embossed, printed, etc.

(B) BOLDUCS

This heading also covers narrow fabrics (**bolducs**) of a width usually ranging from a few mm to 1 cm, consisting of warp (parallelised yarns, monofilaments or textile fibres) without weft but assembled by means of an adhesive. These are mainly used for tying parcels; some are used for making millinery plaits.

They sometimes bear the trade name of the user printed at regular intervals. This does not affect their classification.

This heading **excludes** :

(a) Bandages, medicated or put up in forms or packings for retail sale (**heading 30.05**).

(b) Narrow woven fabrics with woven fringes, braided galloons and braids (**heading 58.08**).

(c) Narrow woven fabrics more specifically covered by other headings, e.g., those having the character of :

(1) Woven labels, badges and similar articles, in strips (**heading 58.07** or **58.10**).

(2) Wicks for lamps, stoves, lighters, candles or the like (**heading 59.08**).

(3) Textile hosepiping or similar tubing (**heading 59.09**).

(4) Transmission or conveyor belts or belting of **heading 59.10**.

(d) Impregnated, coated, covered or laminated narrow woven fabrics of **Chapter 59**, in particular narrow fabrics made of velvet impregnated with rubber, for covering weaving spindles (weaving beams) (**heading 59.11**).

(e) Narrow woven fabrics (**other than** those referred to at Part (A) (2) above) made up as described in Part (II) of the General Explanatory Note to Section XI.

(f) Slide fasteners (**heading 96.07**) and hooks and eyes or press fasteners, of base metal, fixed at intervals on tape, provided that the hooks and eyes or press fasteners give the goods their essential character (**heading 83.08** or **96.06** as the case may be).

(g) Typewriter ribbons (**heading 96.12**).

5806.10

- Woven pile fabrics (including terry towelling and similar terry fabrics) and chenille fabrics

5806.20

- Other woven fabrics, containing by weight 5 % or more of elastomeric yarn or rubber thread

5806.3

- Other woven fabrics :

5806.31

-- Of cotton

5806.32

-- Of man-made fibres

5806.39

-- Of other textile materials

5806.40

- Fabrics consisting of warp without weft assembled by means of an adhesive (bolducs)

Heading 5807

Labels, badges and similar articles of textile materials, in the piece, in strips or cut to shape or size, not embroidered.

EXPLANATORY NOTES

58.07 - Labels, badges and similar articles of textile materials, in the piece, in strips or cut to shape or size, not embroidered.

5807.10 - Woven

5807.90 - Other

Subject to the conditions specified below this heading covers :

(A) **Labels of any textile material** (including knitted). These include labels of a kind used for marking wearing apparel, household linen, mattresses, tents, soft toys, or other goods. They are utilitarian labels bearing individual inscriptions or motifs. Such labels include, *inter alia*, commercial labels bearing the trade name or trade mark of the manufacturer or the nature of the constituent textile ("silk", "viscose rayon", etc.) and labels used by private individuals (boarding school pupils, soldiers, etc.) to identify their personal property; the latter variety sometimes bear initials or figures or comprise sometimes a framed space to take a hand-written inscription.

(B) **Badges and similar articles of any textile material** (including knitted). This category includes badges, emblems, "flashes", etc., of a kind normally sewn to the outer part of wearing apparel (sporting, military, local or national badges, etc., badges bearing the names of youth associations, sailors' cap badges with the name of a ship, etc.).

The above articles are classified in this heading **only** if they fulfil the following conditions :

(1) They must not be embroidery. The inscriptions or motifs on the articles classified here are generally produced by weaving (usually broché work) or by printing.

(2) They must be in the piece, in strips (as is usually the case) or in separate units obtained by cutting to size or shape but must not be otherwise made up.

This heading **does not include** labels, badges and similar articles, which have been embroidered (**heading 58.10**) or made up otherwise than by cutting to shape or size (**heading 61.17, 62.17** or **63.07**).

5807.10

- Woven

5807.90

- Other

Heading 5808

Braids in the piece; ornamental trimmings in the piece, without embroidery, other than knitted or crocheted; tassels, pompons and similar articles.

EXPLANATORY NOTES

58.08 - Braids in the piece; ornamental trimmings in the piece, without embroidery, other than knitted or crocheted; tassels, pompons and similar articles.

5808.10 - Braids in the piece

5808.90 - Other

(A) BRAIDS IN THE PIECE; ORNAMENTAL TRIMMINGS IN THE PIECE, WITHOUT EMBROIDERY, OTHER THAN KNITTED OR CROCHETED

In addition to braids, this part of the heading covers a variety of products in the length, designed for the ornamentation or decoration of articles of apparel (e.g., ladies' garments, military uniforms, ecclesiastical vestments, theatrical costumes) or of furnishing articles (including furnishings for ships or vehicles).

They may be fitted with hooks, clasps, eyelets, rings and the like of purely accessory nature, **provided** their character as piece goods is not affected; they may also be trimmed with sequins, beads and similar accessories, **provided** these are not attached by sewn appliqué work in which case they are classified as embroidery in **heading 58.10**.

The products classified here include :

(1) **Flat or tubular braids**.

These are obtained by interlacing diagonally yarns, or the monofilament, strip and the like of Chapter 54.

In flat braid the threads run diagonally from one edge to the other in a zig-zag or more complex fashion, whereas in tubular braid they run spirally; in both cases half of the threads run in one direction and half in the other and interlace according to a fixed pattern which is usually quite simple. In some braids extra threads may be interlaced along the length of the fabric either to give firmness to the edge, or in any ordered sequence to produce pattern effects.

Braid is made on special machines known as braiding or spindle machines.

Varieties of braid include lacing (e.g., for boot or shoe laces), piping, soutache, ornamental cords, braided galloons, etc. Tubular braid may have a textile core.

Braid is used for edging or ornamenting certain articles of apparel (e.g., decorative trim and piping) or furnishing articles (e.g., tiebacks for curtains), as sheathing for electrical wiring, for the manufacture of certain shoes laces, anorak or track suit cords, cord belts for dressing gowns, etc.

Such braid differs from the plaited or braided articles of heading 56.07 on account of its looser plaiting and less compact structure.

However, the heading **excludes** braids more specifically covered by other headings and, in particular :

(a) Braids made with monofilament of which any cross-sectional dimension exceeds 1 mm or with strip and the like of a width exceeding 5 mm, of plastics or with other plaiting materials (**heading 46.01**).

(b) Twine, cordage, rope, cables and braided imitation catgut of **heading 56.07**.

(c) Braided wicks for lamps, stoves, lighters, candles or the like (**heading 59.08**).

(d) Hosepiping and similar tubing (**heading 59.09**).

(e) Transmission or conveyor belts or belting of **heading 59.10**.

(f) Articles for technical uses, of **heading 59.11** (e.g., braids of a kind used in industry as packing or lubricating material).

(g) Slide fasteners (**heading 96.07**) and hooks, eyes and press fasteners, of base metal, fixed at intervals on braided tape, provided that the hooks and eyes and press fasteners give the goods their essential character (**heading 83.08** or **96.06** as the case may be).

(2) **Milanaise and similar cord**.

These are gimped products similar to gimped yarn but with a thicker core composed of a bundle of threads or textile rovings which are twisted during the gimping process. Often they are gimped with yarns already themselves gimped. They are classified here when in the length and are used as ornamentation in made up articles, for manufacturing dressing gown girdles, curtain pulls, etc.

This group **excludes** metal wire covered with textile material, e.g. :

(a) Iron or steel wire for the manufacture of hat frames (milliners' wire) and stems of iron or steel wire for artificial flowers or hair curlers (**heading 72.17**).

(b) Insulated electric wire (**heading 85.44**).

(3) **Narrow woven fabrics with fringes (looped or cut) woven into their edges**.

These products are produced on ribbon looms, the trimming on the edges being produced by manipulation of the weft, or by the use of slack coarse warp yarns known as roquetins.

In the first case the weft does not form a selvedge with the two outer warp threads but extends beyond them to form loops; these loops are obtained by passing the weft threads round two or more strands of wire placed on the loom parallel to the warp and removed once the fabric is completed.

In the second case, slack coarse yarns are incorporated into the selvedge at intervals by certain weft threads, while wires hold them from the fabric at the intervening sections, thus forming loops.

The loops produced by these processes may be more or less widely spaced and at regular or irregular intervals. Sometimes they are cut to form a fringed edge which may subsequently be knotted or adorned with tassels, pompons, etc.

These narrow woven fabrics are chiefly used for bordering or ornamenting furnishings or articles of apparel.

Picot or purl edged ribbons and rat tooth ribbons are **excluded** (**heading 58.06**).

(4) **Other ornamental trimmings in the piece**. The heading also covers a variety of miscellaneous narrow width products in the length suitable for use in the ornamentation of apparel, furnishings, etc.

These are usually produced from ribbons or braids or the other products referred to above. They may be made by sewing or otherwise working one such product, or by assembling two or more of them together in an ornamental manner (e.g., ribbons or braids with ornamental borders or galloons or soutache braid; ribbons or braids with tassels or other ornamental effects inserted at intervals along the length, other than by appliqué embroidery work.

The heading **does not cover** knitted or crocheted ornamental trimmings of **headings 60.02** to**60.06**.

(B) TASSELS, POMPONS AND SIMILAR ARTICLES

Unlike the products of Part (A) above, these are separate individual articles and include tassels of all sizes and shapes and ornamental ends for furnishing cords, etc., for example :

(1) **Cores** (of wood or other material) covered with textile threads with the ends of these threads sometimes left hanging - large varieties may be trimmed with lace or with rows of small tassels.

(2) **Simple bundles of textile threads** folded or bound with the ends hanging loose.

(3) **Olive or nut-shaped cores** (of wood, paper, etc.) covered with textile material, sometimes with an open core allowing for use as a sliding ring.

(4) **Pompons**, i.e., short threads secured together in the middle and fluffed out in all directions.

All these articles may be provided with a loop for attachment purposes; they are of general use mainly in furnishing but also to a lesser extent for clothing. They are predominantly ornamental in character.

The heading **does not cover** individual articles other than those mentioned above.

Rosettes made of the braids and trimmings of this heading are classified in **heading 62.17** or **63.07**. Frogs, epaulettes and lanyards of the same materials are classified in **heading 62.17**, and shoe laces, corset laces, etc., of those materials, with their ends spliced or otherwise treated to prevent unravelling, as well as swordknots made of those materials, are classified in **heading 63.07**.

The textile materials used in making the products of this heading are very varied. They include silk, wool, fine animal hair, cotton, flax, man-made fibres and metallised yarn.

In addition to the exclusions already mentioned, the heading **does not include** galloons and other trimmings which are simple woven strips corresponding to the definition of narrow woven fabrics (**heading 58.06**).

5808.10

- Braids in the piece

CLASSIFCATION OPINIONS

1. "**Float cords**" for incorporation in fishing nets, consisting of a cotton braid which encloses, at each 50 cm along its length, a cork float entirely covered by the braid. *Adoption : 1957*

2. "**Sinking cords**" for incorporation in fishing nets, consisting of a cotton braid enclosing a core of fine cotton yarn to which small pieces of lead (length 9 mm, width 2 mm), are fixed at intervals of 2 mm all along the length. *Adoption : 1957*

5808.90

- Other

Heading 5809

Woven fabrics of metal thread and woven fabrics of metallised yarn of heading 56.05, of a kind used in apparel, as furnishing fabrics or for similar purposes, not elsewhere specified or included.

EXPLANATORY NOTES

58.09 - Woven fabrics of metal thread and woven fabrics of metallised yarn of heading 56.05, of a kind used in apparel, as furnishing fabrics or for similar purposes, not elsewhere specified or included.

This heading covers woven fabrics (as defined in Part (I) (C) of the General Explanatory Note to Section XI) of the metallised yarns of heading 56.05, and also woven fabrics of the metal threads of

Section XIV or XV, **provided** they are fabrics of a kind used for clothing, furnishing or similar purposes, and are not specified or included elsewhere, in particular in any of the preceding headings of this Chapter.

Fabrics containing metal thread or metallised yarns together with other textile yarns are classified here **provided** the metal thread or metallised yarn exceeds the weight of any other textile. For this purpose the metallised yarn is taken as a single textile material and its weight taken as the aggregate of the weight of the textile fibres and metal it contains (see Part (I) (A) of the General Explanatory Note to Section XI).

The heading **excludes** woven fabrics **not** of a kind used for clothing, furnishing or similar purposes, e.g., wire gauze or woven cloth of iron, steel, copper, aluminium, precious metals, etc. (**headings 71.15**, **73.14**, **74.19**, **76.16**, etc.).

5809.00

Woven fabrics of metal thread and woven fabrics of metallised yarn of heading 56.05, of a kind used in apparel, as furnishing fabrics or for similar purposes, not elsewhere specified or included.

Heading 5810

Embroidery in the piece, in strips or in motifs.

EXPLANATORY NOTES

58.10 - Embroidery in the piece, in strips or in motifs (+).

5810.10 - Embroidery without visible ground

- Other embroidery :

5810.91 - - Of cotton

5810.92 - - Of man-made fibres

5810.99 - - Of other textile materials

Embroidery is obtained by working with embroidering threads on a pre-existing ground of tulle, net, velvet, ribbon, knitted or crocheted fabric, lace or woven fabric, or of felt or nonwovens, in order to produce an ornamental effect on that ground. The embroidery threads are usually of textiles, but the heading also includes those executed with other materials (for example, metal, glass or raffia). The ground fabric usually forms part of the completed embroidery, but in certain cases it is removed (e.g., chemically or by cutting) after being embroidered and only the design remains. Certain embroidery is not made with embroidery threads but with strips or braids.

Thus the manufacture starting with a **pre-existing** ground fabric distinguishes embroidery from lace, and lace should not be confused with embroidery from which the ground fabric has been eliminated after execution. Neither should embroidery be confused with woven fabrics bearing designs produced by broché threads during the weaving process (plumetis and other broché work). Features distinguishing embroidery from these other products will be found later in this Explanatory Note.

Embroidery may be hand or machine made. Hand-made embroidery is of comparatively small dimensions. Machine-made embroidery, on the other hand, is very often in long lengths.

The embroidery classified here comprises mainly the following three groups :

(I) EMBROIDERY WITHOUT VISIBLE GROUND

This is embroidery in which the ground fabric has been eliminated (e.g., by a chemical process, by cutting out). Thus the material consists entirely of the embroidered designs.

Since it has no background certain machine embroidery of this type might be confused with lace of heading 58.04 but can, however, be distinguished by taking into account the following points :

(A) Whereas lace is made up of a single continuous thread or by the interlacing of two or more continuous threads with the same functions, and generally has the same appearance on both sides, machine embroidery of this kind comprises two threads with different functions; one, the embroidery thread, the other a shuttle thread underneath the fabric, the latter usually finer than the former. Thus the right and wrong sides of the embroidery appear different, the right side showing a certain relief whereas the wrong side is flat.

(B) The edges of cut out embroidery often show small ends of the ground fabric threads which have not been completely eliminated.

(II) EMBROIDERY WITH THE GROUND RETAINED AFTER EMBROIDERING

This is embroidery in which the embroidering thread does not usually cover the whole of the ground fabric, but appears in the form of patterns on the surface or around its edges. The stitches used are varied and include running stitch, chain-stitch, back or lock-stitch, herring-bone stitch, *point de poste*, seed-stitch, loop-stitch, buttonhole stitch. As a rule the entire design can only be seen on the right side of the fabric. Many varieties of embroidery have small holes or openwork produced by cutting, by boring the ground fabric with a stiletto or by withdrawing certain warp or weft threads (or both) from the ground fabric and then finishing or embellishing the fabrics with embroidery stitches. This adds lightness to the embroidery or may even constitute its principal attraction; examples are broderie anglaise and drawn thread work.

Materials which have been submitted **only** to the simple process of withdrawing the threads are **excluded** from this heading.

In certain kinds of embroidery the desired design is first outlined or filled in with a padding thread to give the embroidered design greater relief.

Some varieties of machine-made embroidery, in particular satin stitch embroidery and certain embroidered muslins, appear very similar to broché muslins and other broché fabrics (e.g., plumetis) classified in **Chapters 50 to 55**. They can be distinguished, however, by the following characteristics arising from their method of manufacture. In broché fabrics, since the designs are produced by broché threads introduced during the course of the weaving process, each item of a row of design is always between exactly the same weft threads or exactly the same warp threads of the ground fabric; in embroidered fabrics, on the contrary, the ground fabric is woven before the designs are produced on the surface. In order to obtain these designs, the ground fabric is stretched on an embroidery machine, so the tension and position of the fabric cannot be sufficiently perfect for the needles of the machine to insert all the corresponding parts of the embroidery exactly between the same weft or warp threads of the ground fabric. Moreover, the needles often pierce the threads of the ground fabric, which cannot happen in broché fabrics.

These distinguishing features of broché fabrics and embroidered fabrics can be seen on fraying up the edges of the design.

(III) APPLIQUE WORK

This consists of a ground of textile fabric or felt on which are sewn, by embroidery or ordinary stitches :

(A) Beads, sequins or similar ornamental accessories; these accessories are generally made of glass, gelatin, metal or wood, and are sewn so as to produce a pattern or a scattered design on the ground fabric.

(B) Ornamental motifs of textile or other materials. These motifs are usually a textile fabric (including lace), of a texture different from that of the ground fabric and cut in various patterns which are sewn to the ground fabric; in certain cases, the ground fabric is removed at the places covered by the applied motif.

(C) Braid, chenille yarn or other trimmings, etc., in the form of a design on the ground fabric.

All varieties of embroidery described remain within this heading when in the following forms :

(1) **In the piece or in strips of various widths**. These pieces or strips may bear a series of identical designs, whether or not intended for subsequent separation to be made up into finished articles (e.g., strips of embroidered labels for marking articles of apparel, or pieces embroidered at regular intervals intended to be cut up and made up into bibs).

(2) **In the form of motifs**, i.e., individual pieces of embroidered design serving no other function than to be incorporated or appliquéd as elements of embroidery in, for example, underwear or articles of apparel or furnishings. They may be cut to any shape, backed or otherwise assembled. They include badges, emblems, “flashes”, initials, numbers, stars, national or sporting insignia, etc.

The heading **does not cover** :

(a) Embroidery on non-textile materials (for example, leather, wickerwork, plastics, cardboard).

(b) Needle-worked tapestries (**heading 58.05**).

(c) Sets consisting of woven fabric and yarn for making up into embroidered tablecloths or serviettes, or similar articles (**heading 63.08**).

(d) Embroidery (**other than** motifs) made up within the meaning of Part (II) of the General Explanatory Note to Section XI, whether or not in the form of finished articles ready for use. Also individual articles of embroidery, completely finished, ready for use as such, which are embroidered directly in their final shape without any further fabrication. This wide range of articles is classified as made up articles (e.g., **Chapter 61, 62, 63** or **65**) and includes, for example, handkerchiefs, bibs, cuffs, collars, bodices, dresses, tray-cloths, table-centres, mantlepiece covers, table-mats and curtains.

(e) Embroidery with glass thread without visible ground (**heading 70.19**).

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Subheading Explanatory Note.

Subheading 5810.10

This subheading **does not include** broderie anglaise.

5810.10

- Embroidery without visible ground

5810.9

- Other embroidery :

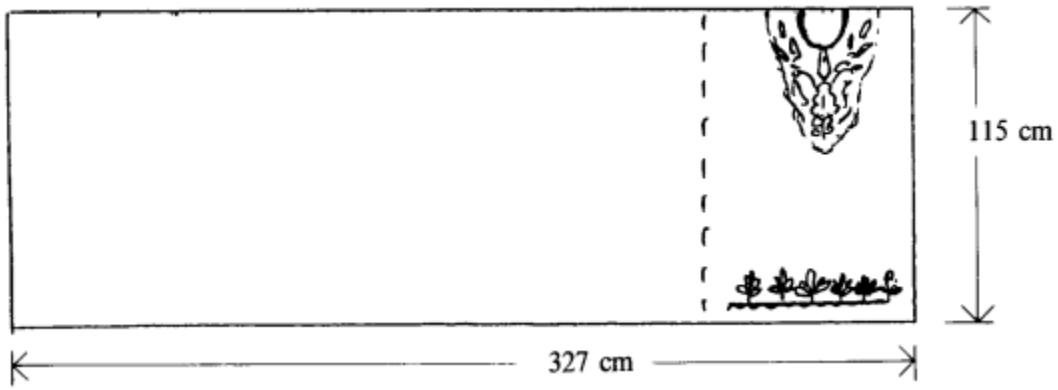
5810.91

-- Of cotton

CLASSIFICATION OPINIONS

1. **Embroidery** width 2.5 to 11.5 cm, worked on a ground of two differently coloured woven fabrics laid edge to edge and held together throughout their length because the embroidery overlaps each.
   Adoption : 1989

2. **Embroidered piece of woven fabric,** rectangular, not made up in any way. This piece of fabric forms part of a set which also includes a scarf of embroidered woven fabric, made up and ready for use (directly finished by embroidering). The two articles are presented packed for retail sale and the piece of fabric is intended to be made up into more than one garment.
   See also Opinion 6214.10 to 6214.90/1.
   Adoption : 1989



5810.92

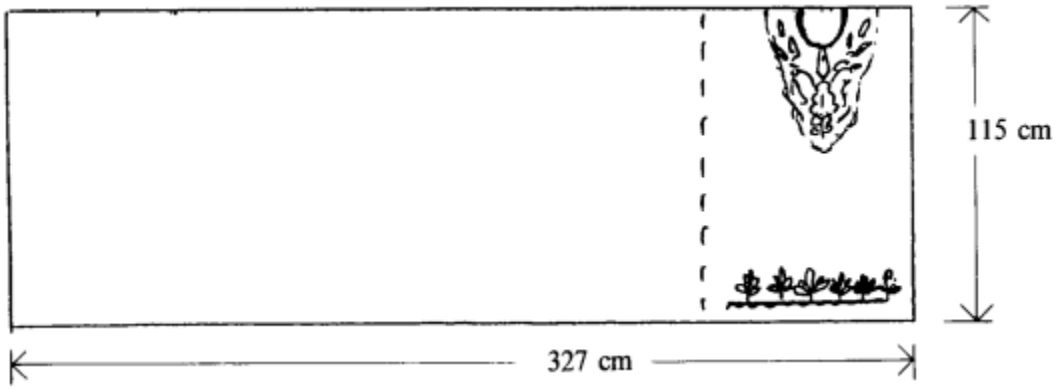
-- Of man-made fibres

CLASSIFICATION OPINIONS

1. **Embroidery** width 2.5 to 11.5 cm, worked on a ground of two differently coloured woven fabrics laid edge to edge and held together throughout their length because the embroidery overlaps

each.
Adoption : 1989

2. **Embroidered piece of woven fabric,** rectangular, not made up in any way. This piece of fabric forms part of a set which also includes a scarf of embroidered woven fabric, made up and ready for use (directly finished by embroidering). The two articles are presented packed for retail sale and the piece of fabric is intended to be made up into more than one garment.
See also Opinion 6214.10 to 6214.90/1.
Adoption : 1989

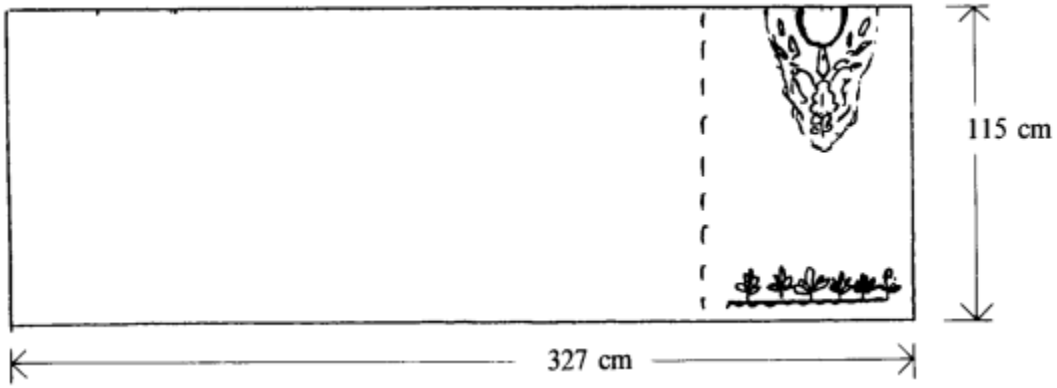


5810.99

-- Of other textile materials
CLASSIFICATION OPINIONS

1. **Embroidery** width 2.5 to 11.5 cm, worked on a ground of two differently coloured woven fabrics laid edge to edge and held together throughout their length because the embroidery overlaps each.
Adoption : 1989

2. **Embroidered piece of woven fabric,** rectangular, not made up in any way. This piece of fabric forms part of a set which also includes a scarf of embroidered woven fabric, made up and ready for use (directly finished by embroidering). The two articles are presented packed for retail sale and the piece of fabric is intended to be made up into more than one garment.
See also Opinion 6214.10 to 6214.90/1.
Adoption : 1989



Heading 5811

Quilted textile products in the piece, composed of one or more layers of textile materials assembled with padding by stitching or otherwise, other than embroidery of heading 58.10.

EXPLANATORY NOTES

58.11 - Quilted textile products in the piece, composed of one or more layers of textile materials assembled with padding by stitching or otherwise, other than embroidery of heading 58.10.

This heading covers textile products in the piece consisting of :

(1) a layer of fabric, normally knitted or woven or of nonwovens, and a layer of padding material (of textile fibres frequently in the form of a web, of felt, of cellulose wadding, of foam plastics or of foam rubber, for example), or

(2) two layers of fabric, normally knitted or woven or of nonwovens, or of combinations thereof, separated by a layer of padding.

These layers are usually held together by needling or stitching (including stitch-bonding) either with straight rows of stitches or by stitching in a decorative pattern, **provided** the stitches are used principally to quilt and do not constitute designs giving the product the character of embroidery. They may also be held together by knotted ties, or by adhesive, by heat bonding or other means, provided the product also has a quilted effect, that is, has a raised or puffed effect similar to quilting by stitching, needling or stitch-bonding.

The products of this heading may be impregnated, coated or covered, or the fabrics used in their production may be impregnated, coated or covered.

These materials are commonly used in the manufacture of quilted garments, bedding or bedspreads, mattress pads, clothing, curtains, place-mats, underpads (silencers) for table linen, etc.

The heading **does not cover** :

(a) Plastic sheets quilted, whether by stitching or heat sealing, to a padded core (**Chapter 39**).

(b) Stitches or quilted textile products in which the stitches constitute designs giving them the character of embroidery (**heading 58.10**).

(c) **Made up** goods of this Section (see Section Note 7).

(d) Articles of bedding or similar furnishing of **Chapter 94**, padded or internally fitted.

5811.00

Quilted textile products in the piece, composed of one or more layers of textile materials assembled with padding by stitching or otherwise, other than embroidery of heading 58.10.

Chapter 59

Impregnated, coated, covered or laminated textile fabrics; textile articles of a kind suitable for industrial use

LEGAL NOTES

Notes.

1.- Except where the context otherwise requires, for the purposes of this Chapter the expression "textile fabrics" applies only to the woven fabrics of Chapters 50 to 55 and headings 58.03 and 58.06, the braids and ornamental trimmings in the piece of heading 58.08 and the knitted or crocheted fabrics of headings 60.02 to 60.06.

2.- Heading 59.03 applies to :

(a) Textile fabrics, impregnated, coated, covered or laminated with plastics, whatever the weight per square metre and whatever the nature of the plastic material (compact or cellular), other than :

(1) Fabrics in which the impregnation, coating or covering cannot be seen with the naked eye (usually Chapters 50 to 55, 58 or 60); for the purpose of this provision, no account should be taken of any resulting change of colour;

(2) Products which cannot, without fracturing, be bent manually around a cylinder of a diameter of 7 mm, at a temperature between 15 °C and 30 °C (usually Chapter 39);

(3) Products in which the textile fabric is either completely embedded in plastics or entirely coated or covered on both sides with such material, provided that such coating or covering can be seen with the naked eye with no account being taken of any resulting change of colour (Chapter 39);

(4) Fabrics partially coated or partially covered with plastics and bearing designs resulting from these treatments (usually Chapters 50 to 55, 58 or 60);

(5) Plates, sheets or strip of cellular plastics, combined with textile fabric, where the textile fabric is present merely for reinforcing purposes (Chapter 39); or

(6) Textile products of heading 58.11;

(b) Fabrics made from yarn, strip or the like, impregnated, coated, covered or sheathed with plastics, of heading 56.04.

3.- For the purposes of heading 59.03, "textile fabrics laminated with plastics" means products made by the assembly of one or more layers of fabrics with one or more sheets or film of plastics which are combined by any process that bonds the layers together, whether or not the sheets or film of plastics are visible to the naked eye in the crosssection.

4.- For the purposes of heading 59.05, the expression "textile wall coverings" napplies to products in rolls, of a width of not less than 45 cm, suitable for wall or ceiling decoration, consisting of a textile surface which has been fixed on a backing or has been treated on the back (impregnated or coated to permit pasting).

This heading does not, however, apply to wall coverings consisting of textile flock or dust fixed directly on a backing of paper (heading 48.14) or on a textile backing (generally heading 59.07).

5.- For the purposes of heading 59.06, the expression “rubberised textile fabrics” means :

(a) Textile fabrics impregnated, coated, covered or laminated with rubber,

(i) Weighing not more than 1,500 g/m^2; or

(ii) Weighing more than 1,500 g/m^2 and containing more than 50 % by weight of textile material;

(b) Fabrics made from yarn, strip or the like, impregnated, coated, covered or sheathed with rubber, of heading 56.04; and

(c) Fabrics composed of parallel textile yarns agglomerated with rubber, irrespective of their weight per square metre.

This heading does not, however, apply to plates, sheets or strips of cellular rubber, combined with textile fabric, where the textile fabric is present merely for reinforcing purposes (Chapter 40), or textile products of heading 58.11.

6.- Heading 59.07 does not apply to :

(a) Fabrics in which the impregnation, coating or covering cannot be seen with the naked eye (usually Chapters 50 to 55, 58 or 60); for the purpose of this provision, no account should be taken of any resulting change of colour;

(b) Fabrics painted with designs (other than painted canvas being theatrical scenery, studio back-cloths or the like);

(c) Fabrics partially covered with flock, dust, powdered cork or the like and bearing designs resulting from these treatments; however, imitation pile fabrics remain classified in this heading;

(d) Fabrics finished with normal dressings having a basis of amylaceous or similar substances;

(e) Wood veneered on a backing of textile fabrics (heading 44.08);

(f) Natural or artificial abrasive powder or grain, on a backing of textile fabrics (heading 68.05);

(g) Agglomerated or reconstituted mica, on a backing of textile fabrics (heading 68.14); or

(h) Metal foil on a backing of textile fabrics (generally Section XIV or XV).

7.- Heading 59.10 does not apply to :

(a) Transmission or conveyor belting, of textile material, of a thickness of less than 3 mm; or

(b) Transmission or conveyor belts or belting of textile fabric impregnated, coated, covered or laminated with rubber or made from textile yarn or cord impregnated, coated, covered or sheathed with rubber (heading 40.10).

8.- Heading 59.11 applies to the following goods, which do not fall in any other heading of Section XI :

(a) Textile products in the piece, cut to length or simply cut to rectangular (including square) shape (other than those having the character of the products of headings 59.08 to 59.10), the following only :

(i) Textile fabrics, felt and felt-lined woven fabrics, coated, covered or laminated with rubber, leather or other material, of a kind used for card clothing, and similar fabrics of a kind used for other technical purposes, including narrow fabrics made of velvet impregnated with rubber, for covering weaving spindles (weaving beams);

(ii) Bolting cloth;

(iii) Filtering or straining cloth of a kind used in oil presses or the like, of textile material or of human hair;

(iv) Flat woven textile fabrics with multiple warp or weft, whether or not felted, impregnated or coated, of a kind used in machinery or for other technical purposes;

(v) Textile fabrics reinforced with metal, of a kind used for technical purposes;

(vi) Cords, braids and the like, whether or not coated, impregnated or reinforced with metal, of a kind used in industry as packing or lubricating materials;

(b) Textile articles (other than those of headings 59.08 to 59.10) of a kind used for technical purposes (for example, textile fabrics and felts, endless or fitted with linking devices, of a kind used in paper-making or similar machines (for example, for pulp or asbestos-cement), gaskets, washers, polishing discs and other machinery parts).

EXPLANATORY NOTES

Chapter 59

Impregnated, coated, covered or laminated textile fabrics; textile articles of a kind suitable for industrial use

Notes.

1.- Except where the context otherwise requires, for the purposes of this Chapter the expression “textile fabrics” applies only to the woven fabrics of Chapters 50 to 55 and headings 58.03 and 58.06, the braids and ornamental trimmings in the piece of heading 58.08 and the knitted or crocheted fabrics of headings 60.02 to 60.06.

2.- Heading 59.03 applies to :

(a) Textile fabrics, impregnated, coated, covered or laminated with plastics, whatever the weight per square metre and whatever the nature of the plastic material (compact or cellular), other than :

(1) Fabrics in which the impregnation, coating or covering cannot be seen with the naked eye (usually Chapters 50 to 55, 58 or 60); for the purpose of this provision, no account should be taken of any resulting change of colour;

(2) Products which cannot, without fracturing, be bent manually around a cylinder of a diameter of 7 mm, at a temperature between 15 °C and 30 °C (usually Chapter 39);

(3) Products in which the textile fabric is either completely embedded in plastics or entirely coated or covered on both sides with such material, provided that such coating or covering can be seen with the naked eye with no account being taken of any resulting change of colour (Chapter 39);

(4) Fabrics partially coated or partially covered with plastics and bearing designs resulting from these treatments (usually Chapters 50 to 55, 58 or 60);

(5) Plates, sheets or strip of cellular plastics, combined with textile fabric, where the textile fabric is present merely for reinforcing purposes (Chapter 39); or

(6) Textile products of heading 58.11;

(b) Fabrics made from yarn, strip or the like, impregnated, coated, covered or sheathed with plastics, of heading 56.04.

3.- For the purposes of heading 59.03, “textile fabrics laminated with plastics” means products made by the assembly of one or more layers of fabrics with one or more sheets or film of plastics which are combined by any process that bonds the layers together, whether or not the sheets or film of plastics are visible to the naked eye in the crosssection.

4.- For the purposes of heading 59.05, the expression “textile wall coverings” napplies to products in rolls, of a width of not less than 45 cm, suitable for wall or ceiling decoration, consisting of a textile surface which has been fixed on a backing or has been treated on the back (impregnated or coated to permit pasting).

This heading does not, however, apply to wall coverings consisting of textile flock or dust fixed directly on a backing of paper (heading 48.14) or on a textile backing (generally heading 59.07).

5.- For the purposes of heading 59.06, the expression “rubberised textile fabrics” means :

(a) Textile fabrics impregnated, coated, covered or laminated with rubber,

(i) Weighing not more than 1,500 g/m^2; or

(ii) Weighing more than 1,500 g/m^2 and containing more than 50 % by weight of textile material;

(b) Fabrics made from yarn, strip or the like, impregnated, coated, covered or sheathed with rubber, of heading 56.04; and

(c) Fabrics composed of parallel textile yarns agglomerated with rubber, irrespective of their weight per square metre.

This heading does not, however, apply to plates, sheets or strips of cellular rubber, combined with textile fabric, where the textile fabric is present merely for reinforcing purposes (Chapter 40), or textile products of heading 58.11.

6.- Heading 59.07 does not apply to :

(a) Fabrics in which the impregnation, coating or covering cannot be seen with the naked eye (usually Chapters 50 to 55, 58 or 60); for the purpose of this provision, no account should be taken of any resulting change of colour;

(b) Fabrics painted with designs (other than painted canvas being theatrical scenery, studio back-cloths or the like);

(c) Fabrics partially covered with flock, dust, powdered cork or the like and bearing designs resulting from these treatments; however, imitation pile fabrics remain classified in this heading;

(d) Fabrics finished with normal dressings having a basis of amylaceous or similar substances;

(e) Wood veneered on a backing of textile fabrics (heading 44.08);

(f) Natural or artificial abrasive powder or grain, on a backing of textile fabrics (heading 68.05);

(g) Agglomerated or reconstituted mica, on a backing of textile fabrics (heading 68.14); or

(h) Metal foil on a backing of textile fabrics (generally Section XIV or XV).

7.- Heading 59.10 does not apply to :

(a) Transmission or conveyor belting, of textile material, of a thickness of less than 3 mm; or

(b) Transmission or conveyor belts or belting of textile fabric impregnated, coated, covered or laminated with rubber or made from textile yarn or cord impregnated, coated, covered or sheathed with rubber (heading 40.10).

8.- Heading 59.11 applies to the following goods, which do not fall in any other heading of Section XI :

(a) Textile products in the piece, cut to length or simply cut to rectangular (including square) shape (other than those having the character of the products of headings 59.08 to 59.10), the following only :

(i) Textile fabrics, felt and felt-lined woven fabrics, coated, covered or laminated with rubber, leather or other material, of a kind used for card clothing, and similar fabrics of a kind used

for other technical purposes, including narrow fabrics made of velvet impregnated with rubber, for covering weaving spindles (weaving beams);

(ii) Bolting cloth;

(iii) Filtering or straining cloth of a kind used in oil presses or the like, of textile material or of human hair;

(iv) Flat woven textile fabrics with multiple warp or weft, whether or not felted, impregnated or coated, of a kind used in machinery or for other technical purposes;

(v) Textile fabrics reinforced with metal, of a kind used for technical purposes;

(vi) Cords, braids and the like, whether or not coated, impregnated or reinforced with metal, of a kind used in industry as packing or lubricating materials;

(b) Textile articles (other than those of headings 59.08 to 59.10) of a kind used for technical purposes (for example, textile fabrics and felts, endless or fitted with linking devices, of a kind used in paper-making or similar machines (for example, for pulp or asbestos-cement), gaskets, washers, polishing discs and other machinery parts).

Heading 5901

Textile fabrics coated with gum or amylaceous substances, of a kind used for the outer covers of books or the like; tracing cloth; prepared painting canvas; buckram and similar stiffened textile fabrics of a kind used for hat foundations.

EXPLANATORY NOTES

59.01 - Textile fabrics coated with gum or amylaceous substances, of a kind used for the outer covers of books or the like; tracing cloth; prepared painting canvas; buckram and similar stiffened textile fabrics of a kind used for hat foundations.

5901.10 - Textile fabrics coated with gum or amylaceous substances, of a kind used for the outer covers of books or the like

5901.90 - Other

(1) **Textile fabrics coated with gum or amylaceous substances, of a kind used for the outer covers of books or the like.**

These are generally plain weave woven fabrics, usually of cotton, linen or man-made fibres, heavily coated with gum or amylaceous substances (e.g., starch), of a kind used in the manufacture of book outer covers, boxes, spectacle or cutlery cases, knife sheaths, etc.

They may be unbleached, bleached, dyed or printed and the surface is often goffered, pleated, shagreened (given a rough surface), embossed or otherwise worked.

Fabrics for similar uses, impregnated or coated with plastics (e.g., imitation leathers) are **excluded** (**heading 59.03**).

(2) **Tracing cloth**.

Tracing cloths are fine close woven fabrics, usually of cotton or linen, which have been treated (e.g., with a solution of natural resin) so as to be smooth surfaced and more or less transparent and suitable for tracing by architects, draughtsmen, etc.

(3) **Prepared painting canvas**.

Prepared painting canvas, usually of linen, hemp or cotton, sized and then coated on one surface with a mixture of linseed oil with other substances (e.g., zinc oxide). It is usually in pieces of a size suitable for use stretched on frames, but remains classified here even if backed with wood or cardboard.

(4) **Buckram and similar stiffened textile fabrics of a kind used for hat foundations**.

These are stiffened textile fabrics made by impregnating lightweight open textile fabrics with adhesives and fillers (e.g., with glue or amylaceous substances mixed with kaolin). Certain varieties of buckram or similar fabrics are made by pasting together two such stiffened fabrics. These fabrics are used mainly in the manufacture of the hat foundations of heading 65.07.

Fabrics for similar uses, impregnated or coated with plastics, are **excluded** (**heading 59.03**).

The heading **does not cover** the products described in paragraphs (1), (2) and (4) above when made up as described in Part (II) of the General Explanatory Note to Section XI.

5901.10

- Textile fabrics coated with gum or amylaceous substances, of a kind used for the outer covers of books or the like

5901.90

- Other

Heading 5902

Tyre cord fabric of high tenacity yarn of nylon or other polyamides, polyesters or viscose rayon.

EXPLANATORY NOTES

59.02 - Tyre cord fabric of high tenacity yarn of nylon or other polyamides, polyesters or viscose rayon.

5902.10 - Of nylon or other polyamides

5902.20 - Of polyesters

5902.90 - Other

This heading covers tyre cord fabric, whether or not dipped or impregnated with rubber or plastics.

These fabrics are used in the manufacture of tyres and consist of a warp of parallel filament yarns, held in place, at specific distances, by weft yarns. The warp always consists of high tenacity yarns of nylon or other polyamides, polyesters or viscose rayon, while the weft, widely-spaced and intended

solely to hold the warp in place, may consist of other yarns. For the description of high tenacity yarn, see Note 6 to Section XI.

The heading **does not cover** other woven fabrics used in the manufacture of tyres nor fabrics of yarns which do not meet the specification of Note 6 to Section XI (**Chapter 54** or **heading 59.03** or **59.06**, as the case may be).

5902.10

- Of nylon or other polyamides

5902.20

- Of polyesters

5902.90

- Other

Heading 5903

Textile fabrics impregnated, coated, covered or laminated with plastics, other than those of heading 59.02.

EXPLANATORY NOTES

59.03 - Textile fabrics impregnated, coated, covered or laminated with plastics, other than those of heading 59.02.

5903.10 - With poly(vinyl chloride)

5903.20 - With polyurethane

5903.90 - Other

This heading covers textile fabrics which have been impregnated, coated, covered or laminated with plastics (e.g., poly(vinyl chloride)).

Such products are classified here whatever their weight per m^2 and whatever the nature of the plastic component (compact or cellular), **provided** :

(1) That, in the case of impregnated, coated or covered fabrics, the impregnation, coating or covering can be seen with the naked eye otherwise than by a resulting change in colour.

Textile fabrics in which the impregnation, coating or covering cannot be seen with the naked eye or can be seen only by reason of a resulting change in colour usually fall in **Chapters 50 to 55**, **58** or **60**. Examples of such fabrics are those impregnated with substances designed solely to render them crease-proof, moth-proof, unshrinkable or waterproof (e.g., waterproof gabardines and poplins). Textile fabrics partially coated or partially covered with plastics and bearing designs resulting from these treatments are also classified in **Chapters 50 to 55**, **58** or **60**.

(2) That the products are not rigid, i.e., they can, without fracturing, be bent manually around a cylinder of a diameter of 7 mm, at a temperature between 15 °C and 30 °C.

(3) That the textile fabric is not completely embedded in, nor coated or covered on both sides with, plastics.

Products not meeting the requirements of subparagraph (2) or (3) above usually fall in **Chapter 39**. However, textile fabric coated or covered on both sides with plastics where the coating or covering cannot be seen with the naked eye, or can be seen only by reason of a resulting change in colour, usually falls in **Chapters 50 to 55**, **58** or **60**. Except in the case of textile products of heading 58.11, textile fabrics combined with plates, sheets or strip of cellular plastics, where the textile fabric is present merely for reinforcing purposes, are also classified in **Chapter 39** (see the General Explanatory Note to Chapter 39, part entitled "**Plastics and textile combinations**", penultimate paragraph).

This heading also covers "textile fabrics laminated with plastics" as defined in Note 3 to this Chapter.

The laminated fabrics of this heading should not be confused with fabrics which are simply assembled in layers by means of a plastic adhesive (generally fall in **Chapters 50 to 55**).

In many of the textile fabrics classified here, the plastic material, usually coloured, forms a surface layer which may be smooth or be embossed to simulate, e.g., the grain of leather ("leathercloth").

This heading also covers dipped fabrics (**other than** those of **heading 59.02**), impregnated to improve their adhesion to rubber, and textile fabrics which are spattered by spraying with visible particles of thermoplastic material and are capable of providing a bond to other fabrics or materials on the application of heat and pressure.

This heading also includes textile fabrics made from yarn, strip or the like, impregnated, coated, covered or sheathed with plastics, of heading 56.04.

The fabrics of this heading are used for a variety of purposes including furnishing materials, the manufacture of handbags and travel goods, garments, slippers, toys, etc., in book binding, as adhesive tapes, in the manufacture of electrical equipment, etc.

The heading also **excludes** :

(a) Quilted textile products of **heading 58.11**.

(b) Textile fabrics coated or covered with plastics for use as floor coverings (**heading 59.04**).

(c) Textile fabrics, impregnated or coated, having the character of wall coverings (**heading 59.05**).

(d) Textile fabrics impregnated, coated, covered or laminated with plastics made up as described in Part (II) of the General Explanatory Note to Section XI.

5903.10

- With poly(vinyl chloride)

CLASSIFICATION OPINIONS

1. Fabric, consisting of layers of non-interlaced, parallel polyester filament yarns, superimposed on each other at right angles and dipped in a bath of liquid poly(vinyl chloride) which bonds the yarns together at the intersections. After squeeze-rolling, flattened drops of the polyvinyl chloride can be seen with the naked eye elsewhere than at the points of intersection. *Adoption : 1986*

5903.20

- With polyurethane

5903.90

- Other

Heading 5904

Linoleum, whether or not cut to shape; floor coverings consisting of a coating or covering applied on a textile backing, whether or not cut to shape.

EXPLANATORY NOTES

59.04 - Linoleum, whether or not cut to shape; floor coverings consisting of a coating or covering applied on a textile backing, whether or not cut to shape.

5904.10 - Linoleum

5904.90 - Other

(1) **Linoleum**.

Linoleum consists of a textile backing (usually jute canvas but sometimes cotton, etc.) coated on one side with a compact paste composed of oxidised linseed oil, resins and gums and fillers (usually ground cork, but sometimes sawdust or wood flour); in most cases coloured pigments are also added to the paste. It may be plain or patterned; in the latter case the patterns may be obtained by printing or, in the case of inlaid linoleums, by the use of different coloured pastes.

When the paste is made with ground cork but without pigment, the resulting material may be known as cork carpet. This material should not be confused with the textile-backed carpeting or other articles of agglomerated cork of **heading 45.04** which are not made with the linoleum mixture referred to above and are generally rougher and less pliable.

Linoleum is made in various thicknesses and is used as floor coverings and also as coverings for walls, shelves, etc.

The heading also includes textile fabrics, principally woven cotton fabrics, covered with linoleum paste without pigments. These products have the appearance of cork and are used for the manufacture of in-soles for footwear.

(2) **Floor coverings consisting of a coating or covering applied on a textile backing**.

These floor coverings are fairly rigid, hard-wearing materials consisting of a textile backing (including felt) coated on one side so that the backing is completely masked. The mixture usually consists of oil and chalk which after application is coated with paint. They may also consist of a thick layer of plastics (e.g., poly(vinyl chloride)) or even simply several coats of paint applied directly to the textile backing.

In many cases the products of this heading are also coated on the back to strengthen them. They remain classified here whether in rolls or cut to shape ready for use.

The heading **excludes** sheets and plates of linoleum compounds and floor coverings, presented without backings; these are classified according to their constituent materials (**Chapters 39, 40, 45**, etc.).

The heading also **excludes** in-soles (**heading 64.06**).

5904.10

- Linoleum

5904.90

- Other

Heading 5905

Textile wall coverings.

EXPLANATORY NOTES

59.05 - Textile wall coverings.

This heading covers textile wall coverings which satisfy the definition in Note 4 to Chapter 59, that is to say, products in rolls, of a width of not less than 45 cm, suitable for wall or ceiling decoration, consisting of a textile surface which has been fixed on a backing of any material (e.g., paper) or has been treated on the back (impregnated or coated to permit pasting).

The heading includes :

(1) Yarns laid parallel, woven fabrics, felts, knitted or crocheted fabrics (including stitch-bonded fabrics), fixed on a backing of any material.

(2) Yarns laid parallel, woven fabrics or lace, on a thin plastic layer fixed on a backing of any material.

(3) Yarns laid parallel (top layer), attached by chain-stitching to a thin nonwoven (middle layer), glued on a backing of any material.

(4) A web of textile fibres (top layer) assembled by chain-stitching, with superimposed sets of yarns (middle layer) glued on a backing of any material.

(5) Nonwovens, surface-covered with textile flock (imitation suède) and glued onto a backing of any material.

(6) Woven fabrics decorated with hand-painted designs, fixed on a backing of any material.

In the wall coverings of this heading the textile surface may be coloured, printed or otherwise decorated and, where there is a backing, may cover the surface of that backing **entirely or in part**.

The heading **does not cover** :

(a) Wall coverings of plastics as defined in Note 9 to Chapter 39 (**heading 39.18**).

(b) Wall coverings consisting of paper or plastics-covered paper, directly surface-decorated with textile flock or dust (**heading 48.14**).

(c) Woven fabrics covered with textile flock, whether or not provided with an additional backing or impregnated or coated to permit pasting (**heading 59.07**).

5905.00

Textile wall coverings.

Heading 5906

Rubberised textile fabrics, other than those of heading 59.02.

EXPLANATORY NOTES

59.06 - Rubberised textile fabrics, other than those of heading 59.02.

5906.10 - Adhesive tape of a width not exceeding 20 cm

- Other :

5906.91 - - Knitted or crocheted

5906.99 - - Other

This heading covers :

(A) Textile fabrics impregnated, coated, covered or laminated with rubber, including dipped fabrics (**other than** those of **heading 59.02**), of a weight :

(1) not exceeding 1,500 g/m^2, irrespective of the proportions of textile and rubber; or

(2) if exceeding 1,500 g/m^2, containing more than 50 % by weight of textile material.

These rubberised fabrics are used principally for the manufacture of waterproof apparel, special radiation protection garments, pneumatic articles, camping equipment, sanitary goods, etc.

Certain upholstery fabrics, lightly coated on one side with rubber latex, are not necessarily waterproof but nevertheless remain in this heading.

These fabrics should not be confused with fabrics assembled in layers with rubber adhesives, such as those used for coachwork or for footwear. A cross-section of these latter fabrics shows no thickness of rubber and they normally fall in **Chapters 50 to 55**.

(B) Fabrics made from yarn, strip or the like, impregnated, coated, covered or sheathed with rubber, of heading 56.04.

(C) Weftless fabrics composed of parallel textile yarns agglomerated by gumming or calendering with rubber, irrespective of their weight per square metre. These products are used for the manufacture of tyres, rubber tubes, transmission or conveyor belts or belting, etc.

(D) Adhesive tape, including electrical insulating tape, in which the backing is of textile fabric, whether or not previously rubberised, and the adhesive of rubber.

The heading **excludes** :

(a) Adhesive tapes impregnated or coated with pharmaceutical substances or put up in forms or packings for retail sale for medical, surgical, dental or veterinary purposes (**heading 30.05**).

(b) Rubberised fabrics of the kind described in paragraph (A) (2) above but containing not more than 50 % by weight of textile material (**heading 40.05** or **40.08**).

(c) Plates, sheets or strip of cellular rubber, combined with textile fabric, where the textile fabric is present merely for reinforcing purposes (**heading 40.08**). As regards criteria for distinguishing between these products and similar products of heading 59.06, see Item (A) of the Explanatory Note to heading 40.08.

(d) Conveyor or transmission belts and belting, generally consisting of a carcass composed of several plies of textile fabric (whether or not rubberised) covered with vulcanised rubber (**heading 40.10**).

(e) Carpets, linoleum and other floor coverings backed with rubber to ensure greater flexibility and adhesion to the floor (**Chapter 57** or **heading 59.04** as the case may be).

(f) Quilted textile products of **heading 58.11**.

(g) Textile fabrics (whether or not felt-lined) consisting of several layers of fabric assembled with rubber and vulcanised under pressure, of the kind used for the manufacture of card clothing, printing blankets or other similar articles of a kind used for technical purposes, including narrow fabrics made of velvet impregnated with rubber, for covering weaving spindles (weaving beams), of **heading 59.11**.

(h) Rubberised fabrics made up as described in Part (II) of the General Explanatory Note to Section XI (generally **Chapters 61 to 63**).

5906.10

- Adhesive tape of a width not exceeding 20 cm

5906.9

- Other :

5906.91

-- Knitted or crocheted

5906.99

-- Other

Heading 5907

Textile fabrics otherwise impregnated, coated or covered; painted canvas being theatrical scenery, studio back-cloths or the like.

EXPLANATORY NOTES

59.07 - Textile fabrics otherwise impregnated, coated or covered; painted canvas being theatrical scenery, studio back-cloths or the like.

(I) TEXTILE FABRICS OTHERWISE IMPREGNATED, COATED OR COVERED

This group covers textile fabrics (**excluding** those of **headings 59.01 to 59.06**), which have been impregnated, coated or covered, **provided** the impregnation, coating or covering can be seen with the naked eye; for that purpose, no account should be taken of any resulting change of colour.

Textile fabrics in which the impregnation, coating or covering cannot be seen or can be seen only by reason of a resulting change in colour, and fabrics finished with normal dressings having a basis of amylaceous or similar substances, are **excluded** (see Note 6 to this Chapter); these usually fall in **Chapters 50 to 55**, **58** or **60**. Examples of these **excluded** fabrics are those impregnated with size, starch or similar dressings (e.g., organdies, muslin), or with substances designed solely to render them crease-proof, moth-proof, unshrinkable or waterproof (e.g., waterproof gabardines or poplins).

The fabrics covered here include :

(A) Fabrics coated with tar, bitumen or similar products, of a kind used for making tarpaulins or packing cloths.

(B) Fabrics coated with wax.

(C) Fine fabrics coated or impregnated with a preparation based on natural resin and camphor or rendered impermeable by impregnation or coating with oil (sometimes known as “taffetas cirés”).

(D) Other textile fabrics coated or impregnated with oil or preparations with a basis of drying oil.

This group covers **oilcloth** which is a fabric, usually of cotton or linen, coated on one or both sides with a paste essentially composed of oxidised linseed oil, fillers and colouring matter.

It also includes packing cloths, strong coarse fabrics of hemp, jute, cotton, linen, or man-made fibres made waterproof by a heavy coating based on a mixture of drying oil and lamp black.

(E) Fabrics coated with silicates to render them noninflammable (e.g., for fire-proof screens).

(F) Fabrics completely coated with a uniform coloured layer of paint or metallic powder.

(G) Fabric, the surface of which is coated with glue (rubber glue or other), plastics, rubber or other materials and sprinkled with a fine layer of other material such as :

(1) Textile flock or dust to produce imitation suèdes. (Fabrics produced in a similar manner with longer textile fibres are **excluded** if they have the character of artificial fur of **heading 43.04**). Fabrics covered with textile flock or dust to produce imitation pile (for example, corduroy) remain classified in this heading.

(2) Powdered cork (e.g., for wall coverings).

(3) Powder or small granules of glass (e.g., “microspheres” for cinematograph screens).

(4) Powdered mica.

(H) Fabrics impregnated with a mastic based on petroleum jelly or with other mastics, used to seal glazing, to waterproof roofing, repair guttering, etc.

The heading **does not cover** patterned fabrics with a design produced by painting or coating (e.g., with textile dust - see Chapter Note 6) (generally **heading 59.05** or **Chapters 50 to 55**, **58** or **60**).

The heading also **excludes** :

(a) Oil silk and other similar oiled fabrics put up in forms or packings for retail sale for medical, surgical or veterinary purposes; medicated plasters and dressings; plaster-coated fracture bandages put up in forms or packings for retail sale (**heading 30.05**).

(b) Sensitised textile fabrics (**headings 37.01 to 37.04**).

(c) Wood veneered onto a backing of textile fabric (**heading 44.08**).

(d) Impregnated, coated or covered fabrics made up as described in Part (II) of the General Explanatory Note to Section XI.

(e) Prepared painting canvas (**heading 59.01**).

(f) Linoleum and other products of **heading 59.04**.

(g) Natural or artificial abrasive powder or grain, on a backing of textile fabric (**heading 68.05**).

(h) Roofing boards consisting of a substrate of textile fabric completely enveloped in, or covered on both sides by, a layer of asphalt or similar material (**heading 68.07**).

(ij) Metal foil on a backing of textile fabric (**generally Section XVI** or **XV**).

(II) PAINTED CANVAS BEING THEATRICAL SCENERY, STUDIO BACK-CLOTHS OR THE LIKE

This group covers sheets of canvas or similar textile material painted with interior or exterior scenes or with decorative effects, of a kind used as scenery in theatres or as back-cloths in portrait or cinema studios, etc. These may be cut to shape, in rolls or mounted on wooden or metal frames.

5907.00

Textile fabrics otherwise impregnated, coated or covered; painted canvas being theatrical scenery, studio back-cloths or the like.

CLASSIFICATION OPINIONS

1. Aluminium-coated textile fabric, consisting of a woven fabric of 100 % polyester filament yarn, coated on one side with a thin layer of aluminium visible to the naked eye. The aluminium coating is obtained by vaporising melted aluminium onto one side of the fabric by means of a vacuum process.
Application of GIR 1 (Note 6 (a) to Chapter 59)
Adoption : 1994

Heading 5908

Textile wicks, woven, plaited or knitted , for lamps, stoves, lighters, candles or the like; incandescent gas mantles and tubular knitted gas mantle fabric therefor, whether or not impregnated.

EXPLANATORY NOTES

59.08 - Textile wicks, woven, plaited or knitted, for lamps, stoves, lighters, candles or the like; incandescent gas mantles and tubular knitted gas mantle fabric therefor, whether or not impregnated.

(A) **Textile wicks**.

The wicks covered by this heading are lengths of flat, round or tubular textile fabric, usually of cotton, and either woven, knitted or plaited. They vary in size and shape from those suitable for use as wicks for candles or mechanical lighters to larger types for oil burning lamps, stoves, etc.

They are classified here whether or not cut to size or fitted with wire or metal tags, to facilitate insertion.

The heading **does not include** :

(a) Waxed tapers (**heading 34.06**).

(b) Safety fuses and detonating fuses (**heading 36.03**).

(c) Wicks obtained by simple twisting or doubling of textile yarns, twine, cordage, etc. Such wicks remain classified as yarns in **Chapters 50 to 55** or as twine, cordage, etc., in **heading 56.07**.

(d) Wicks of glass fibre (**heading 70.19**).

(B) **Tubular knitted gas-mantle fabric**.

Gas-mantle fabric is a closely knitted narrow tubular fabric usually of ramie, cotton or viscose rayon and is classified in this heading whether or not impregnated with chemicals (especially thorium or cerium nitrate).

(C) **Incandescent gas mantles**.

The gas mantles classified here may be semi-finished (e.g., consisting of a short cylinder or sack of the fabric, whether or not impregnated with the chemicals mentioned in paragraph (B) above), or finished, i.e., after burning to remove the textile base and convert the nitrates into oxides, in the shape of the original fabric, the mantle is impregnated with collodion to ensure stability until use. They are classified here whether or not containing asbestos thread or fitted with supports.

5908.00

Textile wicks, woven, plaited or knitted , for lamps, stoves, lighters, candles or the like; incandescent gas mantles and tubular knitted gas mantle fabric therefor, whether or not impregnated.

Heading 5909

Textile hosepiping and similar textile tubing, with or without lining, armour or accessories of other materials.

EXPLANATORY NOTES

59.09 - Textile hosepiping and similar textile tubing, with or without lining, armour or accessories of other materials.

This heading covers hosepiping, e.g., fire hose and similar tubing of textile material of a kind used for the passage of fluids. It is usually made of heavy, closely woven fabric of cotton, linen, hemp or man-made fibres, woven or sewn in tubular form, and may or may not be coated or impregnated with oil, tar or chemical preparations.

Textile tubing is also classified here if coated on the inside with rubber or plastics, armoured with metal (e.g., with a spiral of metal wire) or fitted with non-textile accessories such as fittings for joining one section to another, nozzles, etc.

Tubes, pipes and hoses of vulcanised rubber reinforced internally with textile material or covered with an external sheath of thin fabric are to be classified in **heading 40.09**.

5909.00

Textile hosepiping and similar textile tubing, with or without lining, armour or accessories of other materials.

Heading 5910

Transmission or conveyor belts or belting, of textile material, whether or not impregnated, coated, covered or laminated with plastics, or reinforced with metal or other material.

EXPLANATORY NOTES

59.10 - Transmission or conveyor belts or belting, of textile material, whether or not impregnated, coated, covered or laminated with plastics, or reinforced with metal or other material.

These transmission or conveyor belts or belting are used for the transmission of power or the conveyance of goods. They are usually woven or plaited from yarns of wool, cotton, man-made fibres, etc. They are in various widths and may be in the form of two or more plies of such material woven or bonded together; sometimes they are woven with a short looped pile surface or with corded edges. They may be impregnated with linseed oil, Stockholm tar, etc., and may be coated with varnish, red lead, etc., to counter deterioration caused by atmospheric conditions, acid fumes, etc.

This heading also includes belts and belting made from woven synthetic fibres, in particular polyamides, coated, covered or laminated with plastics.

They may also be reinforced with strips or threads of metal or of leather.

In accordance with Chapter Note 7, belting of a thickness of less than 3 mm is **excluded**; this remains classified in **Chapters 50 to 55**, as narrow woven fabrics (**heading 58.06**), as braids (**heading 58.08**), etc. Transmission or conveyor belts (i.e., lengths of belting cut to size and either with the ends joined together or furnished with fastenings for joining them together) are classified here irrespective of the thickness of the material.

This heading also covers transmission belts of textile rope or cord ready for use; these may be endless or with joined ends.

The heading also **excludes** :

(a) Transmission or conveyor belts or belting, presented with the machines or apparatus for which they are designed, whether or not actually mounted (classified with that machine or apparatus – e.g., **Section XVI**).

(b) Belts or belting of textile fabric impregnated, coated, covered or laminated with rubber or made from textile yarn or cord impregnated, coated, covered or sheathed with rubber (**heading 40.10**, see Note 7 (b) to this Chapter).

5910.00

Transmission or conveyor belts or belting, of textile material, whether or not impregnated, coated, covered or laminated with plastics, or reinforced with metal or other material.

CLASSIFICATION OPINIONS

1. Belting consisting of one or more sheet-woven strips of plaiting material sandwiched between two strips of polyamide fabric, the strips of plaiting material acting merely as a strengthening element, all strips being bonded by means of an adhesive and lamination :

(i) Of a thickness of 3 mm or more.

(ii) Of a thickness of less than 3 mm :

Endless or fitted with fasteners (staples, etc.).
See also Opinion 5911.10/1.
Adoption : 1963

Heading 5911

Textile products and articles, for technical uses, specified in Note 8 to this Chapter.

EXPLANATORY NOTES

59.11 - Textile products and articles, for technical uses, specified in Note 8 to this Chapter (+).

5911.10 - Textile fabrics, felt and felt-lined woven fabrics, coated, covered or laminated with rubber, leather or other material, of a kind used for card clothing, and similar fabrics of a kind used for other technical purposes, including narrow fabrics made of velvet impregnated with rubber, for covering weaving spindles (weaving beams)

5911.20 - Bolting cloth, whether or not made up

- Textile fabrics and felts, endless or fitted with linking devices, of a kind used in paper-making or similar machines (for example, for pulp or asbestos-cement) :

5911.31 - - Weighing less than 650 g/m^2

5911.32 - - Weighing 650 g/m^2 or more

5911.40 - Filtering or straining cloth of a kind used in oil presses or the like, including that of human hair

5911.90 - Other

The textile products and articles of this heading present particular characteristics which identify them as being for use in various types of machinery, apparatus, equipment or instruments or as tools or parts of tools.

The heading includes, in particular, those textile articles which are excluded from other headings and directed to heading 59.11 by any specific provision of the Nomenclature (for example, Note 1 (e) to Section XVI). It should be noted however, that certain textile parts and accessories of the goods of Section XVII, such as safety seat belts, shaped motor car body linings and insulating panels (**heading 87.08**) and carpets for motor cars (**Chapter 57**), are not classified in this heading.

(A) TEXTILE FABRICS AND OTHER TEXTILE PRODUCTS, FOR TECHNICAL USES, IN THE PIECE, CUT TO LENGTH OR SIMPLY CUT TO RECTANGULAR (INCLUDING SQUARE) SHAPE

Provided they do not have the character of the products of **headings 59.08 to 59.10**, these products are classified here (and **not** in any other heading of Section XI), whether in the piece, cut to length or simply cut to rectangular (including square) shape.

This group covers **only** the textile fabrics and other textile products as defined in Note 8 (a) to the Chapter, and listed at (1) to (6) below.

(1) Textile fabrics, felt and felt-lined woven fabrics, coated, covered or laminated with rubber, leather or other material (e.g., plastics), of a kind used for card clothing, and similar fabrics of a kind used for other technical purposes, including narrow fabrics made of velvet impregnated with rubber, for covering weaving spindles (weaving beams).

(2) Bolting cloths. These are porous fabrics (for example, with a gauze, leno or plain weave), geometrically accurate as to size and shape (usually square) of the meshes, which must not be deformed by use. They are mainly used for sifting (e.g., flour, abrasive powders, powdered plastics, cattle food), filtering or for screen printing. Bolting cloths are generally made of hard twisted undischarged silk yarn or of synthetic filament yarn.

(3) Filtering or straining cloth (e.g., woven filter fabrics and needled filter fabrics), whether or not impregnated, of a kind used in oil presses or for similar filtering purposes (e.g., in sugar refineries or breweries) and for gas cleaning or similar technical applications in industrial dust collecting systems. The heading includes oil filtering cloth, certain thick heavy fabrics of wool or of other animal hair, and certain unbleached fabrics of synthetic fibres (e.g., nylon) thinner than the foregoing but of a close weave and having a characteristic rigidity. It also includes similar filtering or straining cloth of human hair.

(4) Flat woven textile fabrics with multiple warp or weft, whether or not felted, impregnated or coated, of a kind used in machinery or for other technical purposes.

(5) Textile fabrics, reinforced with metal, of a kind used for technical purposes; the metal thread (bare metal, wire twisted or gimped with textile yarn, etc.) may, for example, be incorporated during weaving (in particular, as warp) or introduced between plies of the material.

Felt reinforced with metal is, however, **excluded** (**heading 56.02**).

(6) Cords, braids and the like of a kind used in industry as packing or lubricating materials; these are usually of square section, coated or impregnated with grease, graphite, talc, etc., and sometimes reinforced with metal. Cords, etc., not coated or impregnated, remain classified here **provided** they are clearly recognisable as products used in industry as packing or lubricating materials.

(B) TEXTILE ARTICLES OF A KIND USED FOR TECHNICAL PURPOSES

All textile articles of a kind used for technical purposes (**other than** those of **headings 59.08 to 59.10**) are classified in this heading and **not** elsewhere in Section XI (see Note 8 (b) to the Chapter); for example :

(1) Any of the fabrics of (A) above which have been made up (cut to shape, assembled by sewing, etc.), for example, straining cloths for oil presses made by assembly of several pieces of fabric; bolting cloth cut to shape and trimmed with tapes or furnished with metal eyelets or cloth mounted on a frame for use in screen printing.

(2) Textile fabrics and felts, endless or fitted with linking devices, of a kind used in paper-making or similar machines (for example, for pulp or asbestos-cement) (**excluding** machinery belts of **heading 59.10**).

(3) Articles formed of linked monofilament yarn spirals and having similar uses to the textile fabrics and felts of a kind used in paper-making or similar machines referred to in (2) above.

(4) Gaskets and diaphragms for pumps, motors, etc., and washers (**excluding** those of **heading 84.84**).

(5) Discs, sleeves and pads for shoe polishing and other machines.

(6) Textile bags for oil presses.

(7) Cords cut to length, with knots, loops, or metal or glass eyelets, for use on Jacquard or other looms.

(8) Loom pickers.

(9) Bags for vacuum cleaners, filter bags for air filtration plant, oil filters for engines, etc.

The textile articles of this heading may incorporate accessories in other material **provided** the articles remain essentially articles of textile.

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Subheading Explanatory Note.

Subheading 5911.90

Articles formed of linked monofilament yarn spirals and having similar uses to the textile fabrics and felts of a kind used in paper-making or similar machines fall in this subheading and not in subheading 5911.31 or 5911.32.

5911.10

- Textile fabrics, felt and felt-lined woven fabrics, coated, covered or laminated with rubber, leather or other material, of a kind used for card clothing, and similar fabrics of a kind used for other technical purposes, including narrow fabrics made of velvet impregnated with rubber, for covering weaving spindles (weaving beams)

CLASSIFICATION OPINIONS

1. Belting consisting of one or more sheet-woven strips of plaiting material sandwiched between two strips of polyamide fabric, the strips of plaiting material acting merely as a strengthening element, all strips being bonded by means of an adhesive and lamination :
Of a thickness of less than 3 mm :
Of indeterminate length or cut to length.
See also Opinion 5910.00/1.
Adoption : 1963

5911.20

- Bolting cloth, whether or not made up

5911.3

- Textile fabrics and felts, endless or fitted with linking devices, of a kind used in paper-making or similar machines (for example, for pulp or asbestos-cement) :

5911.31

-- Weighing less than 650 g/m2

5911.32

-- Weighing 650 g/m2 or more

5911.40

- Filtering or straining cloth of a kind used in oil presses or the like, including that of human hair

CLASSIFICATION OPINIONS

1. Nonwoven mat (dimensions : 20 m x 2 m x 2.5 cm) composed of polyester fibres to which a nylon scrim fabric has been laminated on one side. This product is intended to be used, after cutting, as a filter and to be installed, for example, into the ceilings of downdraught paint spray booths and to be used by automobile manufacturers as a medium to filter out the incoming air, dust and dirt particles.
This product is nonwoven and progressively structured, high density and high performance nonwoven air filter medium made from synthetic fibres, resin- and thermally bonded, with special adhesive coating in full depth on each individual fibre to ensure :

- absolutely no migrating of paint-damaging particles larger than 15 microns, due to vibration;

- 100 % coating of all fibres;

- full self-extinguishing flame properties.

The clean air side is particularly dense and smoothed, reinforced with woven open mesh scrim, and imprinted with classification and identification permit number.
Adoption : 1998

5911.90

- Other
CLASSIFICATION OPINIONS

1. Filtering materials, obtained by superimposing several webs of man-made textile fibres bonded with plastics, and coated on one side with an agglutinating substance, used for filtering air : Cut to other than rectangular shape or, irrespective of shape, having been further worked (trimmed with tapes, furnished with eyelets, etc.).
Adoption : 1966

Chapter 60

Knitted or crocheted fabrics

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Crochet lace of heading 58.04;

(b) Labels, badges or similar articles, knitted or crocheted, of heading 58.07; or

(c) Knitted or crocheted fabrics, impregnated, coated, covered or laminated, of Chapter 59. However, knitted or crocheted pile fabrics, impregnated, coated, covered or laminated, remain classified in heading 60.01.

2.- This Chapter also includes fabrics made of metal thread and of a kind used in apparel, as furnishing fabrics or for similar purposes.

3.- Throughout the Nomenclature any reference to “knitted” goods includes a reference to stitch-bonded goods in which the chain stitches are formed of textile yarn.

Subheading Note.

1.- Subheading 6005.35 covers fabrics of polyethylene monofilament or of polyester multifilament, weighing not less than 30 g/m^2 and not more than 55 g/m^2, having a mesh size of not less than 20 holes/cm^2 and not more than 100 holes/cm^2, and impregnated or coated with alpha-cypermethrin (ISO), chlorfenapyr (ISO), deltamethrin (INN, ISO), lambda-cyhalothrin (ISO), permethrin (ISO) or pirimiphos-methyl (ISO).

EXPLANATORY NOTES

Chapter 60

Knitted or crocheted fabrics

Notes.

1.- This Chapter does not cover :

(a) Crochet lace of heading 58.04;

(b) Labels, badges or similar articles, knitted or crocheted, of heading 58.07; or

(c) Knitted or crocheted fabrics, impregnated, coated, covered or laminated, of Chapter 59. However, knitted or crocheted pile fabrics, impregnated, coated, covered or laminated, remain classified in heading 60.01.

2.- This Chapter also includes fabrics made of metal thread and of a kind used in apparel, as furnishing fabrics or for similar purposes.

3.- Throughout the Nomenclature any reference to "knitted" goods includes a reference to stitch-bonded goods in which the chain stitches are formed of textile yarn.

Subheading Note.

1.- Subheading 6005.35 covers fabrics of polyethylene monofilament or of polyester multifilament, weighing not less than 30 g/m^2 and not more than 55 g/m^2, having a mesh size of not less than 20 holes/cm^2 and not more than 100 holes/cm^2, and impregnated or coated with alpha-cypermethrin (ISO), chlorfenapyr (ISO), deltamethrin (INN, ISO), lambda-cyhalothrin (ISO), permethrin (ISO) or pirimiphos-methyl (ISO).

GENERAL

This Chapter covers textile fabrics which are manufactured, not like woven fabrics by interlacing warp and weft threads, but by the production of a series of interlinking loops. In general, these goods comprise :

(A) **Knitted fabrics** (weft knits and warp knits)

(I) Weft knits consist of a continuously winding thread, forming rows of loops lying in the same direction across the fabric, the loops in adjacent rows interlocking to form the mesh. There is free play between the stitches of these fabrics which allows them to stretch easily in all directions; when a thread is broken they tend to "ladder".

(II) Warp knits consist of a number of threads running in the direction of the warp (i.e., along the length of the fabric) each thread forming loops interlocking alternatively with loops in rows to the left and right. The loops in warp knits usually appear to be across the width of the fabric. In certain warp knitted fabrics the warp threads are in two series running diagonally in opposite directions to and from across the fabric. These fabrics do not "ladder". If a small square is cut from a warp knit fabric, yarns cannot easily be pulled from any side; when yarns can be pulled from the sample, they pull out in the warp direction (at right angles to the apparent rows of loops).

The warp knits further include :

(1) Stitch-bonded goods, **provided** they have chain stitches formed by textile yarn.

The stitch-bonding process uses a machine similar to a warp knitting machine which operates with pointed, open-hooked needles (sliding needles) and heald wire. These needles make it possible to form stitches with textile yarns which produce fabrics from a web of textile fibres or one or more layers of textile yarns, or from a ground of, for example, a woven fabric or a sheet of plastics. In some cases, the stitches may form or fix a pile (whether or not cut). Quilted products assembled by stitch-bonding are **excluded** (**heading 58.11**).

(2) Fabrics made on a warp knitting machine so that the warp consists of a chain of crocheted loops which hold the weft yarns in position, sometimes forming a pattern.

All the fabrics of paragraphs (I) and (II) above may be of simple or more or less complex stitches; in certain cases they produce an open-work effect similar to lace, but nevertheless remain classified here. They can generally be distinguished from lace by their characteristic knitting stitch (particularly in the solid parts).

(B) **Crocheted fabrics**, formed by a continuous thread worked by hand with a crochet hook to produce a series of loops pulled one through the other and forming, according to the manner of grouping the loops, either a plain or an ornamental fabric of close or open-work design. Certain open-work fabrics have chains of loops formed into squares, hexagons or other ornamental patterns.

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The products of this Chapter may be made by hand on two or more knitting needles or with a crochet hook. They may also be made on rectilinear or circular knitting machines fitted with small specially shaped, hooked needles (bearded or spring needles, hosiery latch needles and tubular needles).

The headings of this Chapter cover knitted or crocheted fabrics, **regardless of which of the textiles of Section XI** are used to make the goods and whether or not they incorporate elastomeric yarn or rubber thread. It also includes knitted or crocheted fabrics made from **fine metallic threads provided** that such fabrics are clearly of a kind used for clothing, furnishing or similar purposes.

This Chapter covers knitted or crocheted fabrics in the piece (including tubular pieces) or simply cut to rectangular (including square) shape. These fabrics include plain and ribbed fabrics, and double fabrics assembled by sewing or gumming.

All these fabrics may be dyed, printed or made of different coloured yarns. The fabrics of headings 60.02 to 60.06 are sometimes teased so that the nature of the fabric is masked.

The Chapter **does not cover** :

(a) Stitch-bonded fabrics obtained by picking up textile fibres from a web of such fibres (**heading 56.02**).

(b) Nets and netting of **heading 56.08**.

(c) Knitted carpets and carpeting (**heading 57.05**).

(d) Net fabrics and crochet lace (**heading 58.04**).

(e) Pieces of fabric cut to rectangular (including square) shape which have been subjected to a further operation (e.g., hemming), articles produced in the finished state ready for use (e.g., mufflers) and fabrics knitted or crocheted to shape, whether presented as separate items or in the form of a number of items in the length (made up articles of **Chapters 61, 62** and **63,** in particular).

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Subheading Explanatory Note.

Subheadings 6005.21 to 6005.44 and 6006.21 to 6006.44

Knitted or crocheted fabrics, unbleached, bleached, dyed, of yarns of different colours, or printed

The provisions of Subheading Note 1 to Section XI, (d) to (h), apply *mutatis mutandis* to knitted or crocheted fabrics, unbleached, bleached, dyed, of yarns of different colours, or printed.

Fabrics consisting either wholly or partly of printed yarns of different colours or of printed yarns of different shades of the same colour are regarded as **fabrics of yarns of different colours** and not as dyed fabrics or printed fabrics.

Heading 6001

Pile fabrics, including «long pile» fabrics and terry fabrics, knitted or crocheted.

EXPLANATORY NOTES

60.01 - Pile fabrics, including “long pile” fabrics and terry fabrics, knitted or crocheted.

6001.10 - “Long pile” fabrics

- Looped pile fabrics :

6001.21 - - Of cotton

6001.22 - - Of man-made fibres

6001.29 - - Of other textile materials

- Other :

6001.91 - - Of cotton

6001.92 - - Of man-made fibres

6001.99 - - Of other textile materials

Unlike the woven fabrics of heading 58.01, the products of this heading are obtained by knitting. The following methods of production are those mainly used :

(1) a circular knitting machine produces a knitted fabric in which, by means of an additional yarn, protruding loops are formed; afterwards the loops are cut to form pile and thus give a velvet-like surface;

(2) a special warp knitting machine knits two fabrics face to face with a common pile yarn; the two fabrics are then separated by cutting to produce two knitted fabrics with a cut pile;

(3) textile fibres from a carded sliver are inserted into the loops of a knitted ground fabric as it is formed ("long pile" fabrics);

(4) textile yarn to form loops ("imitation terry fabrics") (see General Explanatory Note). Such fabrics have rows of chain stitches on the back of the fabric and they differ from the pile fabrics of heading 58.02, which are characterised by rows of stitches having the appearance of running stitches along the length of the back of the fabric.

Knitted or crocheted pile fabrics, impregnated, coated, covered or laminated, remain classified in this heading.

The heading **does not include** :

(a) Artificial fur of **heading 43.04**.

(b) Woven pile fabrics (**heading 58.01**).

(c) Knitted or crocheted fabrics, tufted (**heading 58.02**).

6001.10

- «Long pile» fabrics

6001.2

- Looped pile fabrics :

6001.21

-- Of cotton

6001.22

-- Of man-made fibres

6001.29

-- Of other textile materials

6001.9

- Other :

6001.91

-- Of cotton

6001.92

-- Of man-made fibres

6001.99

-- Of other textile materials

Heading 6002

Knitted or crocheted fabrics of a width not exceeding 30 cm, containing by weight 5 % or more of elastomeric yarn or rubber thread, other than those of heading 60.01.

EXPLANATORY NOTES

60.02 - Knitted or crocheted fabrics of a width not exceeding 30 cm, containing by weight 5 % or more of elastomeric yarn or rubber thread, other than those of heading 60.01.

6002.40 - Containing by weight 5 % or more of elastomeric yarn but not containing rubber thread

6002.90 - Other

Other than the pile fabrics of **heading 60.01**, this heading covers knitted or crocheted fabrics of a width not exceeding 30 cm, containing by weight 5 % or more of elastomeric yarn or rubber thread.

Elastomeric yarn is defined in Note 13 to Section XI. The textured yarns mentioned in that Note are defined in the Subheading Explanatory Note at the end of the Explanatory Note to heading 54.02.

This heading also **excludes** :

(a) Bandages, medicated or put up for retail sale (**heading 30.05**).

(b) Loop wale-yarn (**heading 56.06**).

(c) Labels, badges and similar articles, knitted or crocheted, of **heading 58.07**.

(d) Embroidered fabrics of **heading 58.10**.

(e) Fabrics of **Chapter 59** (e.g., impregnated, coated, covered or laminated fabrics of **heading 59.03** or **59.07**, and rubberised fabrics of **heading 59.06**).

(f) Made up articles within the meaning of Note 7 to Section XI (see also Part (II) of the General Explanatory Note to the Section).

6002.40

- Containing by weight 5 % or more of elastomeric yarn but not containing rubber thread

6002.90

- Other

Heading 6003

Knitted or crocheted fabrics of a width not exceeding 30 cm, other than those of heading 60.01 or 60.02.

EXPLANATORY NOTES

60.03 - Knitted or crocheted fabrics of a width not exceeding 30 cm, other than those of heading 60.01 or 60.02.

6003.10 - Of wool or fine animal hair

6003.20 - Of cotton

6003.30 - Of synthetic fibres

6003.40 - Of artificial fibres

6003.90 - Other

Other than the pile fabrics of **heading 60.01**, this heading covers knitted or crocheted fabrics of a width not exceeding 30 cm, containing no elastomeric yarn or rubber thread or containing by weight less than 5 % of such yarn or thread.

This heading also **excludes :**

(a) Bandages, medicated or put up for retail sale (**heading 30.05**).

(b) Loop wale-yarn (**heading 56.06**).

(c) Labels, badges and similar articles, knitted or crocheted, of **heading 58.07**.

(d) Embroidered fabrics of **heading 58.10**.

(e) Fabrics of **Chapter 59** (e.g., impregnated, coated, covered or laminated fabrics of **heading 59.03** or **59.07**, rubberised fabrics of **heading 59.06**, and wicks or gas mantle fabric of **heading 59.08**).

(f) Made up articles within the meaning of Note 7 to Section XI (see also Part (II) of the General Explanatory Note to the Section).

6003.10

- Of wool or fine animal hair

6003.20

- Of cotton

6003.30

- Of synthetic fibres

6003.40

- Of artificial fibres

6003.90

- Other

Heading 6004

Knitted or crocheted fabrics of a width exceeding 30 cm, containing by weight 5 % or more of elastomeric yarn or rubber thread, other than those of heading 60.01.

EXPLANATORY NOTES

60.04 - Knitted or crocheted fabrics of a width exceeding 30 cm, containing by weight 5 % or more of elastomeric yarn or rubber thread, other than those of heading 60.01.

6004.10 - Containing by weight 5 % or more of elastomeric yarn but not containing rubber thread

6004.90 - Other

Other than the pile fabrics of **heading 60.01**, this heading covers knitted or crocheted fabrics of a width exceeding 30 cm, containing by weight 5 % or more of elastomeric yarn or rubber thread.

Elastomeric yarn is defined in Note 13 to Section XI. The textured yarns mentioned in that Note are defined in the Subheading Explanatory Note at the end of the Explanatory Note to heading 54.02.

This heading also **excludes** :

(a) Bandages, medicated or put up for retail sale (**heading 30.05**).

(b) Labels, badges and similar articles, knitted or crocheted, of **heading 58.07**.

(c) Embroidered fabrics of **heading 58.10**.

(d) Fabrics of **Chapter 59** (e.g., impregnated, coated, covered or laminated fabrics of **heading 59.03** or **59.07**, and rubberised fabrics of **heading 59.06**).

(e) Made up articles within the meaning of Note 7 to Section XI (see also Part (II) of the General Explanatory Note to the Section).

6004.10

- Containing by weight 5 % or more of elastomeric yarn but not containing rubber thread

6004.90

- Other

Heading 6005

Warp knit fabrics (including those made on galloon knitting machines), other than those of headings 60.01 to 60.04.

EXPLANATORY NOTES

60.05 - Warp knit fabrics (including those made on galloon knitting machines), other than those of headings 60.01 to 60.04.

- Of cotton :

6005.21 - - Unbleached or bleached

6005.22 - - Dyed

6005.23 - - Of yarns of different colours

6005.24 - - Printed

- Of synthetic fibres :

6005.35 - - Fabrics specified in Subheading Note 1 to this Chapter

6005.36 - - Other, unbleached or bleached

6005.37 - - Other, dyed

6005.38 - - Other, of yarns of different colours

6005.39 - - Other, printed

- Of artificial fibres :

6005.41 - - Unbleached or bleached

6005.42 - - Dyed

6005.43 - - Of yarns of different colours

6005.44 - - Printed

6005.90 - Other

Other thanthe pile fabrics of **heading 60.01**, this heading covers warp knits of a width exceeding 30 cm, containing no elastomeric yarn or rubber thread or containing less than 5 % of such yarn or thread. It also covers fabrics of polyethylene monofilament or of polyester multifilament, weighing not less than 30 g/m^2 and not more than 55 g/m^2, having a mesh size of not less than 20 holes/cm^2 and not more than 100 holes/cm^2, and impregnated or coated with alpha-cypermethrin (ISO), chlorfenapyr (ISO), deltamethrin (INN, ISO), lambda-cyhalothrin (ISO), permethrin (ISO) or pirimiphos-methyl (ISO) (See Subheading Note 1 to this Chapter). Details concerning the manufacture of warp knits (including those made on galloon knitting machines) are to be found in the General Explanatory Note to Chapter 60, Part (A) (II).

Warp knit fabrics can take various forms. Apart from the traditional fabrics without openings, such as those used for making garments, they include open-work fabrics. These fabrics, made on warp knitting machines (especially Raschel machines), are often similar to net fabrics or lace (but should not be mistaken for the latter : see the Explanatory Note to **heading 58.04**) and are often used for making curtains. Like machine-made lace, such knitted or crocheted imitations of lace are often produced in fairly wide pieces which are cut into strips during the finishing process. Such strips, of indeterminate length, fall in this heading provided that their edges are straight and parallel and that their width exceeds 30 cm.

This heading also **excludes :**

(a) Bandages, medicated or put up for retail sale (**heading 30.05**).

(b) Labels, badges and similar articles, knitted or crocheted, of **heading 58.07**.

(c) Embroidered fabrics of **heading 58.10**.

(d) Fabrics of **Chapter 59** (e.g., impregnated, coated, covered or laminated fabrics of **heading 59.03** or **59.07**, rubberised fabrics of **heading 59.06**, and wicks or gas mantle fabric of **heading 59.08**).

(e) Made up articles within the meaning of Note 7 to Section XI (see also Part (II) of the General Explanatory Note to the Section).

6005.2

- Of cotton :
6005.21

-- Unbleached or bleached
6005.22

-- Dyed
6005.23

-- Of yarns of different colours
6005.24

-- Printed
6005.3

- Of synthetic fibres :
6005.35

-- Fabrics specified in Subheading Note 1 to this Chapter
6005.36

-- Other, unbleached or bleached
6005.37

-- Other, dyed
6005.38

-- Other, of yarns of different colours
6005.39

-- Other, printed
6005.4

- Of artificial fibres :
6005.41

-- Unbleached or bleached
6005.42

-- Dyed
6005.43

-- Of yarns of different colours
6005.44

-- Printed
6005.90

- Other
Heading 6006

Other knitted or crocheted fabrics.
EXPLANATORY NOTES

60.06 - Other knitted or crocheted fabrics.

6006.10 - Of wool or fine animal hair

- Of cotton :

6006.21 - - Unbleached or bleached

6006.22 - - Dyed

6006.23 - - Of yarns of different colours

6006.24 - - Printed

- Of synthetic fibres :

6006.31 - - Unbleached or bleached

6006.32 - - Dyed

6006.33 - - Of yarns of different colours

6006.34 - - Printed

- Of artificial fibres :

6006.41 - - Unbleached or bleached

6006.42 - - Dyed

6006.43 - - Of yarns of different colours

6006.44 - - Printed

6006.90 - Other

This heading covers knitted or crocheted fabrics **other than** those of the **preceding headings** of this Chapter.

It covers, for example, weft knits and crocheted fabrics of a width exceeding 30 cm, containing no elastomeric yarn or rubber thread or containing by weight less than 5 % of such yarn or thread. The Explanatory Note to this Chapter explains the meaning of “weft knits” and “crocheted fabrics” (see General, Parts (A) (I) and (B), respectively).

This heading also **excludes** :

(a) Bandages, medicated or put up for retail sale (**heading 30.05**).

(b) Labels, badges and similar articles, knitted or crocheted, of **heading 58.07**.

(c) Embroidered fabrics of **heading 58.10**.

(d) Fabrics of **Chapter 59** (e.g., impregnated, coated, covered or laminated fabrics of **heading 59.03** or **59.07**, rubberised fabrics of **heading 59.06**, andwicks or gas mantle fabric of **heading 59.08**).

(e) Made up articles within the meaning of Note 7 to Section XI (see also Part (II) of the General Explanatory Note to the Section).

6006.10

- Of wool or fine animal hair

6006.2

- Of cotton :

6006.21

-- Unbleached or bleached

6006.22

-- Dyed

6006.23

-- Of yarns of different colours

6006.24

-- Printed

6006.3

- Of synthetic fibres :

6006.31

-- Unbleached or bleached

6006.32

-- Dyed

6006.33

-- Of yarns of different colours

6006.34

-- Printed

6006.4

- Of artificial fibres :

6006.41

-- Unbleached or bleached

6006.42

-- Dyed

6006.43

-- Of yarns of different colours

6006.44

-- Printed

6006.90

- Other

Chapter 61

Articles of apparel and clothing accessories, knitted or crocheted

LEGAL NOTES

Notes.

1.- This Chapter applies only to made up knitted or crocheted articles.

2.- This Chapter does not cover :

(a) Goods of heading 62.12;

(b) Worn clothing or other worn articles of heading 63.09; or

(c) Orthopaedic appliances, surgical belts, trusses or the like (heading 90.21).

3.- For the purposes of headings 61.03 and 61.04 :

(a) The term “suit” means a set of garments composed of two or three pieces made up, in respect of their outer surface, in identical fabric and comprising :

- one suit coat or jacket the outer shell of which, exclusive of sleeves, consists of four or more panels, designed to cover the upper part of the body, possibly with a tailored waistcoat in addition whose front is made from the same fabric as the outer surface of the other components of the set and whose back is made from the same fabric as the lining of the suit coat or jacket; and

- one garment designed to cover the lower part of the body and consisting of trousers, breeches or shorts (other than swimwear), a skirt or a divided skirt, having neither braces nor bibs.

All of the components of a “suit” must be of the same fabric construction, colour and composition; they must also be of the same style and of corresponding or compatible size. However, these components may have piping (a strip of fabric sewn into the seam) in a different fabric.

If several separate components to cover the lower part of the body are presented together (for example, two pairs of trousers or trousers and shorts, or a skirt or divided skirt and trousers), the constituent lower part shall be one pair of trousers or, in the case of women’s or girls’ suits, the skirt or divided skirt, the other garments being considered separately.

The term “suit” includes the following sets of garments, whether or not they fulfil all the above conditions :

- morning dress, comprising a plain jacket (cutaway) with rounded tails hanging well down at the back and striped trousers;

- evening dress (tailcoat), generally made of black fabric, the jacket of which is relatively short at the front, does not close and has narrow skirts cut in at the hips and hanging down behind;

- dinner jacket suits, in which the jacket is similar in style to an ordinary jacket (though perhaps revealing more of the shirt front), but has shiny silk or imitation silk lapels.

(b) The term “ensemble” means a set of garments (other than suits and articles of heading 61.07, 61.08 or 61.09), composed of several pieces made up in identical fabric, put up for retail sale, and comprising :

- one garment designed to cover the upper part of the body, with the exception of pullovers which may form a second upper garment in the sole context of twin sets, and of waistcoats which may also form a second upper garment, and

- one or two different garments, designed to cover the lower part of the body and consisting of trousers, bib and brace overalls, breeches, shorts (other than swimwear), a skirt or a divided skirt.

All of the components of an ensemble must be of the same fabric construction, style, colour and composition; they also must be of corresponding or compatible size. The term “ensemble” does not apply to track suits or ski suits, of heading 61.12.

4.- Headings 61.05 and 61.06 do not cover garments with pockets below the waist, with a ribbed waistband or other means of tightening at the bottom of the garment, or garments having an average of less than 10 stitches per linear centimeter in each direction counted on an area measuring at least 10 cm x 10 cm. Headings 61.05 does not cover sleeveless garments.

“Shirts” and “shirt-blouses” are garments designed to cover the upper part of the body, having long or short sleeves and a full or partial opening starting at the neckline. “Blouses” are loose-fitting garments also designed to cover the upper part of the body but may be sleeveless and with or without an opening at the neckline. “Shirts”, “shirt-blouses” and “blouses” may also have a collar.

5.- Heading 61.09 does not cover garments with a drawstring, ribbed waistband or other means of tightening at the bottom of the garment.

6.- For the purposes of heading 61.11 :

(a) The expression “babies’ garments and clothing accessories” means articles for young children of a body height not exceeding 86 cm;

(b) Articles which are, *prima facie*, classifiable both in heading 61.11 and in other headings of this Chapter are to be classified in heading 61.11.

7.- For the purposes of heading 61.12, “ski suits” means garments or sets of garments which, by their general appearance and texture, are identifiable as intended to be worn principally for skiing (cross-country or alpine). They consist either of :

(a) a “ski overall”, that is, a one-piece garment designed to cover the upper and the lower parts of the body; in addition to sleeves and a collar the ski overall may have pockets or footstraps; or

(b) a “ski ensemble”, that is, a set of garments composed of two or three pieces, put up for retail sale and comprising :

- one garment such as an anorak, wind-cheater, wind-jacket or similar article, closed by a slide fastener (zipper), possibly with a waistcoat in addition, and

- one pair of trousers whether or not extending above waist-level, one pair of breeches or one bib and brace overall.

The "ski ensemble" may also consist of an overall similar to the one mentioned in paragraph (a) above and a type of padded, sleeveless jacket worn over the overall.

All the components of a "ski ensemble" must be made up in a fabric of the same texture, style and composition whether or not of the same colour; they also must be of corresponding or compatible size.

8.- Garments which are, *prima facie*, classifiable both in heading 61.13 and in other headings of this Chapter, excluding heading 61.11, are to be classified in heading 61.13.

9.- Garments of this Chapter designed for left over right closure at the front shall be regarded as men's or boys' garments, and those designed for right over left closure at the front as women's or girls' garments. These provisions do not apply where the cut of the garment clearly indicates that it is designed for one or other of the sexes.

Garments which cannot be identified as either men's or boys' garments or as women's or girls' garments are to be classified in the headings covering women's or girls' garments.

10.- Articles of this Chapter may be made of metal thread.

EXPLANATORY NOTES

Chapter 61

Articles of apparel and clothing accessories,

knitted or crocheted

Notes.

1.- This Chapter applies only to made up knitted or crocheted articles.

2.- This Chapter does not cover :

(a) Goods of heading 62.12;

(b) Worn clothing or other worn articles of heading 63.09; or

(c) Orthopaedic appliances, surgical belts, trusses or the like (heading 90.21).

3.- For the purposes of headings 61.03 and 61.04 :

(a) The term “suit” means a set of garments composed of two or three pieces made up, in respect of their outer surface, in identical fabric and comprising :

- one suit coat or jacket the outer shell of which, exclusive of sleeves, consists of four or more panels, designed to cover the upper part of the body, possibly with a tailored waistcoat in addition whose front is made from the same fabric as the outer surface of the other components of the set and whose back is made from the same fabric as the lining of the suit coat or jacket; and

- one garment designed to cover the lower part of the body and consisting of trousers, breeches or shorts (other than swimwear), a skirt or a divided skirt, having neither braces nor bibs.

All of the components of a “suit” must be of the same fabric construction, colour and composition; they must also be of the same style and of corresponding or compatible size. However, these components may have piping (a strip of fabric sewn into the seam) in a different fabric.

If several separate components to cover the lower part of the body are presented together (for example, two pairs of trousers or trousers and shorts, or a skirt or divided skirt and trousers), the constituent lower part shall be one pair of trousers or, in the case of women’s or girls’ suits, the skirt or divided skirt, the other garments being considered separately.

The term “suit” includes the following sets of garments, whether or not they fulfil all the above conditions :

- morning dress, comprising a plain jacket (cutaway) with rounded tails hanging well down at the back and striped trousers;

- evening dress (tailcoat), generally made of black fabric, the jacket of which is relatively short at the front, does not close and has narrow skirts cut in at the hips and hanging down behind;

- dinner jacket suits, in which the jacket is similar in style to an ordinary jacket (though perhaps revealing more of the shirt front), but has shiny silk or imitation silk lapels.

(b) The term “ensemble” means a set of garments (other than suits and articles of heading 61.07, 61.08 or 61.09), composed of several pieces made up in identical fabric, put up for retail sale, and comprising :

- one garment designed to cover the upper part of the body, with the exception of pullovers which may form a second upper garment in the sole context of twin sets, and of waistcoats which may also form a second upper garment, and

- one or two different garments, designed to cover the lower part of the body and consisting of trousers, bib and brace overalls, breeches, shorts (other than swimwear), a skirt or a divided skirt.

All of the components of an ensemble must be of the same fabric construction, style, colour and composition; they also must be of corresponding or compatible size. The term “ensemble” does not apply to track suits or ski suits, of heading 61.12.

4.- Headings 61.05 and 61.06 do not cover garments with pockets below the waist, with a ribbed waistband or other means of tightening at the bottom of the garment, or garments having an average of less than 10 stitches per linear centimeter in each direction counted on an area measuring at least 10 cm x 10 cm. Headings 61.05 does not cover sleeveless garments.

"Shirts" and "shirt-blouses" are garments designed to cover the upper part of the body, having long or short sleeves and a full or partial opening starting at the neckline. "Blouses" are loose-fitting garments also designed to cover the upper part of the body but may be sleeveless and with or without an opening at the neckline. "Shirts", "shirt-blouses" and "blouses" may also have a collar.

5.- Heading 61.09 does not cover garments with a drawstring, ribbed waistband or other means of tightening at the bottom of the garment.

6.- For the purposes of heading 61.11 :

(a) The expression "babies' garments and clothing accessories" means articles for young children of a body height not exceeding 86 cm;

(b) Articles which are, *prima facie*, classifiable both in heading 61.11 and in other headings of this Chapter are to be classified in heading 61.11.

7.- For the purposes of heading 61.12, "ski suits" means garments or sets of garments which, by their general appearance and texture, are identifiable as intended to be worn principally for skiing (cross-country or alpine). They consist either of :

(a) a "ski overall", that is, a one-piece garment designed to cover the upper and the lower parts of the body; in addition to sleeves and a collar the ski overall may have pockets or footstraps; or

(b) a "ski ensemble", that is, a set of garments composed of two or three pieces, put up for retail sale and comprising :

- one garment such as an anorak, wind-cheater, wind-jacket or similar article, closed by a slide fastener (zipper), possibly with a waistcoat in addition, and

- one pair of trousers whether or not extending above waist-level, one pair of breeches or one bib and brace overall.

The "ski ensemble" may also consist of an overall similar to the one mentioned in paragraph (a) above and a type of padded, sleeveless jacket worn over the overall.

All the components of a "ski ensemble" must be made up in a fabric of the same texture, style and composition whether or not of the same colour; they also must be of corresponding or compatible size.

8.- Garments which are, *prima facie*, classifiable both in heading 61.13 and in other headings of this Chapter, excluding heading 61.11, are to be classified in heading 61.13.

9.- Garments of this Chapter designed for left over right closure at the front shall be regarded as men's or boys' garments, and those designed for right over left closure at the front as women's or girls'

garments. These provisions do not apply where the cut of the garment clearly indicates that it is designed for one or other of the sexes.

Garments which cannot be identified as either men's or boys' garments or as women's or girls' garments are to be classified in the headings covering women's or girls' garments.

10.- Articles of this Chapter may be made of metal thread.

GENERAL

This Chapter covers made up knitted or crocheted men's boys', women's or girls' articles of apparel and made up knitted or crocheted accessories for articles of apparel. It also includes made up knitted or crocheted parts of apparel or clothing accessories. However, it **does not include** brassières, girdles, corsets, braces, suspenders, garters or similar articles or parts thereof, knitted or crocheted (**heading 62.12**).

The classification of goods in this Chapter is not affected by the presence of parts or accessories of, for example, woven fabrics, furskin, feathers, leather, plastics or metal. Where, however, the presence of these materials constitutes **more than mere trimming** the articles are classified in accordance with the relative Chapter Notes (particularly Note 4 to Chapter 43 and Note 2 (b) to Chapter 67, relating to the presence of furskin and feathers, respectively), or failing that, according to the General Interpretative Rules.

Electrically heated articles remain in this Chapter.

By application of the provisions of Note 9 to this Chapter garments having a front opening which fastens or overlaps left over right are considered to be garments for men or boys. When the opening fastens or overlaps right over left these garments are considered to be garments for women or girls.

These provisions do not apply where the cut of the garment clearly indicates that it is designed for one or the other of the sexes. Garments which cannot be identified as either men's or boys' garments or women's or girls' garments are to be classified in the headings covering women's or girls' garments.

By application of Note 14 to Section XI, garments of different headings are to be classified in their own headings even if put up in sets for retail sale. This, however, does not apply to garments put up in sets which are specifically mentioned in the heading texts, for example, suits, pyjamas, swimwear. It should be noted that, for the application of Note 14 to Section XI, the expression "textile garments" means garments of headings 61.01 to 61.14.

This Chapter also covers unfinished or incomplete articles of the kind described therein, including shaped knitted or crocheted fabric for making such articles. Provided these products have the essential character of the articles concerned, they fall in the same headings as the finished articles. However, crocheted parts of garments or of clothing accessories (**other than** those of **heading 62.12**) are classified in **heading 61.17**.

Garments, clothing, accessories, or parts thereof, knitted or crocheted to shape, whether presented as separate items or in the form of a number of items in the length, are regarded as made up articles (Notes 7 (b) and 7 (g) to Section XI).

The Chapter also **excludes** :

(a) Articles of apparel and clothing accessories of **heading 39.26, 40.15, 42.03** or **68.12**.

(b) Pieces of knitted or crocheted fabric which have undergone some working (such as hemming or the formation of necklines), intended for the manufacture of garments but not yet sufficiently completed to be identifiable as garments or parts of garments (**heading 63.07**).

(c) Worn clothing and other worn articles of **heading 63.09**.

(d) Garments for dolls (**heading 95.03**).

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Subheading Explanatory Note.

Classification of articles made from quilted textile products in the piece of heading 58.11

Articles made from the quilted textile products in the piece of heading 58.11 are to be classified within the subheadings of the headings of this Chapter under the provisions of Subheading Note 2 to Section XI. For the purposes of their classification, it is the textile material of the outer fabric which gives these articles their essential character. This means that where, for example, a man's quilted anorak has a knitted outer fabric of 60 % cotton and 40 % polyester, the garment falls in subheading 6101.20. It should be noted that, even if the outer fabric by itself falls in heading 59.03, 59.06 or 59.07, the garment does not fall in heading 61.13.

Heading 6101

Men's or boys' overcoats, car-coats, capes, cloaks, anoraks (including ski-jackets), wind-cheaters, wind-jackets and similar articles, knitted or crocheted, other than those of heading 61.03.

EXPLANATORY NOTES

61.01 - Men's or boys' overcoats, car-coats, capes, cloaks, anoraks (including ski-jackets), wind-cheaters, wind-jackets and similar articles, knitted or crocheted, other than those of heading 61.03.

6101.20 - Of cotton

6101.30 - Of man-made fibres

6101.90 - Of other textile materials

This heading covers a category of knitted or crocheted garments for men or boys, characterised by the fact that they are generally worn over all other clothing for protection against the weather.

It includes :

Overcoats, raincoats, car-coats, capes including ponchos, cloaks, anoraks including ski-jackets, wind-cheaters, wind-jackets and similar articles, such as three-quarter coats, greatcoats, hooded capes, duffel coats, trench coats, gabardines, parkas, padded waistcoats.

The heading **does not include** :

(a) Garments of **heading 61.03**.

(b) Garments made up of knitted or crocheted fabrics of heading 59.03, 59.06 or 59.07 (**heading 61.13**).

6101.20

- Of cotton

6101.30

- Of man-made fibres

6101.90

- Of other textile materials

Heading 6102

Women's or girls' overcoats, car-coats, capes, cloaks, anoraks (including ski-jackets), wind-cheaters, wind- jackets and similar articles, knitted or crocheted, other than those of heading 61.04.

EXPLANATORY NOTES

61.02 - Women's or girls' overcoats, car-coats, capes, cloaks, anoraks (including ski-jackets), wind-cheaters, wind-jackets and similar articles, knitted or crocheted, other than those of heading 61.04.

6102.10 - Of wool or fine animal hair

6102.20 - Of cotton

6102.30 - Of man-made fibres

6102.90 - Of other textile materials

The provisions of the Explanatory Note to heading 61.01 apply *mutatis mutandis* to the articles of this heading.

6102.10

- Of wool or fine animal hair

6102.20

- Of cotton

6102.30

- Of man-made fibres

CLASSIFICATION OPINIONS

1. Women's knitted garment (100 % polyester), with long sleeves, pockets, a collar and a full-length opening at the front fastened with a slide fastener (zipper). This garment is designed to be attached to a women's outer garment by means of the slide fastener (zipper). It can also be worn independently. The two garments are presented together. **Application of GIRs 1 (Note 14 to Section XI and Note 9 to Chapter 61) and 6.** *Adoption : 2015*



6102.90

- Of other textile materials

Heading 6103

Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts (other than swimwear), knitted or crocheted.

EXPLANATORY NOTES

61.03 - Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts (other than swimwear), knitted or crocheted.

6103.10 - Suits

- Ensembles :

6103.22 - - Of cotton

6103.23 - - Of synthetic fibres

6103.29 - - Of other textile materials

- Jackets and blazers :

6103.31 - - Of wool or fine animal hair

6103.32 - - Of cotton

6103.33 - - Of synthetic fibres

6103.39 - - Of other textile materials

- Trousers, bib and brace overalls, breeches and shorts :

6103.41 - - Of wool or fine animal hair

6103.42 - - Of cotton

6103.43 - - Of synthetic fibres

6103.49 - - Of other textile materials

This heading covers only men's or boy's knitted or crocheted suits and ensembles, jackets, blazers, trousers, breeches and shorts (other than swimwear) and bib and brace type overalls.

(A) For the purposes of Chapter Note 3 (a), it should be noted that :

(a) the "suit coat or jacket" designed to cover the upper part of the body has a full front opening without a closure or with a closure other than a slide fastener (zipper). It does not extend below the mid-thigh area and is not for wear over another coat, jacket or blazer;

(b) the "panels" (at least two in front and two at the back) making up the outer shell of the suit coat or jacket must be sewn together lengthwise. For this purpose the term "panels" does not include sleeves, facings or collar, if any;

(c) a "tailored waistcoat", whose front is made from the same fabric as the outer surface of the other components of the set and whose back is made from the same fabric as the lining of the suit coat or jacket, may also be included in the set.

All of the components of a "suit" must be of the same fabric construction, colour and composition; they must also be of the same style and of corresponding or compatible size. However, these components may have piping (a strip of fabric sewn into the seam) in a different fabric.

If several separate components to cover the lower part of the body are presented together (e.g., two pairs of trousers or trousers and shorts), the constituent lower part shall be one pair of trousers, the other garments being considered separately.

For the purposes of Chapter Note 3 (a), the expression "identical fabric" means a single identical fabric, i.e., the fabric must be :

- of the same construction, i.e., it must be obtained by the same yarn-bonding technique (having the same stitch size) and the structure and measurement (e.g., the decitex number) of the yarns used must also be the same;

- of the same colour (even the same shade and pattern of colour); this includes fabrics of different-coloured yarns and printed fabrics;

- of thesame composition, i.e., the percentage of the textile materials used (e.g., 100 % by weight of wool, 51 % by weight of synthetic fibres, 49 % by weight of cotton) must be the same.

(B) The term “men’s or boys’ ensemble” means a set of garments (**other than** suits and articles of **heading 61.07, 61.08** or **61.09**), composed of several pieces made up in identical fabric, put up for retail sale, and comprising :

- one garment designed to cover the upper part of the body, with the exception of pullovers which may form a second upper garment in the sole context of twin sets, and of waistcoats which may also form a second upper garment, and

- one or two different garments, designed to cover the lower part of the body and consisting of trousers, bib and brace overalls, breeches or shorts (other than swimwear).

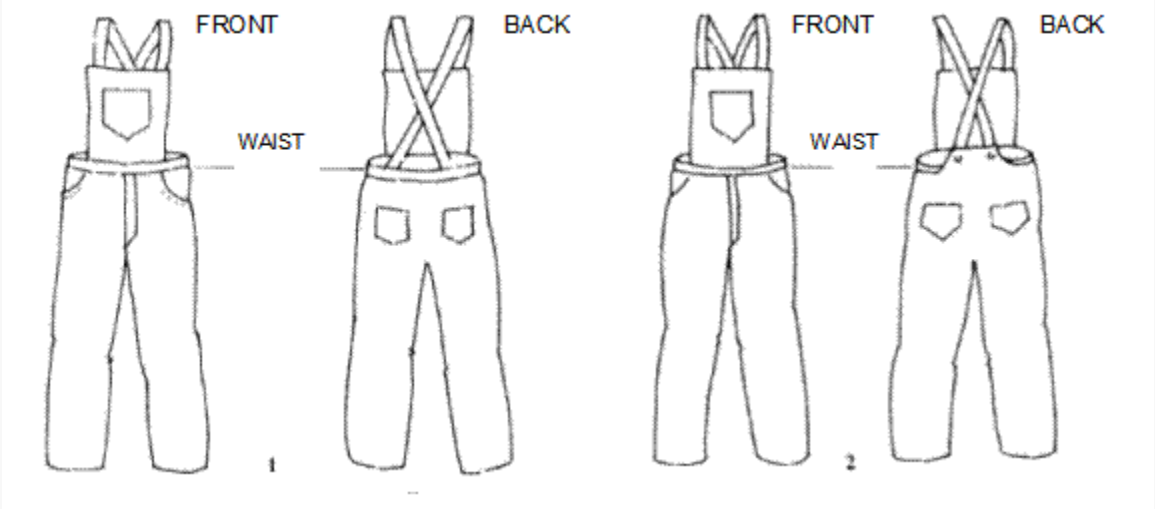
All of the components of an ensemble must be of the same fabric construction, style, colour and composition; they also must be of corresponding or compatible size. The term “ensemble” **does not apply** to track suits and ski suits, of **heading 61.12** (see Chapter Note 3 (b)).

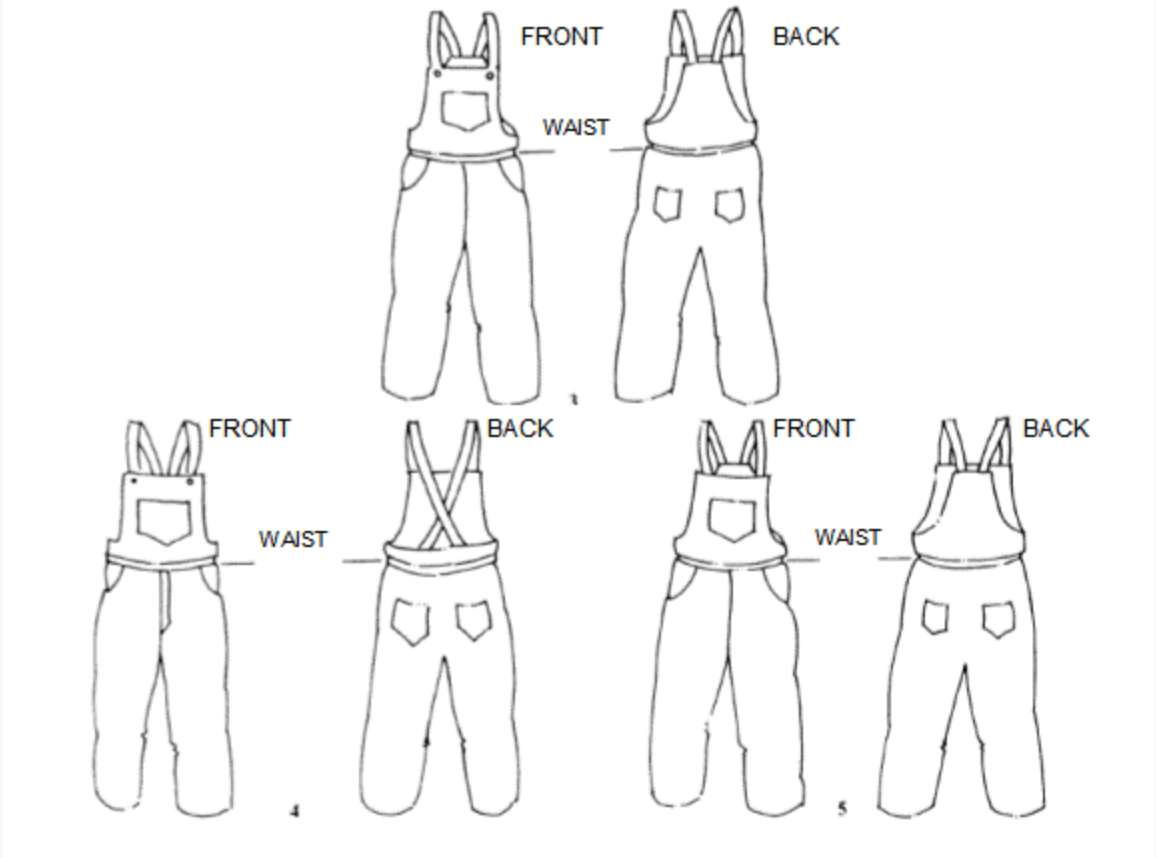
In addition :

(C) The “jackets or blazers” have the same characteristics as the suit coats and suit jackets described in Chapter Note 3 (a) and in Part (A) above, except that the outer shell (exclusive of sleeves, and facings or collar, if any) may consist of three or more panels (of which two are at the front) sewn together lengthwise. The heading **does not**, however, **include** anoraks, wind-cheaters, ski-jackets and similar garments of **heading 61.01** or **61.02**.

(D) “Trousers” means garments which envelop each leg separately, covering the knees and usually reaching down to or below the ankles; these garments usually stop at the waist; the presence of braces does not cause these garments to lose the essential character of trousers.

(E) “Bib and brace overalls” means garments of the type illustrated below in figures 1 to 5 and similar garments which do not cover the knee.





(F) "Shorts" means "trousers" which do not cover the knee.

The heading **does not include** :

(a) Tailored waistcoats presented separately (**heading 61.10**).

(b) Track suits, ski suits and swimwear (**heading 61.12**).

6103.10

- Suits

6103.2

- Ensembles :

6103.22

-- Of cotton

6103.23

-- Of synthetic fibres

6103.29

-- Of other textile materials

6103.3

- Jackets and blazers :

6103.31

-- Of wool or fine animal hair

6103.32

-- Of cotton

6103.33

-- Of synthetic fibres

6103.39

-- Of other textile materials

6103.4

- Trousers, bib and brace overalls, breeches and shorts :

6103.41

-- Of wool or fine animal hair

6103.42

-- Of cotton

6103.43

-- Of synthetic fibres

6103.49

-- Of other textile materials

Heading 6104

Women's or girls' suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts (other than swimwear), knitted or crocheted.

EXPLANATORY NOTES

61.04 - Women's or girls' suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts (other than swimwear), knitted or crocheted.

- Suits :

6104.13 - - Of synthetic fibres

6104.19 - - Of other textile materials

- Ensembles :

6104.22 - - Of cotton

6104.23 - - Of synthetic fibres

6104.29 - - Of other textile materials

- Jackets and blazers :

6104.31 - - Of wool or fine animal hair

6104.32 - - Of cotton

6104.33 - - Of synthetic fibres

6104.39 - - Of other textile materials

- Dresses :

6104.41 - - Of wool or fine animal hair

6104.42 - - Of cotton

6104.43 - - Of synthetic fibres

6104.44 - - Of artificial fibres

6104.49 - - Of other textile materials

- Skirts and divided skirts :

6104.51 - - Of wool or fine animal hair

6104.52 - - Of cotton

6104.53 - - Of synthetic fibres

6104.59 - - Of other textile materials

- Trousers, bib and brace overalls, breeches and shorts :

6104.61 - - Of wool or fine animal hair

6104.62 - - Of cotton

6104.63 - - Of synthetic fibres

6104.69 - - Of other textile materials

The provisions of the Explanatory Note to heading 61.03 apply *mutatis mutandis* to the articles of this heading.

All of the components of a women's or girls' "suit" must be of the same fabric construction, colour and composition; they must also be of the same style and of corresponding or compatible size. However, these components may have piping (a strip of fabric sewn into the seam) in a different fabric.

If several separate components to cover the lower part of the body are presented together (e.g., a skirt or divided skirt and trousers), the constituent lower part shall be the skirt or divided skirt, the other garments being considered separately.

However, for the purposes of this heading, the term “women’s or girls’ ensemble” means a set of garments (**other than** suits and articles of **heading 61.07**, **61.08** or **61.09)**, composed of several pieces made up in identical fabric, put up for retail sale, and comprising :

- one garment designed to cover the upper part of the body, with the exception of pullovers which may form a second upper garment in the sole context of twin sets, and of waistcoats which may also form a second upper garment, and

- one or two different garments, designed to cover the lower part of the body and consisting of trousers, bib and brace overalls, breeches, shorts (other than swimwear), a skirt or a divided skirt, with or without braces or a bib.

All of the components of an ensemble must be of the same fabric construction, style, colour and composition; they also must be of corresponding or compatible size. The term “ensemble” **does not apply** to track suits or ski suits, of **heading 61.12** (see Chapter Note 3 (b)).

Furthermore, the heading **excludes** petticoats and slips of **heading 61.08**.

6104.1

- Suits :
6104.13

-- Of synthetic fibres
6104.19

-- Of other textile materials
6104.2

- Ensembles :
6104.22

-- Of cotton
6104.23

-- Of synthetic fibres
6104.29

-- Of other textile materials
6104.3

- Jackets and blazers :
6104.31

-- Of wool or fine animal hair
6104.32

-- Of cotton
6104.33

-- Of synthetic fibres
6104.39

-- Of other textile materials
6104.4

- Dresses :
6104.41

-- Of wool or fine animal hair
6104.42

-- Of cotton
6104.43

-- Of synthetic fibres
6104.44

-- Of artificial fibres
6104.49

-- Of other textile materials
6104.5

- Skirts and divided skirts :
6104.51

-- Of wool or fine animal hair
6104.52

-- Of cotton
6104.53

-- Of synthetic fibres
6104.59

-- Of other textile materials
6104.6

- Trousers, bib and brace overalls, breeches and shorts :
6104.61

-- Of wool or fine animal hair
6104.62

-- Of cotton
CLASSIFICATION OPINIONS

1. **Shorts** with no fly or pockets, made wholly of a knitted fabric (100 % cotton), with an elasticated band incorporated at the waist and the leg openings simply hemmed. This garment forms a part of a set where the other component is a pullover-like garment of the same colour and made of the same fabric but with sewn-on ribbing of a knitted fabric (100 % cotton). The ribbing being of a different fabric construction and not being present in the shorts debars the set from being classified as an ensemble. **Application of Note 3 (b) to Chapter 61 and of Note 14 to Section XI.** *See also Opinion 6110.20/1*
Adoption : 1989



6104.63

-- Of synthetic fibres

CLASSIFICATION OPINIONS

1. Women's trousers made of light-weight knitted fabric (87 % polyester, 13 % elastane) reaching down to the ankles. These trousers have an elasticated waistband, and the bottom edges are hemmed.

This pair of trousers is one component of a woman's set of garments, which also consists of a long-sleeved T-shirt, which is classified separately in subheading 6109.90. Both garments are presented together, put up for retail sale.

Application of GIRs 1 (Note 14 to Section XI) and 6. *See also Opinion 6109.90/2.*

Adoption : 2016



6104.69

-- Of other textile materials

Heading 6105

Men's or boys' shirts, knitted or crocheted.

EXPLANATORY NOTES

61.05 - Men’s or boys’ shirts, knitted or crocheted.

6105.10 - Of cotton

6105.20 - Of man-made fibres

6105.90 - Of other textile materials

With the exception of nightshirts of **heading 61.07** and T-shirts, singlets and other vests of **heading 61.09**, this heading covers knitted or crocheted shirts for men or boys, including shirts with detachable collars, dress shirts, sports shirts and leisure shirts.

This heading **does not cover** sleeveless garments **nor does it cover** garments with pockets below the waist, with a ribbed waistband or other means of tightening at the bottom of the garment, or garments having an average of less than 10 stitches per linear centimetre in each direction counted on an area measuring at least 10 cm x 10 cm (see Chapter Note 4).

Garments not regarded as men's or boys' shirts and **excluded** from this heading in accordance with Note 4 are generally classified as follows :

- Having pockets below the waist; as jackets of **heading 61.03**, or as cardigans of **heading 61.10**.

- Having a ribbed waistband or other means of tightening at the bottom of the garment, or having an average of less than 10 stitches per linear centimetre; **heading 61.01** or **61.10**.

- Men's or boys' sleeveless garments; **heading 61.09**, **61.10** or **61.14**.

6105.10

- Of cotton

6105.20

- Of man-made fibres

6105.90

- Of other textile materials

Heading 6106

Women's or girls' blouses, shirts and shirt-blouses, knitted or crocheted.

EXPLANATORY NOTES

61.06 - Women's or girls' blouses, shirts and shirt-blouses, knitted or crocheted.

6106.10 - Of cotton

6106.20 - Of man-made fibres

6106.90 - Of other textile materials

This heading covers the group of knitted or crocheted women's or girls' clothing which comprises blouses, shirts and shirt-blouses.

This heading **does not cover** garments with pockets below the waist, with a ribbed waistband or other means of tightening at the bottom of the garment, or garments having an average of less than 10 stitches per linear centimetre in each direction counted on an area measuring at least 10 cm x 10 cm (see Chapter Note 4).

Garments not regarded as women's or girls' blouses, shirts or shirt-blouses and **excluded** from this heading in accordance with Chapter Note 4 are generally classified as follows :

- Having pockets below the waist; as jackets of **heading 61.04** or as cardigans of **heading 61.10**.

- Having a ribbed waistband or other means of tightening at the bottom of the garment, or having an average of less than 10 stitches per linear centimetre; **heading 61.02** or **61.10**.

Furthermore, the heading **does not include** :

(a) T-shirts, singlets and other vests (**heading 61.09**).

(b) Garments made up of fabrics of heading 59.03, 59.06 or 59.07 (**heading 61.13**).

(c) Smocks and similar protective garments of **heading 61.14**.

6106.10

- Of cotton

6106.20

- Of man-made fibres

CLASSIFICATION OPINIONS

1. Knitted sleeveless garment without a collar (65 % polyester staple fibres and 35 % cotton), with a decorative ribbon at the neckline and ruffled armholes at the shoulders. It has a partial opening at the back starting at the neckline that fastens with a button. **Application of GIRs 1 and 6.** *Adoption : 2014*



6106.90

- Of other textile materials

Heading 6107

Men's or boys' underpants, briefs, nightshirts, pyjamas, bathrobes, dressing gowns and similar articles, knitted or crocheted.

EXPLANATORY NOTES

61.07 - Men's or boys' underpants, briefs, nightshirts, pyjamas, bathrobes, dressing gowns and similar articles, knitted or crocheted.

- Underpants and briefs :

6107.11 - - Of cotton

6107.12 - - Of man-made fibres

6107.19 - - Of other textile materials

- Nightshirts and pyjamas :

6107.21 - - Of cotton

6107.22 - - Of man-made fibres

6107.29 - - Of other textile materials

- Other :

6107.91 - - Of cotton

6107.99 - - Of other textile materials

This heading covers two separate categories of knitted or crocheted clothing for men or boys, namely, underpants, briefs and similar articles (underclothing) and nightshirts, pyjamas, bathrobes (including beachrobes), dressing gowns and similar articles.

The heading **does not include** singlets and other vests (**heading 61.09**).

6107.1

- Underpants and briefs :
6107.11

-- Of cotton
6107.12

-- Of man-made fibres
6107.19

-- Of other textile materials
6107.2

- Nightshirts and pyjamas :
6107.21

-- Of cotton
6107.22

-- Of man-made fibres
6107.29

-- Of other textile materials
6107.9

- Other :
6107.91

-- Of cotton
6107.99

-- Of other textile materials
Heading 6108

Women's or girls' slips, petticoats, briefs, panties, nightdresses, pyjamas, negligees, bathrobes, dressing gowns and similar articles, knitted or crocheted.
EXPLANATORY NOTES

61.08 - Women's or girls' slips, petticoats, briefs, panties, nightdresses, pyjamas, negligees, bathrobes, dressing gowns and similar articles, knitted or crocheted.

- Slips and petticoats :

6108.11 - - Of man-made fibres

6108.19 - - Of other textile materials

- Briefs and panties :

6108.21 - - Of cotton

6108.22 - - Of man-made fibres

6108.29 - - Of other textile materials

- Nightdresses and pyjamas :

6108.31 - - Of cotton

6108.32 - - Of man-made fibres

6108.39 - - Of other textile materials

- Other :

6108.91 - - Of cotton

6108.92 - - Of man-made fibres

6108.99 - - Of other textile materials

This heading covers two separate categories of knitted or crocheted clothing for women or girls, namely slips, petticoats, briefs, panties and similar articles (underclothing) and nightdresses, pyjamas, négligés, bathrobes (including beachrobes), dressing gowns and similar articles.

The heading **does not include** singlets and other vests (**heading 61.09**).

6108.1

- Slips and petticoats :

6108.11

-- Of man-made fibres

6108.19

-- Of other textile materials

6108.2

- Briefs and panties :

6108.21

-- Of cotton

6108.22

-- Of man-made fibres
6108.29

-- Of other textile materials
6108.3

- Nightdresses and pyjamas :
6108.31

-- Of cotton
6108.32

-- Of man-made fibres
6108.39

-- Of other textile materials
6108.9

- Other
6108.91

-- Of cotton
6108.92

-- Of man-made fibres
6108.99

-- Of other textile materials
Heading 6109

T-shirts, singlets and other vests, knitted or crocheted.
EXPLANATORY NOTES

61.09 - T-shirts, singlets and other vests, knitted or crocheted.

6109.10 - Of cotton

6109.90 - Of other textile materials

The term “T-shirts” means lightweight knitted or crocheted garments of the vest type, of cotton or man-made fibre, not napped, nor of pile or terry fabric, in one or more colours, with or without pockets, with long or short close-fitting sleeves, without buttons or other fastenings, without collar, without opening in the neckline, having a close-fitting or lower neckline (round, square, boat-shaped or V-shaped). These garments may have decoration, other than lace, in the form of advertising, pictures or an inscription in words, obtained by printing, knitting or other process. The bottom of these garments is usually hemmed.

This heading also includes singlets and other vests.

It should be noted that the above-mentioned articles are classified in this heading without distinction between male or female wear.

In accordance with Chapter Note 5, garments with a drawstring, ribbed waistband or other means of tightening at the bottom of the garment are **excluded** from this heading.

Furthermore, the heading **does not include** :

(a) Men's or boys' shirts of **heading 61.05**.

(b) Women's or girls' blouses, shirts and shirt-blouses of **heading 61.06**.

6109.10

- Of cotton

CLASSIFICATION OPINIONS

1. Women's knitted short-sleeved T-shirt, made of 80 % cotton, 14 % viscose and 6 % elastane. It is designed to cover the upper part of the body and reaches down to just above the waist. **Application of GIRs 1 and 6.** *Adoption : 2017*



6109.90

- Of other textile materials

CLASSIFICATION OPINIONS

1. Women's knitted sleeveless garment without a collar (92 % nylon and 8 % spandex (elastane)), with a semi-round neckline and shoulder straps. **Application of GIRs 1 and 6.** *Adoption : 2014*



2. Women's long-sleeved T-shirt without a collar, made of light-weight knitted fabric (87 % polyester, 13 % elastane). The bottom edge of the T-shirt and the sleeves are hemmed.

This T-shirt is one component of a woman's set of garments, which also consists of a pair of trousers, which is classified separately in subheading 6104.63. Both garments are presented together, put up for retail sale.
Application of GIRs 1 (Note 14 to Section XI) and 6.
See also Opinion 6104.63/1.
Adoption : 2016



Heading 6110

Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted.
EXPLANATORY NOTES

61.10 - Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (+).

- Of wool or fine animal hair

6110.11 - - Of wool

6110.12 - - Of Kashmir (cashmere) goats

6110.19 - - Other

6110.20 - Of cotton

6110.30 - Of man-made fibres

6110.90 - Of other textile materials

This heading covers a category of knitted or crocheted articles, without distinction between male or female wear, designed to cover the upper parts of the body (jerseys, pullovers, cardigans, waistcoats and similar articles). Articles incorporating incidentally protective components such as

elbow pads sewn on sleeves and used for certain sports (e.g., soccer goalkeeper jerseys) remain classified in this heading.

It also covers tailored waistcoats **except** when these are presented with and constitute one of the components of a man's or boy's or woman's or girl's suit of **heading 61.03** or **61.04**, as the case may be.

The heading also **excludes** padded waistcoats generally worn over all other clothing for protection against the weather, of **heading 61.01** or **61.02**.

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Subheading Explanatory Note.

Subheading 6110.12

The provisions of the Explanatory Note to subheading 5102.11 apply, *mutatis mutandis*, to the products of this subheading.

6110.1

- Of wool or fine animal hair :

6110.11

-- Of wool

6110.12

-- Of Kashmir (cashmere) goats

6110.19

-- Other

6110.20

- Of cotton

CLASSIFICATION OPINIONS

1. **Sleeveless garment** with round neckline, designed to cover the upper part of the body and reaching down to just above the waist. This pullover-like garment is made wholly of a knitted fabric (100 % cotton). At the neckline, arm openings and bottom, it has sewn-on ribbing of knitted fabric (100 % cotton) of the same colour but of a different fabric construction. This garment forms a part of a set where the other component is a pair of shorts of the same colour and of the same knitted fabric but without ribbing. **Application of Note 3 (b) to Chapter 61 and of Note 14 to Section XI.** *See also Opinion 6104.62/1*
Adoption : 1989





2. Knitted waistcoat, with an outer surface constructed from 100 % cotton. It is interlined with a thin layer of padding (not intended to provide protection from the weather), and includes an inner lining fabric constructed from 65 % polyester staple fibres and 35 % cotton. It has a full opening at the front.
Application of GIRs 1 and 6.
Adoption : 2014



6110.30

- Of man-made fibres
CLASSIFICATION OPINIONS

1. Knitted soccer goalkeeper jersey (100 % polyester), reaching down below the waist, with long raglan sleeves and a close-fitting round neckline without an opening. The garment has minimally protective elbow pads sewn on the sleeves and applied ribbing at the sleeve ends. The bottom of the garment is hemmed.
Application of GIRs 1 and 6.
Adoption : 2008



2. **Women's knitted short-sleeved garment** (100 % acrylic), with roll-neck, without an opening. It has an average of more than 10 stitches per linear centimetre in each direction counted on an area measuring at least 10 cm x 10 cm. **Application of GIRs 1 and 6.** *Adoption : 2014*



3. **Men's knitted long-sleeved garment** (76 % polyester staple fibres and 24 % cotton), without collar and unlined, designed to cover the upper part of the body. The garment has a left over right closure at the front and pockets at the bottom. **Application of GIRs 1 and 6.** *Adoption : 2014*



4. **Women's knitted long-sleeved pullover**, made of 100 % polyester. It is designed to cover the upper part of the body and reaches down to just above the waist. **Application of GIRs 1 and 6.** *Adoption : 2017*



6110.90

- Of other textile materials

Heading 6111

Babies' garments and clothing accessories, knitted or crocheted.

EXPLANATORY NOTES

61.11 - Babies’ garments and clothing accessories, knitted or crocheted.

6111.20 - Of cotton

6111.30 - Of synthetic fibres

6111.90 - Of other textile materials

In accordance with Note 6 (a) to this Chapter the expression “babies’ garments and clothing accessories” applies to articles for young children of a body height not exceeding 86 cm.

This heading includes, *inter alia*, knitted or crocheted matinée coats, pixie suits, rompers, infants’ bibs, gloves, mittens and mitts, tights and babies’ bootees without an outer sole glued, sewn or otherwise affixed or applied to the upper.

It should be noted that articles which are, *prima facie*, classifiable both in heading 61.11 and in other headings of this Chapter are to be classified in **heading 61.11** (see Note 6 (b) to this Chapter).

This heading **does not include :**

(a) Babies’ bonnets, knitted or crocheted (**heading 65.05**).

(b) Napkins (diapers) and napkin liners for babies (**heading 96.19**).

(c) Babies’ clothing accessories covered more specifically by other Chapters of the Nomenclature.

6111.20

- Of cotton

6111.30

- Of synthetic fibres

6111.90

- Of other textile materials

Heading 6112

Track suits, ski suits and swimwear, knitted or crocheted.

EXPLANATORY NOTES

61.12 - Track suits, ski suits and swimwear, knitted or crocheted.

- Track suits :

6112.11 - - Of cotton

6112.12 - - Of synthetic fibres

6112.19 - - Of other textile materials

6112.20 - Ski suits

- Men’s or boys’ swimwear :

6112.31 - - Of synthetic fibres

6112.39 - - Of other textile materials

- Women’s or girls’ swimwear :

6112.41 - - Of synthetic fibres

6112.49 - - Of other textile materials

This heading includes :

(A) Track suits, i.e., knitted articles consisting of two pieces, not lined but sometimes with a raised inner surface (nap) which, because of their general appearance and the nature of the fabric, are clearly meant to be worn exclusively or mainly in the pursuit of sporting activities.

Track suits consist of two garments, namely :

- A garment meant to cover the upper part of the body down to or slightly below the waist. It has long sleeves, with ribbed or elasticated bands, zip fasteners or other tightening elements at the cuffs. Similar tightening elements, including drawstrings, are generally to be found at the bottom of this garment. When it has a partial or complete opening at the front, it

is generally fastened by means of a slide fastener (zipper). It may or may not be fitted with a hood, a collar and pockets.

- A second garment (a pair of trousers) which may be either close or loose fitting, with or without pockets, with an elasticated waistband, drawstring or other means of tightening at the waist, with no opening at the waist and therefore no buttons or other fastening system. However, such trousers may be fitted with ribbed or elasticated bands, slide fasteners (zippers) or other tightening elements at the bottom of the trouser-legs which generally go down to ankle level. They may or may not have footstraps.

(B) "Ski suits", i.e., garments or sets of garments which, by their general appearance and texture, are identifiable as intended to be worn principally for skiing (cross-country or alpine).

They consist either of :

(1) a "ski overall" that is, a one-piece garment designed to cover the upper and the lower parts of the body; in addition to sleeves and a collar, the ski overall may have pockets or footstraps; or

(2) a "ski ensemble", that is, a set of garments composed of two or three pieces, put up for retail sale and comprising :

- one garment such as an anorak, wind-cheater, wind-jacket or similar article, closed by a slide fastener (zipper), possibly with a waistcoat in addition, and

- one pair of trousers whether or not extending above waist-level, one pair of breeches or one bib and brace overall.

The "ski ensemble" may also consist of an overall similar to the one mentioned in paragraph (1) above and a type of padded, sleeveless jacket worn over the overall.

All the components of a "ski ensemble" must be made up in a fabric of the same texture, style and composition whether or not of the same colour; they also must be of corresponding or compatible size (see Note 7 to this Chapter).

(C) Swimwear (knitted or crocheted one-piece or two-piece bathing costumes, swimming shorts and trunks, whether or not elastic).

6112.1

- Track suits :

6112.11

-- Of cotton

6112.12

-- Of synthetic fibres

6112.19

-- Of other textile materials

6112.20

- Ski suits

6112.3

- Men's or boys' swimwear :

6112.31

-- Of synthetic fibres

6112.39

-- Of other textile materials

6112.4

- Women's or girls' swimwear :

6112.41

-- Of synthetic fibres

6112.49

-- Of other textile materials

Heading 6113

Garments, made up of knitted or crocheted fabrics of heading 59.03, 59.06 or 59.07.

EXPLANATORY NOTES

61.13 - Garments, made up of knitted or crocheted fabrics of heading 59.03, 59.06 or 59.07.

With the exception of babies' garments of **heading 61.11**, this heading covers all garments made up of knitted or crocheted fabrics of heading 59.03, 59.06 or 59.07, without distinction between male or female wear.

The heading includes raincoats, oilskins, divers' suits and anti-radiation protective suits, not combined with breathing apparatus.

It should be noted that articles which are, *prima facie*, classifiable both in this heading and in other headings of this Chapter, excluding heading 61.11, are to be classified in this heading (see Note 8 to this Chapter).

Furthermore, the heading **does not include** :

(a) Garments made from the quilted textile products in the piece of heading 58.11 (generally **heading 61.01** or **61.02**). See Subheading Explanatory Note at the end of the General Explanatory Note to this Chapter.

(b) Gloves, mittens and mitts, knitted or crocheted (**heading 61.16**) and other clothing accessories, knitted or crocheted (**heading 61.17**).

6113.00

Garments, made up of knitted or crocheted fabrics of heading 59.03, 59.06 or 59.07.

Heading 6114

Other garments, knitted or crocheted.

EXPLANATORY NOTES

61.14 - Other garments, knitted or crocheted.

6114.20 - Of cotton

6114.30 - Of man-made fibres

6114.90 - Of other textile materials

This heading covers knitted or crocheted garments which are not included more specifically in the preceding headings of this Chapter.

The heading includes, *inter alia* :

(1) Aprons, boiler suits (coveralls), smocks and other protective clothing of a kind worn by mechanics, factory workers, surgeons, etc.

(2) Clerical or ecclesiastical garments and vestments (e.g., monks' habits, cassocks, copes, soutanes, surplices).

(3) Professional or scholastic gowns and robes.

(4) Specialised clothing for airmen, etc. (e.g., airmen's electrically heated clothing).

(5) Special articles of apparel, whether or not incorporating incidentally protective components such as pads or padding in the elbow, knee or groin areas, used for certain sports or for dancing or gymnastics (e.g., fencing clothing, jockeys' silks, ballet skirts, leotards). However, protective equipment for sports or games (e.g., fencing masks and breast plates, ice hockey pants, etc.) are **excluded (heading 95.06)**.

6114.20

- Of cotton

CLASSIFICATION OPINIONS

1. Light-weight knitted garment (94 % cotton, 6 % elastomeric yarn) **for women or girls;** it has shoulder straps approximately 35 mm wide and a round neckline at the front. This article can be worn next to the skin as a garment or undergarment; it covers the upper part of the body and extends down below the bust. The neckline and arm openings are bordered by a hem incorporating an elastic strip. The bottom of the garment is also fitted with an elastic strip so as to hug the body. The garment has no body-supporting function. **Application of GIR 1.** *Adoption : 2001*

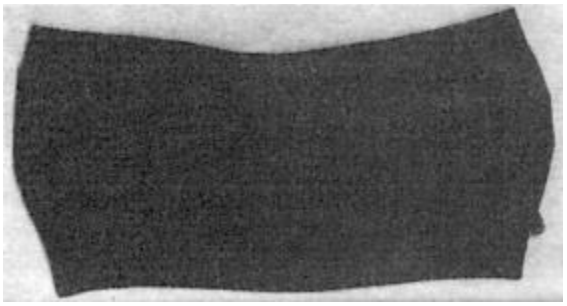


6114.30

- Of man-made fibres

CLASSIFICATION OPINIONS

1. **Light-weight knitted, strapless garment** (90 % polyamide, 10 % elastothane) **for women or girls,** designed to cover the upper part of the body and extending down just below the bust; the garment leaves the shoulders bare. This article can be worn next to the skin as a garment or undergarment; it is fitted with elastic strips approximately 30 mm wide at the bottom of the garment and 15 mm at the top, thus ensuring that the garment hugs the bust. The garment has no body-supporting function. **Application of GIR 1.** *Adoption : 2001*



2. **Women's knitted short-sleeved garment** (68 % polyester staple fibres and 32 % cotton), without an opening. It is embellished with frills under the bust. **Application of GIRs 1 and 6.** *Adoption : 2014*



6114.90

- Of other textile materials

Heading 6115

Panty hose, tights, stockings, socks and other hosiery, including graduated compression hosiery (for example, stockings for varicose veins) and footwear without applied soles, knitted or crocheted.

EXPLANATORY NOTES

61.15 - Panty hose, tights, stockings, socks and other hosiery, including graduated compression hosiery (for example, stockings for varicose veins) and footwear without applied soles, knitted or crocheted (+).

6115.10 - Graduated compression hosiery (for example, stockings for varicose veins)

- Other panty hose and tights :

6115.21 - - Of synthetic fibres, measuring per single yarn less than 67 decitex

6115.22 - - Of synthetic fibres, measuring per single yarn 67 decitex or more

6115.29 - - Of other textile materials

6115.30 - Other women's full-length or knee-length hosiery, measuring per single yarn less than 67 decitex

- Other :

6115.94 - - Of wool or fine animal hair

6115.95 - - Of cotton

6115.96 - - Of synthetic fibres

6115.99 - - Of other textile materials

This heading covers the following knitted or crocheted goods, without distinction between those for women or girls and those for men or boys :

(1) Panty hose and tights designed to cover the feet and legs (hose) and the lower part of the body up to the waist (panty), including those without feet.

(2) Stockings and socks (including ankle-socks).

(3) Under stockings, used mainly as a protection against the cold.

(4) Graduated compression hosiery, e.g., stockings for varicose veins.

(5) Sockettes intended to protect the feet or toes of stockings from friction or wear.

(6) Footwear without an outer sole glued, sewn or otherwise affixed or applied to the upper, **other than** babies' bootees.

The heading also covers unfinished stockings, socks, etc., of knitted or crocheted fabric, provided they have the essential character of the finished article.

The heading **excludes** :

(a) Stockings, socks and bootees without an outer sole glued, sewn or otherwise affixed or applied to the upper, for babies (**heading 61.11**).

(b) Stockings, socks, etc., **other than** knitted or crocheted (usually **heading 62.17**).

(c) Knitted footwear with an outer sole glued, sewn or otherwise affixed or applied to the upper (**Chapter 64**).

(d) Leggings and gaiters (including "mountain stockings" without feet) (**heading 64.06**).

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Subheading Explanatory Note.

Subheading 6115.10

For the purposes of subheading 6115.10, "graduated compression hosiery" means hosiery in which the compression is greatest at the ankle and reduces gradually along its length up the leg, so that blood flow is encouraged.

6115.10

- Graduated compression hosiery (for example, stockings for varicose veins)

6115.2

- Other panty hose and tights :

6115.21

-- Of synthetic fibres, measuring per single yarn less than 67 decitex

6115.22

-- Of synthetic fibres, measuring per single yarn 67 decitex or more

6115.29

-- Of other textile materials

6115.30

- Other women's full-length or knee-length hosiery, measuring per single yarn less than 67 decitex

6115.9

- Other :

6115.94

-- Of wool or fine animal hair

6115.95

-- Of cotton

6115.96

-- Of synthetic fibres

6115.99

-- Of other textile materials

Heading 6116

Gloves, mittens and mitts, knitted or crocheted.

EXPLANATORY NOTES

61.16 - Gloves, mittens and mitts, knitted or crocheted.

6116.10 - Impregnated, coated, covered or laminated with plastics or rubber

- Other :

6116.91 - - Of wool or fine animal hair

6116.92 - - Of cotton

6116.93 - - Of synthetic fibres

6116.99 - - Of other textile materials

This heading covers all knitted or crocheted gloves, without distinction between those for women or girls and those for men or boys. It includes ordinary short gloves with separate fingers, mittens covering only part of the fingers, mitts with separation for the thumb only and gauntlet or other long gloves that may cover the forearm or even part of the upper arm.

The heading also covers unfinished gloves, knitted or crocheted, provided they have the essential character of the finished article.

The heading **does not cover** :

(a) Knitted or crocheted gloves, mittens and mitts lined with furskin or artificial fur, or with furskin or artificial fur on the outside (**other than** as mere trimming) (**heading 43.03** or **43.04**).

(b) Gloves, mitts and mittens for babies (**heading 61.11**).

(c) Textile gloves, mittens and mitts, not knitted or crocheted (**heading 62.16**).

(d) Friction "gloves" for massage or toilet use (**heading 63.02**).

6116.10

- Impregnated, coated, covered or laminated with plastics or rubber

6116.9

- Other :

6116.91

-- Of wool or fine animal hair

6116.92

-- Of cotton

6116.93

-- Of synthetic fibres

6116.99

-- Of other textile materials

Heading 6117

Other made up clothing accessories, knitted or crocheted; knitted or crocheted parts of garments or of clothing accessories.

EXPLANATORY NOTES

61.17 - Other made up clothing accessories, knitted or crocheted; knitted or crocheted parts of garments or of clothing accessories.

6117.10 - Shawls, scarves, mufflers, mantillas, veils and the like

6117.80 - Other accessories

6117.90 - Parts

This heading covers made up knitted or crocheted clothing accessories, not specified or included in the preceding headings of this Chapter or elsewhere in the Nomenclature. The heading also covers knitted or crocheted parts of garments or of clothing accessories, (**other than** parts of articles of **heading 62.12**).

The heading covers, *inter alia* :

(1) **Shawls, scarves, mufflers, mantillas, veils** and the like.

(2) **Ties, bow ties and cravats**.

(3) **Dress shields, shoulder or other pads**.

(4) **Belts of all kinds (including bandoliers) and sashes (e.g., military or ecclesiastical**), whether or not elastic. These articles are included here even if they incorporate buckles or other fittings of precious metal or are decorated with pearls, precious or semi-precious stones (natural, synthetic or reconstructed).

(5) **Muffs**, including muffs with mere trimmings of furskin or artificial fur on the outside.

(6) **Sleeve protectors**.

(7) **Kneebands**, **other than** those of **heading 95.06** used for sport.

(8) **Labels, badges, emblems, "flashes" and the like** (**excluding** embroidered motifs of **heading 58.10**) made up **otherwise** than by cutting to shape or size. (When made up only by cutting to shape or size these articles are **excluded - heading 58.07**.)

(9) **Separately presented removable linings for raincoats** or similar garments.

(10) **Pockets, sleeves, collars, collarettes, wimples, fallals of various kinds** (such as rosettes, bows, ruches, frills and flounces), **bodice-fronts, jabots, cuffs, yokes, lapels and similar articles**.

(11) **Handkerchiefs**.

(12) **Headbands**, used as protection against the cold, to hold the hair in place, etc.

The heading **does not include** :

(a) Clothing accessories for babies, knitted or crocheted, of **heading 61.11**.

(b) Brassières, girdles, corsets, braces, suspenders, garters and similar articles, and parts thereof (**heading 62.12**).

(c) Belts for occupational use (e.g., window-cleaners' or electricians' belts) or rosettes **not** for garments (**heading 63.07**).

(d) Knitted or crocheted headgear (**heading 65.05**) and fittings for headgear (**heading 65.07**).

(e) Feather trimmings (**heading 67.01**).

(f) Trimmings of artificial flowers, foliage or fruit of **heading 67.02**.

(g) Strips of press fasteners and hooks and eyes on knitted tape (**heading 60.01, 60.02, 60.03, 83.08** or **96.06**, as the case may be).

(h) Slide fasteners (zippers) (**heading 96.07**).

6117.10

- Shawls, scarves, mufflers, mantillas, veils and the like

6117.80

- Other accessories

6117.90

- Parts

Chapter 62

Articles of apparel and clothing accessories, not knitted or crocheted

LEGAL NOTES

Notes.

1.- This Chapter applies only to made up articles of any textile fabric other than wadding, excluding knitted or crocheted articles (other than those of heading 62.12).

2.- This Chapter does not cover :

(a) Worn clothing or other worn articles of heading 63.09; or

(b) Orthopaedic appliances, surgical belts, trusses or the like (heading 90.21).

3.- For the purposes of headings 62.03 and 62.04 :

(a) The term “suit” means a set of garments composed of two or three pieces made up, in respect of their outer surface, in identical fabric and comprising :

- one suit coat or jacket the outer shell of which, exclusive of sleeves, consists of four or more panels, designed to cover the upper part of the body, possibly with a tailored waistcoat in addition whose front is made from the same fabric as the outer surface of the other components of the set and whose back is made from the same fabric as the lining of the suit coat or jacket; and

- one garment designed to cover the lower part of the body and consisting of trousers, breeches or shorts (other than swimwear), a skirt or a divided skirt, having neither braces nor bibs.

All of the components of a “suit” must be of the same fabric construction, colour and composition; they must also be of the same style and of corresponding or compatible size. However, these components may have piping (a strip of fabric sewn into the seam) in a different fabric.

If several separate components to cover the lower part of the body are presented together (for example, two pairs of trousers or trousers and shorts, or a skirt or divided skirt and trousers), the constituent lower part shall be one pair of trousers or, in the case of women’s or girls’ suits, the skirt or divided skirt, the other garments being considered separately.

The term “suit” includes the following sets of garments, whether or not they fulfil all the above conditions :

- morning dress, comprising a plain jacket (cutaway) with rounded tails hanging well down at the back and striped trousers;

- evening dress (tailcoat), generally made of black fabric, the jacket of which is relatively short at the front, does not close and has narrow skirts cut in at the hips and hanging down behind;

- dinner jacket suits, in which the jacket is similar in style to an ordinary jacket (though perhaps revealing more of the shirt front), but has shiny silk or imitation silk lapels.

(b) The term “ensemble” means a set of garments (other than suits and articles of heading 62.07 or 62.08) composed of several pieces made up in identical fabric, put up for retail sale, and comprising :

- one garment designed to cover the upper part of the body, with the exception of waistcoats which may also form a second upper garment, and

- one or two different garments, designed to cover the lower part of the body and consisting of trousers, bib and brace overalls, breeches, shorts (other than swimwear), a skirt or a divided skirt.

All of the components of an ensemble must be of the same fabric construction, style, colour and composition; they also must be of corresponding or compatible size. The term “ensemble” does not apply to track suits or ski suits, of heading 62.11.

4.- Headings 62.05 and 62.06 do not cover garments with pockets below the waist, with a ribbed waistband or other means of tightening at the bottom of the garment. Heading 62.05 does not cover sleeveless garments.

“Shirts” and “shirt-blouses” are garments designed to cover the upper part of the body, having long or short sleeves and a full or partial opening starting at the neckline. “Blouses” are loose-fitting garments also designed to cover the upper part of the body but may be sleeveless and with or without an opening at the neckline. “Shirts”, “shirt-blouses” and “blouses” may also have a collar.

5.- For the purposes of heading 62.09 :

(a) The expression “babies’ garments and clothing accessories” means articles for young children of a body height not exceeding 86 cm;

(b) Articles which are*, prima facie*, classifiable both in heading 62.09 and in other headings of this Chapter are to be classified in heading 62.09.

6.- Garments which are, *prima facie*, classifiable both in heading 62.10 and in other headings of this Chapter, excluding heading 62.09, are to be classified in heading 62.10.

7.- For the purposes of heading 62.11, “ski suits” means garments or sets of garments which, by their general appearance and texture, are identifiable as intended to be worn principally for skiing (cross-country or alpine). They consist either of :

(a) a “ski overall”, that is, a one-piece garment designed to cover the upper and the lower parts of the body; in addition to sleeves and a collar the ski overall may have pockets or footstraps; or

(b) a “ski ensemble”, that is, a set of garments composed of two or three pieces, put up for retail sale and comprising :

- one garment such as an anorak, wind-cheater, wind-jacket or similar article, closed by a slide fastener (zipper), possibly with a waistcoat in addition, and

- one pair of trousers whether or not extending above waist-level, one pair of breeches or one bib and brace overall.

The “ski ensemble” may also consist of an overall similar to the one mentioned in paragraph (a) above and a type of padded, sleeveless jacket worn over the overall.

All the components of a “ski ensemble” must be made up in a fabric of the same texture, style and composition whether or not of the same colour; they also must be of corresponding or compatible size.

8.- Scarves and articles of the scarf type, square or approximately square, of which no side exceeds 60 cm, are to be classified as handkerchiefs (heading 62.13). Handkerchiefs of which any side exceeds 60 cm are to be classified in heading 62.14.

9.- Garments of this Chapter designed for left over right closure at the front shall be regarded as men’s or boys’ garments, and those designed for right over left closure at the front as women’s or girls’ garments. These provisions do not apply where the cut of the garment clearly indicates that it is designed for one or other of the sexes.

Garments which cannot be identified as either men’s or boys’ garments or as women’s or girls’ garments are to be classified in the headings covering women’s or girls’ garments.

10.- Articles of this Chapter may be made of metal thread.

EXPLANATORY NOTES

Chapter 62

Articles of apparel and clothing accessories, not knitted or crocheted

Notes.

1.- This Chapter applies only to made up articles of any textile fabric other than wadding, excluding knitted or crocheted articles (other than those of heading 62.12).

2.- This Chapter does not cover :

(a) Worn clothing or other worn articles of heading 63.09; or

(b) Orthopaedic appliances, surgical belts, trusses or the like (heading 90.21).

3.- For the purposes of headings 62.03 and 62.04 :

(a) The term “suit” means a set of garments composed of two or three pieces made up, in respect of their outer surface, in identical fabric and comprising :

- one suit coat or jacket the outer shell of which, exclusive of sleeves, consists of four or more panels, designed to cover the upper part of the body, possibly with a tailored waistcoat in addition whose front is made from the same fabric as the outer surface of the other components of the set and whose back is made from the same fabric as the lining of the suit coat or jacket; and

- one garment designed to cover the lower part of the body and consisting of trousers, breeches or shorts (other than swimwear), a skirt or a divided skirt, having neither braces nor bibs.

All of the components of a "suit" must be of the same fabric construction, colour and composition; they must also be of the same style and of corresponding or compatible size. However, these components may have piping (a strip of fabric sewn into the seam) in a different fabric.

If several separate components to cover the lower part of the body are presented together (for example, two pairs of trousers or trousers and shorts, or a skirt or divided skirt and trousers), the constituent lower part shall be one pair of trousers or, in the case of women's or girls' suits, the skirt or divided skirt, the other garments being considered separately.

The term "suit" includes the following sets of garments, whether or not they fulfil all the above conditions :

- morning dress, comprising a plain jacket (cutaway) with rounded tails hanging well down at the back and striped trousers;

- evening dress (tailcoat), generally made of black fabric, the jacket of which is relatively short at the front, does not close and has narrow skirts cut in at the hips and hanging down behind;

- dinner jacket suits, in which the jacket is similar in style to an ordinary jacket (though perhaps revealing more of the shirt front), but has shiny silk or imitation silk lapels.

(b) The term "ensemble" means a set of garments (other than suits and articles of heading 62.07 or 62.08) composed of several pieces made up in identical fabric, put up for retail sale, and comprising :

- one garment designed to cover the upper part of the body, with the exception of waistcoats which may also form a second upper garment, and

- one or two different garments, designed to cover the lower part of the body and consisting of trousers, bib and brace overalls, breeches, shorts (other than swimwear), a skirt or a divided skirt.

All of the components of an ensemble must be of the same fabric construction, style, colour and composition; they also must be of corresponding or compatible size. The term "ensemble" does not apply to track suits or ski suits, of heading 62.11.

4.- Headings 62.05 and 62.06 do not cover garments with pockets below the waist, with a ribbed waistband or other means of tightening at the bottom of the garment. Heading 62.05 does not cover sleeveless garments.

"Shirts" and "shirt-blouses" are garments designed to cover the upper part of the body, having long or short sleeves and a full or partial opening starting at the neckline. "Blouses" are loose-fitting garments also designed to cover the upper part of the body but may be sleeveless and with or without an opening at the neckline. "Shirts", "shirt-blouses" and "blouses" may also have a collar.

5.- For the purposes of heading 62.09 :

(a) The expression “babies’ garments and clothing accessories” means articles for young children of a body height not exceeding 86 cm;

(b) Articles which are*, prima facie*, classifiable both in heading 62.09 and in other headings of this Chapter are to be classified in heading 62.09.

6.- Garments which are, *prima facie*, classifiable both in heading 62.10 and in other headings of this Chapter, excluding heading 62.09, are to be classified in heading 62.10.

7.- For the purposes of heading 62.11, “ski suits” means garments or sets of garments which, by their general appearance and texture, are identifiable as intended to be worn principally for skiing (cross-country or alpine). They consist either of :

(a) a “ski overall”, that is, a one-piece garment designed to cover the upper and the lower parts of the body; in addition to sleeves and a collar the ski overall may have pockets or footstraps; or

(b) a “ski ensemble”, that is, a set of garments composed of two or three pieces, put up for retail sale and comprising :

- one garment such as an anorak, wind-cheater, wind-jacket or similar article, closed by a slide fastener (zipper), possibly with a waistcoat in addition, and

- one pair of trousers whether or not extending above waist-level, one pair of breeches or one bib and brace overall.

The “ski ensemble” may also consist of an overall similar to the one mentioned in paragraph (a) above and a type of padded, sleeveless jacket worn over the overall.

All the components of a “ski ensemble” must be made up in a fabric of the same texture, style and composition whether or not of the same colour; they also must be of corresponding or compatible size.

8.- Scarves and articles of the scarf type, square or approximately square, of which no side exceeds 60 cm, are to be classified as handkerchiefs (heading 62.13). Handkerchiefs of which any side exceeds 60 cm are to be classified in heading 62.14.

9.- Garments of this Chapter designed for left over right closure at the front shall be regarded as men’s or boys’ garments, and those designed for right over left closure at the front as women’s or girls’ garments. These provisions do not apply where the cut of the garment clearly indicates that it is designed for one or other of the sexes.

Garments which cannot be identified as either men’s or boys’ garments or as women’s or girls’ garments are to be classified in the headings covering women’s or girls’ garments.

10.- Articles of this Chapter may be made of metal thread.

GENERAL

This Chapter covers men’s, women’s or children’s articles of apparel, clothing accessories and parts of apparel or of clothing accessories, made up of the fabrics (excluding wadding but including felt or

nonwovens) of Chapters 50 to 56, 58 and 59. With the **exception** of the articles of heading 62.12, articles of apparel, clothing accessories and parts made of knitted or crocheted material are **excluded** from this Chapter.

The classification of goods in this Chapter is not affected by the presence of parts or accessories of, for example, knitted or crocheted fabrics, furskin, feather, leather, plastics or metal. Where, however, the presence of such materials constitutes **more than mere trimming** the articles are classified in accordance with the relative Chapter Notes (particularly Note 4 to Chapter 43 and Note 2 (b) to Chapter 67, relating to the presence of furskin and feathers, respectively), or failing that, according to the General Interpretative Rules.

Electrically heated articles remain in this Chapter.

By application of the provisions of Note 9 to this Chapter garments having a front opening which fastens or overlaps left over right are considered to be garments for men or boys. When the opening fastens or overlaps right over left these garments are considered to be garments for women or girls.

These provisions do not apply where the cut of the garment clearly indicates that it is designed for one or the other of the sexes. Garments which cannot be identified as either men's or boys' garments or women's or girls' garments are to be classified in the headings covering women's or girls' garments.

By application of Note 14 to Section XI, garments of different headings are to be classified in their own headings even if put up in sets for retail sale. This, however, does not apply to garments put up in sets which are specifically mentioned in the heading texts, for example, suits, pyjamas, swimwear. It should be noted that, for the application of Note 14 to Section XI, the expression "textile garments" means garments of headings 62.01 to 62.11.

This Chapter also covers unfinished or incomplete articles of the kind described therein, including shaped textile fabric for making such articles and shaped knitted or crocheted fabrics for making articles or parts of articles of heading 62.12. Provided these products have the essential character of the articles concerned, they are classified in the same headings as the finished articles. However, parts of garments or of clothing accessories, not knitted or crocheted (**other than** those of **heading 62.12**) are classified in **heading 62.17**.

The Chapter also **excludes** :

(a) Articles of apparel and clothing accessories of **heading 39.26**, **40.15**, **42.03** or **68.12**.

(b) Pieces of textile fabric which have undergone some working (such as hemming or the formation of necklines), intended for the manufacture of garments but not yet sufficiently completed to be identifiable as garments or parts of garments (**heading 63.07**).

(c) Worn clothing and other worn articles of **heading 63.09**.

(d) Garments for dolls (**heading 95.03**).

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Subheading Explanatory Note.

Classification of articles made from quilted textile products in the piece of heading 58.11

Articles made from the quilted textile products in the piece of heading 58.11 are to be classified within the subheadings of the headings of this Chapter under the provisions of Subheading Note 2 to Section XI. For the purposes of their classification, it is the textile material of the outer fabric which gives these articles their essential character. This means that where, for example, a man's quilted anorak has an outer fabric of 60 % cotton and 40 % polyester, the garment falls in subheading 6201.30. It should be noted that, even if this outer fabric by itself falls in heading 59.03, 59.06 or 59.07, the garment does not fall in heading 62.10.

Heading 6201

Men's or boys' overcoats, car-coats, capes, cloaks, anoraks (including ski-jackets), wind-cheaters, wind-jackets and similar articles, other than those of heading 62.03.

EXPLANATORY NOTES

62.01 - Men's or boys' overcoats, car-coats, capes, cloaks, anoraks (including ski-jackets), wind-cheaters, wind-jackets and similar articles, other than those of heading 62.03.

6201.20 - Of wool or fine animal hair

6201.30 - Of cotton

6201.40 - Of man-made fibres

6201.90 - Of other textile materials

The provisions of the Explanatory Note to heading 61.01 apply, *mutatis mutandis*, to the articles of this heading.

However, the heading **does not cover** garments made up of fabrics of heading 56.02, 56.03, 59.03, 59.06 or 59.07 (**heading 62.10**).

6201.20

- Of wool or fine animal hair

6201.30

- Of cotton

6201.40

- Of man-made fibres

6201.90

- Of other textile materials

Heading 6202

Women's or girls' overcoats, car-coats, capes, cloaks, anoraks (including ski-jackets), wind-cheaters, wind-jackets and similar articles, other than those of heading 62.04.

EXPLANATORY NOTES

62.02 - Women's or girls' overcoats, car-coats, capes, cloaks, anoraks (including ski-jackets), wind-cheaters, wind-jackets and similar articles, other than those of heading 62.04.

6202.20 - Of wool or fine animal hair

6202.30 - Of cotton

6202.40 - Of man-made fibres

6202.90 - Of other textile materials

The provisions of the Explanatory Note to heading 61.02 apply, *mutatis mutandis*, to the articles of this heading.

However, the heading **does not cover** garments made up of fabrics of heading 56.02, 56.03, 59.03, 59.06 or 59.07 (**heading 62.10**).

6202.20

- Of wool or fine animal hair

6202.30

- Of cotton

6202.40

- Of man-made fibres

CLASSIFICATION OPINIONS

1. **Long-sleeved garment**, made of woven polyester fabric, with a collar and pockets. It extends below mid-thigh and has a full opening at the front that fastens right over left by means of buttons and a belt. **Application of GIRs 1 and 6.** *Adoption : 2014*



2. **Anorak-like garment**, made of woven polyester fabric, reaching down to below the waist, with a collar, a hood and side pockets. The cut of the garment clearly indicates that it is designed for a woman despite that it fastens left over right by means of a zip, press studs and a belt. It has a ribbed waistband and a drawstring to tighten the garment at the bottom. **Application of GIRs 1 and 6.** *Adoption : 2014*



6202.90

- Of other textile materials

Heading 6203

Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts (other than swimwear).

EXPLANATORY NOTES

62.03 - Men’s or boys’ suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts (other than swimwear).

- Suits :

6203.11 - - Of wool or fine animal hair

6203.12 - - Of synthetic fibres

6203.19 - - Of other textile materials

- Ensembles :

6203.22 - - Of cotton

6203.23 - - Of synthetic fibres

6203.29 - - Of other textile materials

- Jackets and blazers :

6203.31 - - Of wool or fine animal hair

6203.32 - - Of cotton

6203.33 - - Of synthetic fibres

6203.39 - - Of other textile materials

- Trousers, bib and brace overalls, breeches and shorts :

6203.41 - - Of wool or fine animal hair

6203.42 - - Of cotton

6203.43 - - Of synthetic fibres

6203.49 - - Of other textile materials

The provisions of the Explanatory Note to heading 61.03 apply, *mutatis mutandis*, to the articles of this heading.

However, the heading **does not cover** garments made up of fabrics of heading 56.02, 56.03, 59.03, 59.06 or 59.07 (**heading 62.10**).

6203.1

- Suits :

6203.11

-- Of wool or fine animal hair

6203.12

-- Of synthetic fibres

6203.19

-- Of other textile materials

6203.2

- Ensembles :

6203.22

-- Of cotton

6203.23

-- Of synthetic fibres

6203.29

-- Of other textile materials

6203.3

- Jackets and blazers :

6203.31

-- Of wool or fine animal hair

6203.32

-- Of cotton

6203.33

-- Of synthetic fibres
6203.39
-- Of other textile materials
6203.4
- Trousers, bib and brace overalls, breeches and shorts :
6203.41
-- Of wool or fine animal hair
6203.42
-- Of cotton
6203.43
-- Of synthetic fibres
6203.49
-- Of other textile materials
Heading 6204

Women's or girls' suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts (other than swimwear).

EXPLANATORY NOTES

62.04 - Women’s or girls’ suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts (other than swimwear).

- Suits :

6204.11 - - Of wool or fine animal hair

6204.12 - - Of cotton

6204.13 - - Of synthetic fibres

6204.19 - - Of other textile materials

- Ensembles :

6204.21 - - Of wool or fine animal hair

6204.22 - - Of cotton

6204.23 - - Of synthetic fibres

6204.29 - - Of other textile materials

- Jackets and blazers :

6204.31 - - Of wool or fine animal hair

6204.32 - - Of cotton

6204.33 - - Of synthetic fibres

6204.39 - - Of other textile materials

- Dresses :

6204.41 - - Of wool or fine animal hair

6204.42 - - Of cotton

6204.43 - - Of synthetic fibres

6204.44 - - Of artificial fibres

6204.49 - - Of other textile materials

- Skirts and divided skirts :

6204.51 - - Of wool or fine animal hair

6204.52 - - Of cotton

6204.53 - - Of synthetic fibres

6204.59 - - Of other textile materials

- Trousers, bib and brace overalls, breeches and shorts :

6204.61 - - Of wool or fine animal hair

6204.62 - - Of cotton

6204.63 - - Of synthetic fibres

6204.69 - - Of other textile materials

The provisions of the Explanatory Note to heading 61.04 apply, *mutatis mutandis*, to the articles of this heading.

However, the heading **does not cover** garments made up of fabrics of heading 56.02, 56.03, 59.03, 59.06 or 59.07 (**heading 62.10**).

6204.1

- Suits :
6204.11

-- Of wool or fine animal hair
6204.12
-- Of cotton
6204.13
-- Of synthetic fibres
6204.19
-- Of other textile materials
6204.2
- Ensembles :
6204.21
-- Of wool or fine animal hair
6204.22
-- Of cotton
6204.23
-- Of synthetic fibres
6204.29
-- Of other textile materials
6204.3
- Jackets and blazers :
6204.31
-- Of wool or fine animal hair
6204.32
-- Of cotton
6204.33
-- Of synthetic fibres
6204.39
-- Of other textile materials
6204.4
- Dresses :
6204.41
-- Of wool or fine animal hair
6204.42
-- Of cotton
6204.43
-- Of synthetic fibres
6204.44
-- Of artificial fibres
6204.49
-- Of other textile materials
6204.5
- Skirts and divided skirts :
6204.51

-- Of wool or fine animal hair
6204.52

-- Of cotton
6204.53

-- Of synthetic fibres
6204.59

-- Of other textile materials
6204.6

- Trousers, bib and brace overalls, breeches and shorts :
6204.61

-- Of wool or fine animal hair
6204.62

-- Of cotton
CLASSIFICATION OPINIONS

1. **Women's trousers** ("Shalwar"), made of woven cotton fabric, green in colour. This pair of trousers is one component of a women's garment known as a "Shalwar-Kameez", which also consists of a tunic and a shawl (both green and yellow in colour), which are classified separately in subheadings 6206.30 and 6214.90, respectively. All three components are presented together, put up for retail sale. **Application of GIRs 1 (Note 14 to Section XI) and 6.** *See also Opinions 6206.30/1 and 6214.90/2. Adoption : 2014*



6204.63

-- Of synthetic fibres
6204.69

-- Of other textile materials
Heading 6205

Men's or boys' shirts.
EXPLANATORY NOTES

62.05 - Men’s or boys’ shirts.

6205.20 - Of cotton

6205.30 - Of man-made fibres

6205.90 - Of other textile materials

With the exception of nightshirts, singlets and other vests of **heading 62.07**, this heading covers shirts (as defined in Note 4 to this Chapter) not knitted or crocheted for men or boys including shirts with detachable collars, dress shirts, sports shirts and leisure shirts.

The heading **does not cover** garments having the character of wind-cheaters, wind-jackets, etc., of **heading 62.01**, which generally have a tightening at the bottom, or of jackets of **heading 62.03**, which generally have pockets below the waist. Sleeveless garments are also **excluded**.

6205.20

- Of cotton

6205.30

- Of man-made fibres

6205.90

- Of other textile materials

Heading 6206

Women's or girls' blouses, shirts and shirt-blouses.

EXPLANATORY NOTES

62.06 - Women’s or girls’ blouses, shirts and shirt-blouses.

6206.10 - Of silk or silk waste

6206.20 - Of wool or fine animal hair

6206.30 - Of cotton

6206.40 - Of man-made fibres

6206.90 - Of other textile materials

This heading covers the group of women’s or girls’ clothing, not knitted or crocheted, which comprises blouses, shirts and shirt-blouses (see Note 4 to this Chapter).

This heading **does not cover** garments with pockets below the waist or with a ribbed waistband or other means of tightening at the bottom of the garment.

Furthermore, the heading **does not include** :

(a) Singlets or other vests (**heading 62.08**).

(b) Garments made up of fabrics of heading 56.02, 56.03, 59.03, 59.06 or 59.07 (**heading 62.10**).

(c) Smocks or similar protective garments of **heading 62.11**.

6206.10

- Of silk or silk waste

6206.20

- Of wool or fine animal hair

6206.30

- Of cotton

CLASSIFICATION OPINIONS

1. Women's tunic ("Kameez"), which is a loose-fitting garment, made up of pieces of woven cotton fabric (green and yellow in colour, respectively) sewn together. It is sleeveless, with a scoop neck, decorated with patterns sewn on the fabric, and features a lining and a strip of silvery fabric along the hem of the tunic.
This tunic is one component of a women's garment known as a "Shalwar-Kameez", which also consists of a pair of trousers (green in colour) and a shawl (green and yellow in colour), which are classified separately in subheadings 6204.62 and 6214.90, respectively. All three components are presented together, put up for retail sale.
Application of GIRs 1 (Note 14 to Section XI) and 6.
See also Opinions 6204.62/1 and 6214.90/2.
Adoption : 2014



6206.40

- Of man-made fibres

6206.90

- Of other textile materials

Heading 6207

Men's or boys' singlets and other vests, underpants, briefs, nightshirts, pyjamas, bathrobes, dressing gowns and similar articles.

EXPLANATORY NOTES

62.07 - Men's or boys' singlets and other vests, underpants, briefs, nightshirts, pyjamas, bathrobes, dressing gowns and similar articles.

- Underpants and briefs :

6207.11 - - Of cotton

6207.19 - - Of other textile materials

- Nightshirts and pyjamas :

6207.21 - - Of cotton

6207.22 - - Of man-made fibres

6207.29 - - Of other textile materials

- Other :

6207.91 - - Of cotton

6207.99 - - Of other textile materials

This heading covers underclothing for men or boys (singlets and other vests, underpants, briefs and similar articles), not knitted or crocheted.

The heading also includes nightshirts, pyjamas, bathrobes (including beachrobes), dressing gowns and similar articles for men or boys (garments usually worn indoors).

It should be noted that **knitted or crocheted** articles of this kind are to be classified in **heading 61.07** or **61.09**, as the case may be.

6207.1

- Underpants and briefs :

6207.11

-- Of cotton

6207.19

-- Of other textile materials

6207.2

- Nightshirts and pyjamas :

6207.21

-- Of cotton

6207.22

-- Of man-made fibres

6207.29

-- Of other textile materials
6207.9

- Other :
6207.91

-- Of cotton
6207.99

-- Of other textile materials
Heading 6208

Women's or girls' singlets and other vests, slips, petticoats, briefs, panties, nightdresses, pyjamas, negligees, bathrobes, dressing gowns and similar articles.
EXPLANATORY NOTES

62.08 - Women's or girls' singlets and other vests, slips, petticoats, briefs, panties, nightdresses, pyjamas, negligees, bathrobes, dressing gowns and similar articles.

- Slips and petticoats :

6208.11 - - Of man-made fibres

6208.19 - - Of other textile materials

- Nightdresses and pyjamas :

6208.21 - - Of cotton

6208.22 - - Of man-made fibres

6208.29 - - Of other textile materials

- Other :

6208.91 - - Of cotton

6208.92 - - Of man-made fibres

6208.99 - - Of other textile materials

This heading covers underclothing for women or girls (singlets and other vests, slips, petticoats, briefs, panties and similar articles), not knitted or crocheted.

The heading also includes nightdresses, pyjamas, négligés, bathrobes (including beachrobes), dressing gowns and similar articles for women or girls (garments usually worn indoors).

It should be noted that **knitted or crocheted** articles of this kind are to be classified in **heading 61.08** or **61.09**, as the case may be.

This heading also **excludes** brassières, girdles, corsets and similar articles (**heading 62.12**).

6208.1

- Slips and petticoats :

6208.11

-- Of man-made fibres

6208.19

-- Of other textile materials

6208.2

- Nightdresses and pyjamas :

6208.21

-- Of cotton

6208.22

-- Of man-made fibres

6208.29

-- Of other textile materials

6208.9

- Other :

6208.91

-- Of cotton

6208.92

-- Of man-made fibres

6208.99

-- Of other textile materials

Heading 6209

Babies' garments and clothing accessories.

EXPLANATORY NOTES

62.09 - Babies’ garments and clothing accessories.

6209.20 - Of cotton

6209.30 - Of synthetic fibres

6209.90 - Of other textile materials

In accordance with Chapter Note 5 (a) the expression “babies’ garments and clothing accessories” applies to articles for young children of a body height not exceeding 86 cm.

This heading includes, *inter alia*, matinée coats, pixie suits, rompers, infants’ bibs, gloves, mittens and mitts, tights and babies’ bootees without an outer sole glued, sewn or otherwise affixed or applied to the upper, not knitted or crocheted.

It should be noted that articles which are, *prima facie*, classifiable both in heading 62.09 and in other headings of this Chapter are to be classified in **heading 62.09** (see Chapter Note 5 (b)).

This heading **does not include :**

(a) Babies' bonnets (**heading 65.05**).

(b) Napkins (diapers) and napkin liners for babies (**heading 96.19**).

(c) Babies' clothing accessories covered more specifically by other Chapters of the Nomenclature.

6209.20

- Of cotton

6209.30

- Of synthetic fibres

6209.90

- Of other textile materials

Heading 6210

Garments, made up of fabrics of heading 56.02, 56.03, 59.03, 59.06 or 59.07.

EXPLANATORY NOTES

62.10 - Garments, made up of fabrics of heading 56.02, 56.03, 59.03, 59.06 or 59.07.

6210.10 - Of fabrics of heading 56.02 or 56.03

6210.20 - Other garments, of the type described in heading 62.01

6210.30 - Other garments, of the type described in heading 62.02

6210.40 - Other men's or boys' garments

6210.50 - Other women's or girls' garments

With the exception of babies' garments of **heading 62.09**, this heading covers all garments made up of felt or nonwovens, whether or not impregnated, coated, covered or laminated, or of textile fabrics (**other than** knitted or crocheted fabrics) of heading 59.03, 59.06 or 59.07, without distinction between male or female wear.

The heading includes raincoats, oilskins, divers' suits and anti-radiation protective suits, not combined with breathing apparatus.

It should be noted that articles which are, *prima facie*, classifiable both in this heading and in other headings of this Chapter, **excluding heading 62.09**, are to be classified in this heading (see Chapter Note 6).

The heading **does not include** :

(a) Garments of paper, cellulose wadding or webs of cellulose fibres (**heading 48.18**).

(b) Garments made from the quilted textile products in the piece of heading 58.11 (generally **heading 62.01** or **62.02**). See Subheading Explanatory Note at the end of the General Explanatory Notes to this Chapter.

(c) Clothing accessories (e.g., gloves, mittens and mitts of **heading 62.16**).

6210.10

- Of fabrics of heading 56.02 or 56.03

6210.20

- Other garments, of the type described in heading 62.01

6210.30

- Other garments, of the type described in heading 62.02

6210.40

- Other men's or boys' garments

6210.50

- Other women's or girls' garments

Heading 6211

Track suits, ski suits and swimwear; other garments.

EXPLANATORY NOTES

62.11 - Track suits, ski suits and swimwear; other garments.

- Swimwear :

6211.11 - - Men’s or boys’

6211.12 - - Women’s or girls’

6211.20 - Ski suits

- Other garments, men’s or boys’ :

6211.32 - - Of cotton

6211.33 - - Of man-made fibres

6211.39 - - Of other textile materials

- Other garments, women’s or girls’ :

6211.42 - - Of cotton

6211.43 - - Of man-made fibres

6211.49 - - Of other textile materials

The provisions of the Explanatory Note to heading 61.12 concerning track suits, ski suits and swimwear and of the Explanatory Note to heading 61.14 concerning other garments apply, *mutatis mutandis*, to the articles of this heading. However, the track suits of this heading may be lined.

It should be noted that, **unlike heading 61.14** this heading also covers tailored waistcoats separately presented, **not** knitted or crocheted.

This heading also includes fabric in the piece, with the weft threads omitted at regular intervals, from which loin-cloths can be obtained by simple cutting and without further fabrication. Separate loin-cloths are also included.

6211.1

- Swimwear :

6211.11

-- Men's or boys'

6211.12

-- Women's or girls'

6211.20

- Ski suits

6211.3

- Other garments, men's or boys' :

6211.32

-- Of cotton

6211.33

-- Of man-made fibres

CLASSIFICATION OPINIONS

1. "**Paintball pants**" **(trousers)**, designed to be worn during paintballing, primarily of a shell of woven fabric (70 % polyester and 30 % nylon) with water resistant coating which cannot be seen by the naked eye and some knit mesh fabric in the groin and inner thigh areas, having a rubber back grip to keep the waist harness in place, a fiber joint above the knee to allow the trousers to stretch for easier movement, vents, front zipper closure with protective flap (left over right), adjustable attached belt, side slash pockets and leg patch pockets. There is some textile padding in the groin and knee areas to provide protection from ground abrasions and paintballs. **Application of GIRs 1 and 6 (Note 9 to Chapter 62 and Note 1 to Chapter 54)** *Adoption : 2008*



6211.39

-- Of other textile materials

6211.4

- Other garments, women's or girls' :

6211.42

-- Of cotton

6211.43

-- Of man-made fibres

6211.49

-- Of other textile materials

Heading 6212

Brassieres, girdles, corsets, braces, suspenders, garters and similar articles and parts thereof, whether or not knitted or crocheted.

EXPLANATORY NOTES

62.12 - Brassieres, girdles, corsets, braces, suspenders, garters and similar articles and parts thereof, whether or not knitted or crocheted.

6212.10 - Brassieres

6212.20 - Girdles and panty-girdles

6212.30 - Corselettes

6212.90 - Other

This heading covers articles of a kind designed for wear as body-supporting garments or as supports for certain other articles of apparel, and parts thereof. These articles may be made of any textile material including knitted or crocheted fabrics (whether or not elastic).

The heading includes, *inter alia* :

(1) Brassieres of all kinds.

(2) Girdles and panty-girdles.

(3) Corselettes (combinations of girdles or panty-girdles and brassieres).

(4) Corsets and corset-belts. These are usually reinforced with flexible metallic or plastic stays, and are generally fastened by lacing or by hooks.

(5) Suspender-belts, hygienic belts, suspensory bandages, suspender jock-straps, braces, suspenders, garters, shirt-sleeve supporting arm-bands and armlets.

(6) Body belts for men (including those combined with underpants).

(7) Maternity, post-pregnancy or similar supporting or corrective belts, **not being** orthopaedic appliances of **heading 90.21** (see Explanatory Note to that heading).

All the above articles may be furnished with trimmings of various kinds (ribbons, lace, etc.), and may incorporate fittings and accessories of non-textile materials (e.g., metal, rubber, plastics or leather).

The heading also includes knitted or crocheted articles and parts thereof obtained by manufacture directly to shape by increasing or decreasing the number or size of the stitches and designed to be used for the manufacture of articles of this heading, even when presented in the form of a number of items in the length.

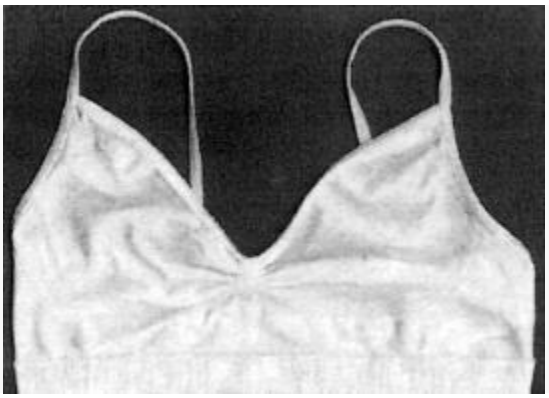
The heading **does not include** corsets and belts made wholly of rubber (**heading 40.15**).

6212.10

- Brassieres

CLASSIFICATION OPINIONS

1. Light-weight knitted garment (90 % polyamide, 10 % elastothane) **for women or girls,** designed to cover the upper part of the body and extending down just below the bust. This article is worn next to the skin as an undergarment; it has a V-shaped neckline, stitching separating the cups and thin shoulder straps with added elastic strips. The bottom of the garment is also fitted with an elastic strip approximately 20 mm wide so as to hug the body. The garment has a body-supporting function.
Application of GIR 1.
Adoption : 2001



6212.20

- Girdles and panty-girdles

6212.30

- Corselettes

6212.90

- Other

CLASSIFICATION OPINIONS

1. "**Cups**" **for incorporation in ladies' bathing costumes,** made from a perforated sheet of polyethylene covered on both sides with a knitted nylon fabric, the resulting product being cut to size and then hot-shaped.
   Adoption : 1971

2. Reinforced **lumbar support belt**, with posture correction, of elasticised woven fabric (43 % polyamide, 25 % lapped elastane, 16 % cotton, 16 % polyester) with a crosswise structure ensuring stability of the belt (preventing it from creasing) and "velcro" fastener. In the back of the belt (width about 27 cm) are three bands of woven fabric (crossed, by analogy with muscular function) and rigid anatomical boning consisting of four rigid bands perpendicular to the length of the belt (posture correction). The belt is available in six different sizes, according to the patient's waist measurements. It is described as being used for prevention and treatment of :

   - acute or chronic lumbago and sciatica

   - occupational traumatisms

   - back pain due to vertebral arthrosis

   - hernias (support of the abdominal wall),

   - or for post-operative support.

Application of GIR 1 (text of heading 62.12 and Note 1 (b) to Chapter 90) and GIR 6.
Adoption : 2000



Heading 6213

Handkerchiefs.

EXPLANATORY NOTES

62.13 - Handkerchiefs.

6213.20 - Of cotton

6213.90 - Of other textile materials

The articles included in this heading are square, or approximately square, with no side exceeding 60 cm in length (see Chapter Note 8). They may be ordinary handkerchiefs, or squares of the scarf type worn either as head covering, round the neck or as an ornament at the waist. The edges of these handkerchiefs and squares, which may be straight or scalloped, are hemmed, rolled, bordered or provided with fringes, the latter usually consisting of projecting warp or weft threads. In the case of fringed articles the length of the side is to be taken to include the fringe.

Handkerchiefs of this heading may also be made wholly of lace.

The heading also includes fabric in the piece consisting of a number of squares having the character of handkerchiefs or scarves woven together and which, by simply cutting along defined lines (indicated by the absence of warp or weft threads), can be converted into separate fringed articles suitable for use as handkerchiefs or scarves without further operation.

Similarly fabric which, in addition to being simply cut to the required size and shape, has been subjected to a process of “drawn-thread work” giving the **unfinished** article the character of a handkerchief or scarf is classified in this heading.

The heading **does not include** :

(a) Handkerchiefs of paper, cellulose wadding or webs of cellulose fibres (**heading 48.18**).

(b) Nonwovens simply cut into squares or rectangles (**heading 56.03**).

(c) Fabrics simply cut in the form of squares and embroidered, but with unfinished or unfringed edges (**heading 58.10**).

(d) Articles of the nature of handkerchiefs or square scarves of which any side exceeds 60 cm and scarves of a shape other than square or approximately square (**heading 62.14**).

6213.20

- Of cotton

6213.90

- Of other textile materials

Heading 6214

Shawls, scarves, mufflers, mantillas, veils and the like.

EXPLANATORY NOTES

62.14 - Shawls, scarves, mufflers, mantillas, veils and the like.

6214.10 - Of silk or silk waste

6214.20 - Of wool or fine animal hair

6214.30 - Of synthetic fibres

6214.40 - Of artificial fibres

6214.90 - Of other textile materials

This heading includes :

(1) **Shawls**. These are usually square, triangular or circular, and large enough to cover the head and shoulders.

(2) **Scarves and mufflers**. These are usually square or rectangular and are normally worn round the neck.

(3) **Mantillas**. These are kinds of light shawls or scarves, usually of lace, worn by women over the head and shoulders.

(4) **Veils**. This description applies to a variety of articles, generally made of light, transparent or net material, or sometimes of lace, whether worn for ornamental or utilitarian purposes (e.g., wedding, mourning, communion or similar veils and hat or face veils).

The edges of these articles are usually hemmed, rolled, bordered or fringed.

The heading also covers fabrics in the piece with bands of unwoven threads at regular intervals and so designed that, by simple cutting of the unwoven threads, fringed articles of the kind classified in the heading are obtained.

The heading **does not include** :

(a) Nonwovens simply cut into squares or rectangles (**heading 56.03**).

(b) Fabrics simply cut in the form of shawls, scarves, etc., and embroidered, but with unfinished or unfringed edges (**heading 58.10**).

(c) Shawls, scarves, etc., knitted or crocheted (**heading 61.17**).

(d) Articles of the nature of square scarves of which no side exceeds 60 cm (**heading 62.13**).

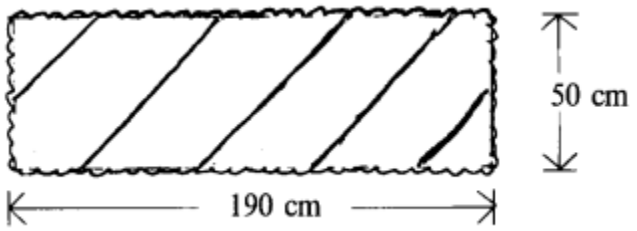
(e) Sashes, e.g., military or ecclesiastical (**heading 62.17**).

6214.10

- Of silk or silk waste

CLASSIFICATION OPINIONS

1. Scarf of embroidered woven fabric, rectangular, made up and ready for use (directly finished by embroidering).
This scarf forms part of a set which also includes a rectangular piece of embroidered woven fabric, not made up in any way. The two articles are presented packed for retail sale and the piece of fabric is intended to be made up into more than one garment.
See also Opinions 5810.91 to 5810.99/2.
Adoption : 1989

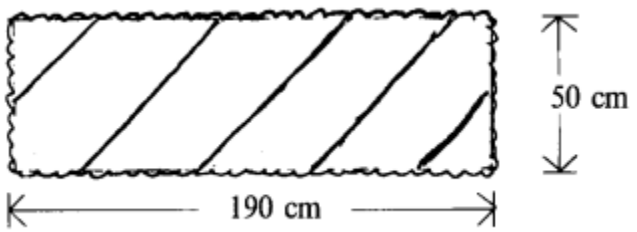


6214.20

- Of wool or fine animal hair

CLASSIFICATION OPINIONS

1. Scarf of embroidered woven fabric, rectangular, made up and ready for use (directly finished by embroidering).
This scarf forms part of a set which also includes a rectangular piece of embroidered woven fabric, not made up in any way. The two articles are presented packed for retail sale and the piece of fabric is intended to be made up into more than one garment.
See also Opinions 5810.91 to 5810.99/2.
Adoption : 1989



6214.30

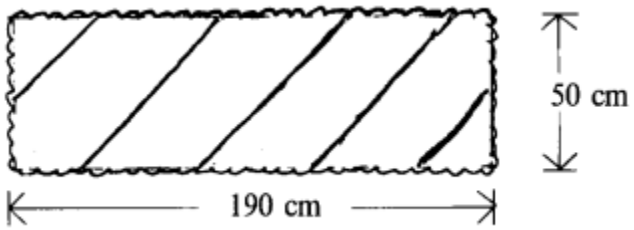
- Of synthetic fibres

CLASSIFICATION OPINIONS

1. Scarf of embroidered woven fabric, rectangular, made up and ready for use (directly finished by embroidering).

This scarf forms part of a set which also includes a rectangular piece of embroidered woven fabric, not made up in any way. The two articles are presented packed for retail sale and the piece of fabric is intended to be made up into more than one garment. *See also Opinions 5810.91 to 5810.99/2.*

Adoption : 1989



6214.40

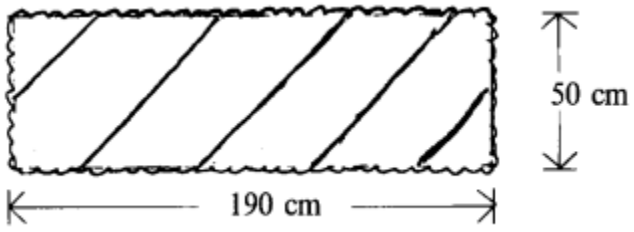
- Of artificial fibres

CLASSIFICATION OPINIONS

1. Scarf of embroidered woven fabric, rectangular, made up and ready for use (directly finished by embroidering).

This scarf forms part of a set which also includes a rectangular piece of embroidered woven fabric, not made up in any way. The two articles are presented packed for retail sale and the piece of fabric is intended to be made up into more than one garment. *See also Opinions 5810.91 to 5810.99/2.*

Adoption : 1989



6214.90

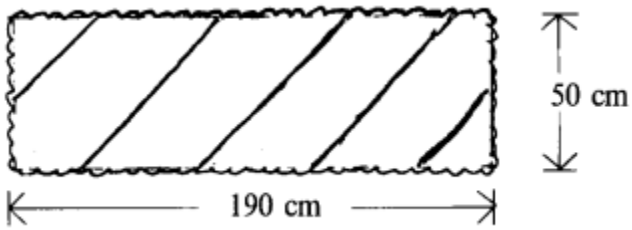
- Of other textile materials

CLASSIFICATION OPINIONS

1. Scarf of embroidered woven fabric, rectangular, made up and ready for use (directly finished by embroidering).

This scarf forms part of a set which also includes a rectangular piece of embroidered woven fabric, not made up in any way. The two articles are presented packed for retail sale and the piece of fabric is intended to be made up into more than one garment.

See also Opinions 5810.91 to 5810.99/2.
Adoption : 1989



2. **Shawl** ("Dupatta") made of woven cotton fabric, rectangular, green and yellow in colour. This shawl is an accessory component of a women's garment known as a "Shalwar-Kameez", which also consists of a pair of trousers (green in colour) and a tunic (green and yellow in colour), which are classified separately in subheadings 6204.62 and 6206.30, respectively. All three components are presented together, put up for retail sale. **Application of GIRs 1 (Note 14 to Section XI) and 6.**
See also Opinions 6204.62/1 and 6206.30/1.
Adoption : 2014



Heading 6215

Ties, bow ties and cravats.

EXPLANATORY NOTES

62.15 - Ties, bow ties and cravats.

6215.10 - Of silk or silk waste

6215.20 - Of man-made fibres

6215.90 - Of other textile materials

This heading covers ties, bow ties, cravats and stocks, of the kinds generally worn by men (including those mounted on plastic, metal, etc., fittings to facilitate attachment to the collar).

Fabrics cut to pattern for manufacture into ties, etc., are also included in this heading, but **not** strips of tie material simply cut “on the cross”.

The heading **does not cover** :

(a) Ties, bow ties and cravats, knitted or crocheted (**heading 61.17**).

(b) Rabats, jabots and similar articles of **heading 62.17**.

6215.10

- Of silk or silk waste

6215.20

- Of man-made fibres

6215.90

- Of other textile materials

Heading 6216

Gloves, mittens and mitts.

EXPLANATORY NOTES

62.16 - Gloves, mittens and mitts.

This heading covers gloves, mittens and mitts, of textile fabrics (including lace) **other than** knitted or crocheted fabric.

The provisions of the Explanatory Note to heading 61.16 apply, *mutatis mutandis*, to the articles of this heading.

The heading also covers gloves used for protection in industry, etc.

However, the heading **excludes** :

(a) Loofah friction gloves, lined or not (**heading 46.02**).

(b) Gloves, mittens and mitts, of paper, cellulose wadding or webs of cellulose fibres (**heading 48.18**).

6216.00

Gloves, mittens and mitts.

Heading 6217

Other made up clothing accessories; parts of garments or of clothing accessories, other than those of heading 62.12.

EXPLANATORY NOTES

62.17 - Other made up clothing accessories; parts of garments or of clothing accessories, other than those of heading 62.12.

6217.10 - Accessories

6217.90 - Parts

This heading covers made up textile clothing accessories, **other than** knitted or crocheted, not specified or included in other headings of this Chapter or elsewhere in the Nomenclature. The heading also covers parts of garments or of clothing accessories, **not** knitted or crocheted, **other than** parts of articles of **heading 62.12**.

The heading covers, *inter alia* :

(1) **Dress shields**, usually of rubberised fabric or of rubber covered with textile material. Dress shields wholly of plastics or of rubber are **excluded** (**headings 39.26** and **40.15** respectively).

(2) **Shoulder or other pads**. These are usually made of wadding, felt, or textile waste covered with textile fabric. Shoulder and other pads consisting of rubber (usually cellular rubber) not covered with textile material are **excluded** (**heading 40.15**).

(3) **Belts of all kinds (including bandoliers) and sashes** (e.g., **military or ecclesiastical**), of textile fabric, whether or not elastic or rubberised, or of woven metal thread. These articles are included here even if they incorporate buckles or other fittings of precious metal, or are decorated with pearls, precious or semi-precious stones (natural, synthetic or reconstructed).

(4) **Muffs**, including muffs with mere trimmings of furskin or artificial fur on the outside.

(5) **Sleeve protectors**.

(6) **Sailors' collars**.

(7) **Epaulettes, brassards,** etc.

(8) **Labels, badges, emblems, "flashes" and the like** (**excluding** embroidered motifs of **heading 58.10**) made up **otherwise** than by cutting to shape or size. (When made up only by cutting to shape or size these articles are **excluded - heading 58.07**.)

(9) **Frogs, lanyards, etc**.

(10) **Separately presented removable linings for raincoats and similar garments**.

(11) **Pockets, sleeves, collars, collarettes, wimples, fallals of various kinds** (such as rosettes, bows, ruches, frills and flounces), **bodice-fronts, jabots** (including those combined with collars), **cuffs, yokes, lapels and similar articles**.

(12) **Stockings, socks and sockettes** (including those of lace) and footwear without an outer sole glued, sewn or otherwise affixed or applied to the upper, excluding babies' booties.

Certain made up trimmings (e.g., pompons and tassels, and motifs of lace or embroidery) are classified in **Chapter 58**, as are also, generally, trimmings in the piece.

The articles of this heading are frequently made of lace or embroidery and remain here whether made directly to shape or made up from lace or embroidered fabrics of heading 58.04 or 58.10.

The heading **does not include** :

(a) Babies' clothing accessories of **heading 62.09**.

(b) Belts for occupational use (e.g., window-cleaners' or electricians' belts) or rosettes not for garments (**heading 63.07**).

(c) Feather trimmings (**heading 67.01**).

(d) Trimmings of artificial flowers, foliage or fruit of **heading 67.02**.

(e) Strips of press fasteners and hooks and eyes on tape (**heading 58.06**, **83.08** or **96.06** as the case may be).

(f) Slide fasteners (zippers) (**heading 96.07**).

6217.10

- Accessories

6217.90

- Parts

Chapter 63

Other made up textile articles; sets; worn clothing and worn textile articles; rags

LEGAL NOTES

Notes.

1.- Sub-Chapter I applies only to made up articles, of any textile fabric.

2.- Sub-Chapter I does not cover :

(a) Goods of Chapters 56 to 62; or

(b) Worn clothing or other worn articles of heading 63.09.

3.- Heading 63.09 applies only to the following goods :

(a) Articles of textile materials :

(i) Clothing and clothing accessories, and parts thereof;

(ii) Blankets and travelling rugs;

(iii) Bed linen, table linen, toilet linen and kitchen linen;

(iv) Furnishing articles, other than carpets of headings 57.01 to 57.05 and tapestries of heading 58.05;

(b) Footwear and headgear of any material other than asbestos.

In order to be classified in this heading, the articles mentioned above must comply with both of the following requirements :

(i) they must show signs of appreciable wear, and

(ii) they must be presented in bulk or in bales, sacks or similar packings.

Subheading Note.

1.- Subheading 6304.20 covers articles made from warp knit fabrics, impregnated or coated with alpha-cypermethrin (ISO), chlorfenapyr (ISO), deltamethrin (INN, ISO), lambda-cyhalothrin (ISO), permethrin (ISO) or pirimiphos-methyl (ISO).

EXPLANATORY NOTES

Other made up textile articles; sets; worn clothing and worn textile articles; rags

Notes.

1.- Sub-Chapter I applies only to made up articles, of any textile fabric.

2.- Sub-Chapter I does not cover :

(a) Goods of Chapters 56 to 62; or

(b) Worn clothing or other worn articles of heading 63.09.

3.- Heading 63.09 applies only to the following goods :

(a) Articles of textile materials :

(i) Clothing and clothing accessories, and parts thereof;

(ii) Blankets and travelling rugs;

(iii) Bed linen, table linen, toilet linen and kitchen linen;

(iv) Furnishing articles, other than carpets of headings 57.01 to 57.05 and tapestries of heading 58.05;

(b) Footwear and headgear of any material other than asbestos.

In order to be classified in this heading, the articles mentioned above must comply with both of the following requirements :

(i) they must show signs of appreciable wear, and

(ii) they must be presented in bulk or in bales, sacks or similar packings.

Subheading Note.

1.- Subheading 6304.20 covers articles made from warp knit fabrics, impregnated or coated with alpha-cypermethrin (ISO), chlorfenapyr (ISO), deltamethrin (INN, ISO), lambda-cyhalothrin (ISO), permethrin (ISO) or pirimiphos-methyl (ISO).

GENERAL

This Chapter includes :

(1) Under headings 63.01 to 63.07 (sub-Chapter I) made up textile articles of any textile fabric (woven or knitted fabric, felt, nonwovens, etc.) which are **not** more specifically described in other Chapters of Section XI or elsewhere in the Nomenclature. (The expression “made up textile

articles" means articles made up in the sense defined in Note 7 to Section XI (see also Part (II) of the General Explanatory Note to Section XI.)

This sub-Chapter includes articles of tulles or other net fabrics, lace or embroidery, whether made directly to shape or made up from the tulles or other net fabrics, lace or embroidered fabrics of heading 58.04 or 58.10.

The classification of articles in this sub-Chapter is not affected by the presence of minor trimmings or accessories of furskin, metal (including precious metal), leather, plastics, etc.

Where, however, the presence of these other materials constitutes **more than** mere trimming or accessories, the articles are classified in accordance with the relative Section or Chapter Notes (General Interpretative Rule 1), or in accordance with the other General Interpretative Rules as the case may be.

In particular, this sub-Chapter **does not include** :

(a) Articles of wadding of **heading 56.01**.

(b) Nonwovens merely cut into squares or rectangles (e.g., disposable bed sheets) (**heading 56.03**).

(c) Made up nets of **heading 56.08**.

(d) Motifs of lace or embroidery of **heading 58.04** or **58.10**.

(e) Articles of apparel and clothing accessories of **Chapter 61** or **62**.

(2) Under heading 63.08 (sub-Chapter II) certain sets consisting of woven fabric and yarn, whether or not with accessories, for making up into rugs, tapestries, embroidered table cloths or serviettes, or similar textile articles, put up in packings for retail sale.

(3) Under heading 63.09 or 63.10 (sub-Chapter III) worn clothing and other worn articles as defined in Chapter Note 3, and used or new rags, scrap twine, etc.

Heading 6301

Blankets and travelling rugs.

EXPLANATORY NOTES

Sub-Chapter I

OTHER MADE UP TEXTILE ARTICLES

63.01 - Blankets and travelling rugs.

6301.10 - Electric blankets

6301.20 - Blankets (other than electric blankets) and travelling rugs, of wool or of fine animal hair

6301.30 - Blankets (other than electric blankets) and travelling rugs, of cotton

6301.40 - Blankets (other than electric blankets) and travelling rugs, of synthetic fibres

6301.90 - Other blankets and travelling rugs

Blankets and travelling rugs are usually made of wool, animal hair, cotton or man-made fibres, frequently with a raised pile surface, and generally of thick heavy-texture material for protection against the cold. The heading also covers rugs and blankets for cots or prams.

Travelling rugs usually have fringes (generally formed by projecting warp or weft threads), but the edges of blankets are normally preserved by blanket stitching or binding.

The heading includes fabrics in the piece which, by the simple process of cutting along defined lines indicated by the absence of weft threads, may be converted into separate articles having the character of finished blankets or travelling rugs.

Electrically heated blankets are also included in the heading.

The heading **does not include** :

(a) Specially shaped blankets for covering animals (**heading 42.01**).

(b) Bedspreads and counterpanes (**heading 63.04**).

(c) Quilted or stuffed bed coverings of **heading 94.04**.

6301.10

- Electric blankets

6301.20

- Blankets (other than electric blankets) and travelling rugs, of wool or of fine animal hair

6301.30

- Blankets (other than electric blankets) and travelling rugs, of cotton

6301.40

- Blankets (other than electric blankets) and travelling rugs, of synthetic fibres

6301.90

- Other blankets and travelling rugs

Heading 6302

Bed linen, table linen, toilet linen and kitchen linen.

EXPLANATORY NOTES

63.02 - Bed linen, table linen, toilet linen and kitchen linen.

6302.10 - Bed linen, knitted or crocheted

- Other bed linen, printed :

6302.21 - - Of cotton

6302.22 - - Of man-made fibres

6302.29 - - Of other textile materials

- Other bed linen :

6302.31 - - Of cotton

6302.32 - - Of man-made fibres

6302.39 - - Of other textile materials

6302.40 - Table linen, knitted or crocheted

- Other table linen :

6302.51 - - Of cotton

6302.53 - - Of man-made fibres

6302.59 - - Of other textile materials

6302.60 - Toilet linen and kitchen linen, of terry towelling or similar terry fabrics, of cotton

- Other :

6302.91 - - Of cotton

6302.93 - - Of man-made fibres

6302.99 - - Of other textile materials

These articles are usually made of cotton or flax, but sometimes also of hemp, ramie or man-made fibres, etc.; they are normally of a kind suitable for laundering. They include :

(1) **Bed linen**, e.g., sheets, pillowcases, bolster cases, eiderdown cases and mattress covers.

(2) **Table linen**, e.g., table cloths, table mats and runners, tray-cloths, table-centres, serviettes, tea napkins, sachets for serviettes, doilies, drip mats.

It should be noted, however, that certain articles of the above descriptions (e.g., table-centres made from lace, velvet or brocaded materials) are not regarded as articles of table linen; they are usually classified in **heading 63.04**.

(3) **Toilet linen**, e.g., hand or face towels (including roller towels), bath towels, beach towels, face cloths and toilet gloves.

(4) **Kitchen linen** such as tea towels and glass cloths. Articles such as floor cloths, dish cloths, scouring cloths, dusters and similar cleaning cloths, generally made of coarse thick material, are not regarded as falling within the description “kitchen linen” and are **excluded** (**heading 63.07**).

Besides the individual articles described above, the heading also includes fabrics in the piece which, by the simple process of cutting along defined lines indicated by the absence of weft threads, may be converted into separate fringed articles (e.g., towels).

6302.10

- Bed linen, knitted or crocheted

6302.2

- Other bed linen, printed :

6302.21

-- Of cotton

6302.22

-- Of man-made fibres

6302.29

-- Of other textile materials

6302.3

- Other bed linen :

6302.31

-- Of cotton

6302.32

-- Of man-made fibres

6302.39

-- Of other textile materials

6302.40

- Table linen, knitted or crocheted

6302.5

- Other table linen :

6302.51

-- Of cotton

6302.53

-- Of man-made fibres

6302.59

-- Of other textile materials

6302.60

- Toilet linen and kitchen linen, of terry towelling or similar terry fabrics, of cotton

6302.9

- Other :

6302.91

-- Of cotton
6302.93

-- Of man-made fibres
6302.99

-- Of other textile materials
Heading 6303

Curtains (including drapes) and interior blinds; curtain or bed valances.
EXLPANATORY NOTES

63.03 - Curtains (including drapes) and interior blinds; curtain or bed valances.

- Knitted or crocheted :

6303.12 - - Of synthetic fibres

6303.19 - - Of other textile materials

- Other :

6303.91 - - Of cotton

6303.92 - - Of synthetic fibres

6303.99 - - Of other textile materials

This heading includes :

(1) Curtains (including drapes), which are used, for example, inside windows or to close recesses, theatre stages, etc. The expression “curtains” covers lightweight and transparent or semi-transparent articles and articles made of thick fabrics.

(2) Interior blinds, which are usually opaque and of the roller variety (e.g., those for railway carriages).

(3) Curtain valances (or pelmets), which consist of strips of fabric designed to be fitted above windows to hide the tops of curtains, and bed valances for attachment to beds for concealment and decoration.

The heading also covers material in the length so processed after weaving that it is clearly suitable for conversion, by a minor operation, into finished articles of this heading (e.g., fabric in the length to one edge of which has been added a frilled border and which, by simply cutting to required lengths and hemming, is converted into curtains).

The heading **does not include** exterior sunblinds (**heading 63.06**).

6303.1

- Knitted or crocheted :
6303.12

-- Of synthetic fibres
6303.19

-- Of other textile materials
6303.9

- Other :
6303.91

-- Of cotton
6303.92

-- Of synthetic fibres
6303.99

-- Of other textile materials
Heading 6304

Other furnishing articles, excluding those of heading 94.04.
EXPLANATORY NOTES

63.04 - Other furnishing articles, excluding those of heading 94.04.

- Bedspreads :

6304.11 - - Knitted or crocheted

6304.19 - - Other

6304.20 - Bed nets specified in Subheading Note 1 to this Chapter

- Other :

6304.91 - - Knitted or crocheted

6304.92 - - Not knitted or crocheted, of cotton

6304.93 - - Not knitted or crocheted, of synthetic fibres

6304.99 - - Not knitted or crocheted, of other textile materials

This heading covers furnishing articles of textile materials, **other than** those of the preceding headings or of **heading 94.04**, for use in the home, public buildings, theatres, churches, etc., and similar articles used in ships, railway carriages, aircraft, trailer caravans, motor-cars, etc.

These articles include wall hangings and textile furnishings for ceremonies (e.g., weddings or funerals); mosquito nets or bed nets (including bed nets specified in Subheading Note 1 to this Chapter); bedspreads (but **not including** bed coverings of **heading 94.04**); cushion covers, loose covers for furniture, antimacassars; table covers (**other than** those having the characteristics of floor coverings - see Note 1 to Chapter 57); mantlepiece runners; curtain loops; valances (**other than** those of **heading 63.03**).

The heading **does not include** lampshades (**heading 94.05**).

6304.1

- Bedspreads :

6304.11

-- Knitted or crocheted

6304.19

-- Other

6304.20

- Bed nets specified in Subheading Note 1 to this Chapter

CLASSIFICATION OPINIONS

1. Mosquito net of a warp knit fabric composed of polyester multifilaments (100 %), impregnated with an insecticide (55 mg/m² of deltamethrin), which repels or kills mosquitos and other insects. **GIRs 1 and 6 (Subheading Note 1 to Chapter 63)**
Adoption : 2012

6304.9

- Other :

6304.91

-- Knitted or crocheted

CLASSIFICATION OPINIONS

1. Protective seat cover for motor vehicles, of knitted (pile) fabric (approximately one metre square) and trimmed with an elastic braid (8 mm wide), sewn on; it is fitted with eight attachment straps. The seat cover is intended to cover the seat bottom, seat back and possibly the headrest.
Adoption : 1997

6304.92

-- Not knitted or crocheted, of cotton

CLASSIFICATION OPINIONS

1. Quilted pillow covering ("Sham") made from a cotton fabric, rectangular in shape (76 cm x 63 cm), consisting of a front quilted panel, a back panel, and decorative ruffles. The front panel, the visible side of which is made of patchwork, is cut from quilted fabric produced by quilting a layer of polyester padding which has been placed between two layers of cotton fabric. The front and back panels are joined together in such a manner as to create a pocket and the back panel has an opening, fitted with a zip fastener, through which a pillow or cushion can be inserted. **Application of GIRs 1 and 6.**
Adoption : 2003



6304.93

-- Not knitted or crocheted, of synthetic fibres

6304.99

-- Not knitted or crocheted, of other textile materials

Heading 6305

Sacks and bags, of a kind used for the packing of goods.

EXPLANATORY NOTES

63.05 - Sacks and bags, of a kind used for the packing of goods (+).

6305.10 - Of jute or of other textile bast fibres of heading 53.03

6305.20 - Of cotton

- Of man-made textile materials :

6305.32 - - Flexible intermediate bulk containers

6305.33 - - Other, of polyethylene or polypropylene strip or the like

6305.39 - - Other

6305.90 - Of other textile materials

This heading covers textile sacks and bags of a kind normally used for the packing of goods for transport, storage or sale.

These articles, which vary in size and shape, include in particular flexible intermediate bulk containers, coal, grain, flour, potato, coffee or similar sacks, mail bags, and small bags of the kind used for sending samples of merchandise by post. The heading also includes such articles as tea sachets.

Packing cloths which, after use as bale wrappings, are roughly or loosely stitched together at the edges, but which do not constitute finished or unfinished sacks or bags, are **excluded** (**heading 63.07**).

°

° °

Subheading Explanatory Note.

Subheading 6305.32

Flexible intermediate bulk containers are usually made of polypropylene or polyethylene woven fabrics and generally have a capacity ranging from 250 kg to 3,000 kg. They may have lifting straps at the four top corners and may be fitted with openings at the top and bottom to facilitate loading and unloading. They are generally used for packing, storage, transport and handling of dry, flowable materials.

6305.10

- Of jute or of other textile bast fibres of heading 53.03

6305.20

- Of cotton

6305.3

- Of man-made textile materials :

6305.32

-- Flexible intermediate bulk containers

6305.33

-- Other, of polyethylene or polypropylene strip or the like

6305.39

-- Other

CLASSIFICATION OPINIONS

1. **Quilt bag**, having a front side of transparent polyethylene (0.10 mm thick), the other sides are of nonwoven fabric (65 g/m^2) of man-made textile materials of Chapter 56, a zipper, a handle and nonwoven trim (75 g/m^2). It is designed for the packing of quilts for sale. **Application of GIRs 1 and 6.** *Adoption : 2022*



6305.90

- Of other textile materials

Heading 6306

Tarpaulins, awnings and sunblinds; tents (including temporary canopies and similar articles); sails for boats, sailboards or landcraft; camping goods.

EXPLANATORY NOTES

63.06 - Tarpaulins, awnings and sunblinds; tents (including temporary canopies and similar articles); sails for boats, sailboards or landcraft; camping goods.

- Tarpaulins, awnings and sunblinds :

6306.12 - - Of synthetic fibres

6306.19 - - Of other textile materials

- Tents (including temporary canopies and similar articles) :

6306.22 - - Of synthetic fibres

6306.29 - - Of other textile materials

6306.30 - Sails

6306.40 - Pneumatic mattresses

6306.90 - Other

This heading covers a range of textile articles usually made from strong, close-woven canvas.

(1) **Tarpaulins**. These are used to protect goods stored in the open or loaded on ships, wagons, lorries, etc., against bad weather. They are generally made of coated or uncoated man-made fibre fabrics, or heavy to fairly heavy canvas (of hemp, jute, flax or cotton). They are waterproof. Those made of canvas are usually rendered waterproof or rotproof by treatment with tar or chemicals. Tarpaulins are generally in the form of rectangular sheets, hemmed along the sides, and may be fitted with eyelets, cords, straps, etc. Tarpaulins which are specially shaped (e.g., for covering hayricks, decks of small vessels, lorries, etc.) also fall in this heading **provided** they are flat.

Tarpaulins should not be confused with loose covers for motor-cars, machines, etc., made of tarpaulin material to the shape of these articles, nor with flat protective sheets of lightweight material made up in a similar manner to tarpaulins (**heading 63.07**).

(2) **Sails** (for yachts, dinghies, fishing-smacks or other vessels, for sailboards or for landcraft). These are of strong textile material (e.g., of high tenacity yarn of man-made fibres) cut to particular shapes and hemmed, and usually fitted with eyelets or other fastening devices.

(3) **Awnings, sunblinds** (for shops, cafés, etc.). These are designed for protection against the sun; they are generally made of strong plain or striped canvas, and may be mounted on roller or folding mechanisms. They remain classified in this heading even when provided with frames, as is sometimes the case with sunblinds.

(4) **Tents** are shelters made of lightweight to fairly heavy fabrics of man-made fibres, cotton or blended textile materials, whether or not coated, covered or laminated, or of canvas. They usually have a single or double roof and may include sides or walls (single or double), which permit the formation of an enclosure. The heading covers tents of various sizes and shapes, e.g., marquees and tents for military, camping (including backpack tents), circus, beach use. They are classified in this heading, whether or not they are presented complete with their tent poles, tent pegs, guy ropes or other accessories.

Caravan “awnings” (sometimes known as caravan annexes) which are tent-like structures are also regarded as tents. They are generally made of man-made fibre fabrics or of fairly thick canvas. They consist of three walls and a roof and are designed to augment the living space provided by a caravan.

Temporary canopies are generally for use outdoors, are open on one or more sides (but may also be fully enclosed), include a full or partial roof, and may provide full or partial protection against one or more weather elements (for example, sun, rain, wind). The frames of the temporary canopies are usually constructed of metal and may have telescoping shafts. The roof and any sides may be separately installed after the frame is assembled or may be included with the frame in a “pop-up” configuration. The temporary canopies may include ground anchors.

The heading **excludes** umbrella tents of **heading 66.01**.

(5) **Camping goods**. This group includes canvas buckets, water bags, wash basins; ground-sheets; pneumatic mattresses, pillows and cushions (**other than** those of **heading 40.16**); hammocks (**other than** those of **heading 56.08**).

The heading also **excludes** :

(a) Knapsacks, rucksacks and similar containers (**heading 42.02**).

(b) Padded sleeping bags and stuffed mattresses, pillows and cushions (**heading 94.04**).

(c) Play tents for use by children indoors or outdoors (**heading 95.03**).

63.06 - Tarpaulins, awnings and sunblinds; tents (including temporary canopies and similar articles); sails for boats, sailboards or landcraft; camping goods.

- Tarpaulins, awnings and sunblinds :

6306.12 - - Of synthetic fibres

6306.19 - - Of other textile materials

- Tents (including temporary canopies and similar articles) :

6306.22 - - Of synthetic fibres

6306.29 - - Of other textile materials

6306.30 - Sails

6306.40 - Pneumatic mattresses

6306.90 - Other

This heading covers a range of textile articles usually made from strong, close-woven canvas.

(1) **Tarpaulins**. These are used to protect goods stored in the open or loaded on ships, wagons, lorries, etc., against bad weather. They are generally made of coated or uncoated man-made fibre fabrics, or heavy to fairly heavy canvas (of hemp, jute, flax or cotton). They are waterproof. Those made of canvas are usually rendered waterproof or rotproof by treatment with tar or chemicals. Tarpaulins are generally in the form of rectangular sheets, hemmed along the sides, and may be fitted with eyelets, cords, straps, etc. Tarpaulins which are specially shaped (e.g., for covering hayricks, decks of small vessels, lorries, etc.) also fall in this heading **provided** they are flat.

Tarpaulins should not be confused with loose covers for motor-cars, machines, etc., made of tarpaulin material to the shape of these articles, nor with flat protective sheets of lightweight material made up in a similar manner to tarpaulins (**heading 63.07**).

(2) **Sails** (for yachts, dinghies, fishing-smacks or other vessels, for sailboards or for landcraft). These are of strong textile material (e.g., of high tenacity yarn of man-made fibres) cut to particular shapes and hemmed, and usually fitted with eyelets or other fastening devices.

(3) **Awnings, sunblinds** (for shops, cafés, etc.). These are designed for protection against the sun; they are generally made of strong plain or striped canvas, and may be mounted on roller or folding mechanisms. They remain classified in this heading even when provided with frames, as is sometimes the case with sunblinds.

(4) **Tents** are shelters made of lightweight to fairly heavy fabrics of man-made fibres, cotton or blended textile materials, whether or not coated, covered or laminated, or of canvas. They usually have a single or double roof and may include sides or walls (single or double), which permit the formation of an enclosure. The heading covers tents of various sizes and shapes, e.g., marquees and tents for military, camping (including backpack tents), circus, beach use. They are classified in this heading, whether or not they are presented complete with their tent poles, tent pegs, guy ropes or other accessories.

Caravan “awnings” (sometimes known as caravan annexes) which are tent-like structures are also regarded as tents. They are generally made of man-made fibre fabrics or of fairly thick canvas. They consist of three walls and a roof and are designed to augment the living space provided by a caravan.

Temporary canopies are generally for use outdoors, are open on one or more sides (but may also be fully enclosed), include a full or partial roof, and may provide full or partial protection against one or more weather elements (for example, sun, rain, wind). The frames of the temporary canopies are usually constructed of metal and may have telescoping shafts. The roof and any sides may be separately installed after the frame is assembled or may be included with the frame in a “pop-up” configuration. The temporary canopies may include ground anchors.

The heading **excludes** umbrella tents of **heading 66.01**.

(5) **Camping goods**. This group includes canvas buckets, water bags, wash basins; ground-sheets; pneumatic mattresses, pillows and cushions (**other than** those of **heading 40.16**); hammocks (**other than** those of **heading 56.08**).

The heading also **excludes** :

(a) Knapsacks, rucksacks and similar containers (**heading 42.02**).

(b) Padded sleeping bags and stuffed mattresses, pillows and cushions (**heading 94.04**).

(c) Play tents for use by children indoors or outdoors (**heading 95.03**).

6306.1

- Tarpaulins, awnings and sunblinds :

6306.12

-- Of synthetic fibres

6306.19

-- Of other textile materials

6306.2

- Tents (including temporary canopies and similar articles) :

6306.22

-- Of synthetic fibres

CLASSIFICATION OPINIONS

1. Temporary gazebo, used outdoors, measuring approximately 3 x 3 x 2.50 m (L x W x H). It consists of a steel tube frame with connecting pieces and plastic feet, and a roof covering with cladding for the four corner posts. The roof covering is a polyethylene-coated plain weave fabric of polypropylene yarns. The coating of the fabric cannot be seen with the naked eye. The individual yarns have an average width of 2.5 mm and an average thickness of 0.05 mm. The gazebo is open on all four sides and is not anchored firmly to the ground. **Application of GIRs 1 and 6.** *Adoption : 2018*



6306.29

-- Of other textile materials

6306.30

- Sails

6306.40

- Pneumatic mattresses

6306.90

- Other

Heading 6307

Other made up articles, including dress patterns.

EXPLANATORY NOTES

63.07 - Other made up articles, including dress patterns.

6307.10 - Floor-cloths, dish-cloths, dusters and similar cleaning cloths

6307.20 - Life-jackets and life-belts

6307.90 - Other

This heading covers made up articles of any textile material which are **not included** more specifically in other headings of Section XI or elsewhere in the Nomenclature.

It includes, in particular :

(1) Floor-cloths, dish-cloths, dusting cloths and similar cleaning cloths (whether or not impregnated with a cleaning preparation, but **excluding** those of **heading 34.01** or **34.05**).

(2) Life-jackets and life-belts.

(3) Dress patterns, usually made of stiff canvas; these are sometimes supplied with the various parts stitched together in the form of the garment.

(4) Flags, pennants and banners, including bunting for entertainments, galas or other purposes.

(5) Domestic laundry or shoe bags, stocking, handkerchief or slipper sachets, pyjama or nightdress cases and similar articles.

(6) Garment bags (portable wardrobes) **other than** those of **heading 42.02**.

(7) Loose covers for motor-cars, machines, suitcases, tennis rackets, etc.

(8) Flat protective sheets (**excluding** tarpaulin and ground sheets of **heading 63.06**).

(9) Textile coffee-filters, icing bags, etc.

(10) Shoe-polishing pads (**excluding** those of **heading 34.05**).

(11) Pneumatic cushions (**excluding** camping goods of **heading 63.06**).

(12) Tea cosy covers.

(13) Pincushions.

(14) Boot, shoe, corset, etc. laces with fitted ends; but laces consisting of spun yarns or cords with fitted ends are **excluded** (**heading 56.09**).

(15) Belts which, although worn around the waist, do not have the character of belts of **heading 62.17**, e.g., belts for occupational use (electricians', aviators', parachutists', etc.); webbing carrier straps and similar articles. (Straps having the character of articles of saddlery or harness are **excluded** - **heading 42.01**.)

(16) Carry cots, portable cradles and similar carriers for children.

Infants' seats of the type intended to be hooked, for example, over the backs of car seats are **excluded** (**heading 94.01**).

(17) Umbrella or sun umbrella covers and cases.

(18) Fans and hand screens, with textile mounts (leaves) and frames of any material, and mounts presented separately. However, fans or hand screens with frames of precious metal are classified in **heading 71.13**.

(19) Packing cloths which, after use as bale wrappings, are roughly or loosely stitched together at the edges, but which do not constitute sacks or bags or unfinished sacks or bags of **heading 63.05**.

(20) Cheese-cloths, cut into rectangles, with the ends of the warp threads knotted to prevent unravelling. (Cheese-cloths woven in the piece prepared for cutting to size or shape, but requiring further fabrication before use, are to be classified as piece goods.)

(21) Trimmings for umbrellas, sun umbrella, walking-sticks, etc; sword-knots and the like.

(22) Textile face-masks of a kind worn by surgeons during operations.

(23) Face-masks for protection against dust, odours, etc., not equipped with a replaceable filter, but consisting of several layers of nonwovens, whether or not treated with activated carbon or having a central layer of synthetic fibres.

(24) Rosettes (e.g. those awarded at competitions), other than those for garments.

(25) Pieces of textile fabric which have undergone some working (such as hemming or the formation of necklines), intended for the manufacture of garments but not yet sufficiently completed to be identifiable as garments or parts of garments.

(26) Support articles of the kind referred to in Note 1 (b) to Chapter 90 for joints (e.g., knees, ankles, elbows or wrists) or muscles (e.g., thigh muscles), **other than** those falling in other headings of Section XI.

(27) Nonwoven articles, cut to a specific shape, coated on one side with an adhesive protected by a sheet of paper or other material and designed to adhere around the lower part of the breast in order to form or shape the breast.

Besides the finished articles listed above, this heading covers articles in the length, made up within the meaning of Note 7 to Section XI, **provided** they are not included in other headings of Section XI. For instance, it applies to textile draught excluders for doors or windows (including those stuffed with wadding).

The heading **excludes** textile articles classified in more specific headings of this Chapter or of Chapters 56 to 62. It further **excludes** :

(a) Saddlery and harness for any kind of animal (**heading 42.01**).

(b) Travel goods (suit-cases, rucksacks, etc.), shopping-bags, toilet-cases, etc., and all similar containers of **heading 42.02**.

(c) Printed matter (**Chapter 49**).

(d) Labels, badges and similar articles of **heading 58.07**, **61.17** or **62.17**.

(e) Knitted headbands (**heading 61.17**).

(f) Sacks and bags of **heading 63.05**.

(g) Footwear, parts of footwear (including removable in-soles), and other articles (gaiters, spats, leggings, etc.) of **Chapter 64.**

(h) Headgear and parts and fittings thereof of **Chapter 65**.

(ij) Umbrellas and sun umbrellas (**heading 66.01**).

(k) Artificial flowers, foliage or fruit and parts thereof, and articles made of artificial flowers, foliage or fruit (**heading 67.02**).

(l) Pneumatic canoes, kayaks and other craft (**heading 89.03**).

(m) Measuring tapes (**heading 90.17**).

(n) Watch straps (**heading 91.13**).

(o) Toys, games and entertainment articles, etc., of **Chapter 95**.

(p) Mops (**heading 96.03**), hand sieves and hand riddles (**heading 96.04**) and powder-puffs (**heading 96.16**).

(q) Sanitary towels (pads) and tampons, napkins (diapers) and napkin liners and similar articles of **heading 96.19**.

6307.10

- Floor-cloths, dish-cloths, dusters and similar cleaning cloths

6307.20

- Life-jackets and life-belts

6307.90

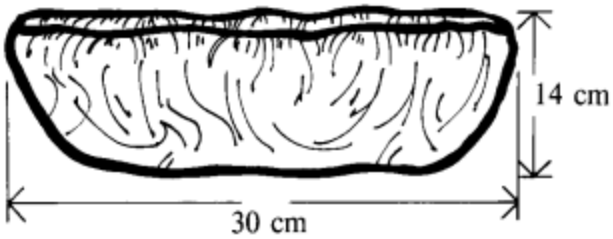
- Other

CLASSIFICATION OPINIONS

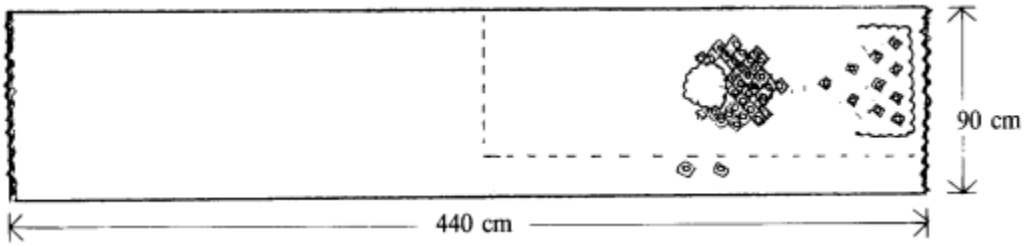
1. **Folding road signs,** whether or not with sheaths, consisting of a metal tripod covered on all three sides with fabric coated with small glass "microspheres".
   Adoption : 1959 + 1977

2. **Ornamental textile goods,** being narrow piece goods consisting principally of knitted man-made textile fabric, with strips of other material (lace or bias strips of woven fabric) sewn with ornamental stitching to the face or along the edges, for use in making women's under-garments, etc.
   Adoption : 1967

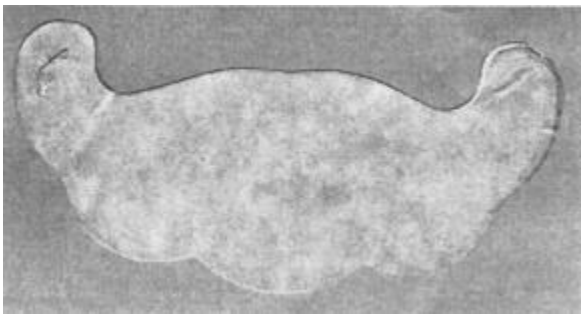
3. **Protective covering** made of a single oval piece of nonwoven fabric, the outside edge of which has an elastic hemmed seam. This product takes the form of a stretchable envelope which can be worn over footwear.
   Adoption : 1986



4. **Piece of woven fabric**, rectangular with selvedges along the length and hemmed edges across the width. The fabric has a hole constituting a finished neckline and is embroidered and decorated with beads and glass lozenges. The embroidered part of the fabric will be made up into a dress, blouse or similar garment. The remainder will be made up into a pair of trousers, a skirt or a scarf, for example. *Adoption : 1989*



5. **Nonwoven article,** cut to a specific shape, coated on one side with an adhesive protected by a sheet of paper (adhesive nonwoven). After removal of the protective paper, the article is intended to be stuck directly onto the skin, to fit perfectly round the lower part of the breast like the cup of a brassière. **Application of GIR 1.** *Adoption : 2001*



6. **Cleanroom swabs**, (12.8 or 16.2 cm in length) consisting of a polypropylene handle, one end of which is thermally bonded to two layers of knitted polyester fabric. **Application of GIRs 1, 3 (b) and 6** *Adoption : 2015*



7. **Child carrier** consisting of an anatomically shaped textile seat (which is attached to an aluminium frame), padded shoulder straps and hip belt, an anchor point, safety harness, a detachable face pad, handles and compartments to hold various ancillary items. It is designed for carrying a child in a seated position on an adult's back. It has a maximum weight load of 20 kg. When the child has been removed, it can be zipped back up and worn as a rucksack. **Application of GIRs 1 (Note 7 (f) to Section XI), 3 (b) and 6.** *Adoption : 2016*



8. **Baby carrier** (100 % cotton canvas exterior and 100 % sateen cotton lining) consisting of a sturdy waist belt and padded form-fitting shoulder straps to make it comfortable for carrying a growing child. It is designed for carrying a growing child from newborn up to a maximum weight load of approximately 20 kg. The carrier can be used to carry a child in different ways. **Application of GIRs 1 (Note 7 (f) to Section XI), 3 (b) and 6.** *Adoption : 2016*



Heading 6308

Sets consisting of woven fabric and yarn, whether or not with accessories, for making up into rugs, tapestries, embroidered table cloths or serviettes, or similar textile articles, put up in packings for retail sale.

EXPLANATORY NOTES

Sub-Chapter II

SETS

63.08 - Sets consisting of woven fabric and yarn, whether or not with accessories, for making up into rugs, tapestries, embroidered table cloths or serviettes, or similar textile articles, put up in packings for retail sale.

The sets of this heading are used for needlework, rug-making, etc.

They must comprise at least a piece of woven fabric (for example, canvas, whether or not printed with the design to be executed) and yarn, whether or not cut to length (embroidery yarn, yarn for rug pile, etc.). They may also include accessories such as needles and hooks.

The woven fabric may be in any form and even be made up as, for example, in the case of hemmed canvas used in the manufacture of needleworked tapestries; it should be noted, however, that the woven fabric should nevertheless retain the character of a raw material with regard to the work to be carried out and should never constitute an “article” in a state suitable for use without any further finishing, such as, for example, a hemmed table cloth to be embellished with a few embroidered designs.

It should be noted that in order to be classified in this heading the sets must be presented in packings for retail sale.

The heading **does not include** sets comprising woven fabric, whether or not cut to shape, for making up garments; these are classified in their appropriate headings.

6308.00

Sets consisting of woven fabric and yarn, whether or not with accessories, for making up into rugs, tapestries, embroidered table cloths or serviettes, or similar textile articles, put up in packings for retail sale.

Heading 6309

Worn clothing and other worn articles.

EXPLANATORY NOTES

Sub-Chapter III

WORN CLOTHING AND WORN TEXTILE ARTICLES; RAGS

63.09 - Worn clothing and other worn articles.

In order to be classified in this heading the articles, of which a **limitative** list is given in paragraphs (1) and (2) of this Explanatory Note, must comply with both of the following requirements. If they do not meet these requirements they are classified in their appropriate headings.

(A) **They must show signs of appreciable wear**, whether or not they require cleaning or repair before use.

New articles with faults in weaving, dyeing, etc., and shop-soiled articles are **excluded** from this heading.

(B) **They must be presented in bulk (e.g., in railway goods wagons) or in bales, sacks or similar bulk packings**, or in bundles tied together without external wrapping, or packed roughly in crates.

Thesearticles are normally traded in large consignments, usually for resale, and are less carefully packed than is generally the case with new articles.

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Subject to compliance with the above requirements, this heading covers the goods in the following **limitative** list only :

(1) The following articles of textile materials of Section XI : clothing and clothing accessories (e.g., garments, shawls, scarves, stockings and socks, gloves and collars), blankets and travelling rugs, household linen (e.g., bed sheets and table linen) and furnishing articles (e.g., curtains and table covers). The heading also includes parts of such clothing or clothing accessories.

However, the heading **excludes** furnishing articles specified in **Chapter 57** or **heading 58.05** (carpets and other textile floor coverings including “Kelem”, “Schumacks”, “Karamanie”, and similar hand woven rugs, and tapestries) even when showing signs of appreciable wear and irrespective of their packing. The articles falling in **Chapter 94** and in particular those specified in **heading 94.04** (mattress supports; articles of bedding and similar furnishing articles fitted with springs or stuffed or internally fitted, for example, mattresses, quilts, eiderdowns, cushions, pouffes, pillows) are also **excluded** from this heading irrespective of their degree of wear or their packing.

(2) Footwear and headgear of all kinds and of any material **other than** of asbestos (e.g., leather, rubber, textile materials, straw or plastics).

All other articles (e.g., sacks and bags, tarpaulins, tents and camping goods) showing signs of wear are **excluded** from this heading and are to be classified with the corresponding new articles.

6309.00

Worn clothing and other worn articles.

Heading 6310

Used or new rags, scrap twine, cordage, rope and cables and worn out articles of twine, cordage, rope or cables, of textile materials.

EXPLANATORY NOTES

63.10 - Used or new rags, scrap twine, cordage, rope and cables and worn out articles of twine, cordage, rope or cables, of textile materials (+).

6310.10 - Sorted

6310.90 - Other

This heading covers the following textile products :

(1) Rags of textile fabrics (including knitted or crocheted fabrics, felt or nonwovens). Rags may consist of articles of furnishing or clothing or of other old textile articles so worn out, soiled or torn as to be beyond cleaning or repair, or of small new cuttings (e.g., dressmakers' or tailors' snippings).

(2) Scrap pieces of twine, cordage, rope or cables, used or unused (e.g., scrap pieces resulting from the manufacture of twine, cordage, rope or cables, or of articles thereof), and old twine, cordage, rope and cables and worn out articles of such materials.

To fall in the heading, these products **must** be worn, dirty or torn, or in small pieces. They are generally fit only for the recovery (e.g., by pulling) of the fibres (which are usually re-spun), for the manufacture of paper or plastics, for the manufacture of polishing materials (e.g., polishing wheels), or for use as industrial wipers (e.g., machine wipers).

All other textile waste and scrap, however, is **excluded** from this heading. This exclusion applies particularly to tangled yarn obtained during the process of manufacturing knitted and crocheted fabrics, or by unravelling worn out knitted or crocheted articles; any other waste or scrap textile yarns or fibres (including those obtained from the padding of old mattresses, cushions, bedspreads, etc.); garnetted stock. These products are classified in **Chapters 50 to 55** in the relevant headings relating to "waste" or "garnetted stock".

The heading also **excludes** fabrics showing faults in weaving, dyeing, etc., but which do not fulfil the conditions mentioned above. These fabrics are classified in the headings appropriate to new fabrics.

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Subheading Explanatory Note.

Subheading 6310.10

Products of heading 63.10 are considered "sorted" when graded according to specific criteria or when resulting from the use of a particular textile product (e.g., goods of the same nature or the same textile material, twine of uniform textile composition, new snippings all of the same colour).

6310.10

- Sorted

6310.90

- Other

Section IX

WOOD AND ARTICLES OF WOOD; WOOD CHARCOAL; CORK AND ARTICLES OF CORK; MANUFACTURES OF STRAW, OF ESPARTO OR OF OTHER PLAITING MATERIALS; BASKETWARE AND WICKERWORK

EXPLANATORY NOTES

Section IX

WOOD AND ARTICLES OF WOOD; WOOD CHARCOAL; CORK AND ARTICLES OF CORK; MANUFACTURES OF STRAW, OF ESPARTO OR OF OTHER PLAITING MATERIALS; BASKETWARE AND WICKERWORK

Chapter 44

Wood and articles of wood; wood charcoal

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Wood, in chips, in shavings, crushed, ground or powdered, of a kind used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal or similar purposes (heading 12.11);

(b) Bamboos or other materials of a woody nature of a kind used primarily for plaiting, in the rough, whether or not split, sawn lengthwise or cut to length (heading 14.01);

(c) Wood, in chips, in shavings, ground or powdered, of a kind used primarily in dyeing or in tanning (heading 14.04);

(d) Activated charcoal (heading 38.02);

(e) Articles of heading 42.02;

(f) Goods of Chapter 46;

(g) Footwear or parts thereof of Chapter 64;

(h) Goods of Chapter 66 (for example, umbrellas and walking-sticks and parts thereof);

(ij) Goods of heading 68.08;

(k) Imitation jewellery of heading 71.17;

(l) Goods of Section XVI or Section XVII (for example, machine parts, cases, covers, cabinets for machines and apparatus and wheelwrights' wares);

(m) Goods of Section XVIII (for example, clock cases and musical instruments and parts thereof);

(n) Parts of firearms (heading 93.05);

(o) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings, prefabricated buildings);

(p) Articles of Chapter 95 (for example, toys, games, sports requisites);

(q) Articles of Chapter 96 (for example, smoking pipes and parts thereof, buttons, pencils, and monopods, bipods, tripods and similar articles) excluding bodies and handles, of wood, for articles of heading 96.03; or

(r) Articles of Chapter 97 (for example, works of art).

2.- In this Chapter, the expression “densified wood” means wood which has been subjected to chemical or physical treatment (being, in the case of layers bonded together, treatment in excess of that needed to ensure a good bond), and which has thereby acquired increased density or hardness together with improved mechanical strength or resistance to chemical or electrical agencies.

3.- Headings 44.14 to 44.21 apply to articles of the respective descriptions of particle board or similar board, fibreboard, laminated wood or densified wood as they apply to such articles of wood.

4.- Products of heading 44.10, 44.11 or 44.12 may be worked to form the shapes provided for in respect of the goods of heading 44.09, curved, corrugated, perforated, cut or formed to shapes other than square or rectangular or submitted to any other operation provided it does not give them the character of articles of other headings.

5.- Heading 44.17 does not apply to tools in which the blade, working edge, working surface or other working part is formed by any of the materials specified in Note 1 to Chapter 82.

6.- Subject to Note 1 above and except where the context otherwise requires, any reference to “wood” in a heading of this Chapter applies also to bamboos and other materials of a woody nature.

Subheading Notes.

1.- For the purposes of subheading 4401.31, the expression “wood pellets” means by-products such as cutter shavings, sawdust or chips, of the mechanical wood processing industry, furniture-making industry or other wood transformation activities, which have been agglomerated either directly by compression or by the addition of a binder in a proportion not exceeding 3 % by weight. Such pellets are cylindrical, with a diameter not exceeding 25 mm and a length not exceeding 100 mm.

2.- For the purposes of subheading 4401.32, the expression “wood briquettes” means by-products such as cutter shavings, sawdust or chips, of the mechanical wood processing industry, furniture making or other wood transformation activities, which have been agglomerated either directly by compression or by addition of a binder in a proportion not exceeding 3 % by weight. Such briquettes are in the form of cubiform, polyhedral or cylindrical units with the minimum cross-sectional dimension greater than 25 mm.

3.- For the purposes of subheading 4407.13, “S-P-F” refers to wood sourced from mixed stands of spruce, pine and fir where the proportion of each species varies and is unknown.

4.- For the purposes of subheading 4407.14, “Hem-fir” refers to wood sourced from mixed stands of Western hemlock and fir where the proportion of each species varies and is unknown.

EXPLANATORY NOTES

Chapter 44

Wood and articles of wood; wood charcoal

Notes.

1.- This Chapter does not cover :

(a) Wood, in chips, in shavings, crushed, ground or powdered, of a kind used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal or similar purposes (heading 12.11);

(b) Bamboos or other materials of a woody nature of a kind used primarily for plaiting, in the rough, whether or not split, sawn lengthwise or cut to length (heading 14.01);

(c) Wood, in chips, in shavings, ground or powdered, of a kind used primarily in dyeing or in tanning (heading 14.04);

(d) Activated charcoal (heading 38.02);

(e) Articles of heading 42.02;

(f) Goods of Chapter 46;

(g) Footwear or parts thereof of Chapter 64;

(h) Goods of Chapter 66 (for example, umbrellas and walking-sticks and parts thereof);

(ij) Goods of heading 68.08;

(k) Imitation jewellery of heading 71.17;

(l) Goods of Section XVI or Section XVII (for example, machine parts, cases, covers, cabinets for machines and apparatus and wheelwrights' wares);

(m) Goods of Section XVIII (for example, clock cases and musical instruments and parts thereof);

(n) Parts of firearms (heading 93.05);

(o) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings, prefabricated buildings);

(p) Articles of Chapter 95 (for example, toys, games, sports requisites);

(q) Articles of Chapter 96 (for example, smoking pipes and parts thereof, buttons, pencils, and monopods, bipods, tripods and similar articles) excluding bodies and handles, of wood, for articles of heading 96.03; or

(r) Articles of Chapter 97 (for example, works of art).

2.- In this Chapter, the expression "densified wood" means wood which has been subjected to chemical or physical treatment (being, in the case of layers bonded together, treatment in excess of that needed to ensure a good bond), and which has thereby acquired increased density or hardness together with improved mechanical strength or resistance to chemical or electrical agencies.

3.- Headings 44.14 to 44.21 apply to articles of the respective descriptions of particle board or similar board, fibreboard, laminated wood or densified wood as they apply to such articles of wood.

4.- Products of heading 44.10, 44.11 or 44.12 may be worked to form the shapes provided for in respect of the goods of heading 44.09, curved, corrugated, perforated, cut or formed to shapes other than square or rectangular or submitted to any other operation provided it does not give them the character of articles of other headings.

5.- Heading 44.17 does not apply to tools in which the blade, working edge, working surface or other working part is formed by any of the materials specified in Note 1 to Chapter 82.

6.- Subject to Note 1 above and except where the context otherwise requires, any reference to "wood" in a heading of this Chapter applies also to bamboos and other materials of a woody nature.

Subheading Notes.

1.- For the purposes of subheading 4401.31, the expression "wood pellets" means by-products such as cutter shavings, sawdust or chips, of the mechanical wood processing industry, furniture-making industry or other wood transformation activities, which have been agglomerated either directly by compression or by the addition of a binder in a proportion not exceeding 3 % by weight. Such pellets are cylindrical, with a diameter not exceeding 25 mm and a length not exceeding 100 mm.

2.- For the purposes of subheading 4401.32, the expression "wood briquettes" means by-products such as cutter shavings, sawdust or chips, of the mechanical wood processing industry, furniture making or other wood transformation activities, which have been agglomerated either directly by compression or by addition of a binder in a proportion not exceeding 3 % by weight. Such briquettes are in the form of cubiform, polyhedral or cylindrical units with the minimum cross-sectional dimension greater than 25 mm.

3.- For the purposes of subheading 4407.13, "S-P-F" refers to wood sourced from mixed stands of spruce, pine and fir where the proportion of each species varies and is unknown.

4.- For the purposes of subheading 4407.14, "Hem-fir" refers to wood sourced from mixed stands of Western hemlock and fir where the proportion of each species varies and is unknown.

GENERAL

This Chapter covers unmanufactured wood, semi-finished products of wood and, in general, articles of wood.

These products may be grouped broadly as follows :

(1) Wood in the rough (as felled, split, roughly squared, debarked, etc.) and fuel wood, wood waste and scrap, sawdust, wood in chips or particles; hoopwood, poles, piles, pickets, stakes, etc.; wood charcoal; wood wool and wood flour; railway or tramway sleepers (generally headings 44.01 to 44.06). However, the Chapter **excludes** wood, in chips, in shavings, crushed, ground or powdered, of a kind used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal or similar purposes (**heading 12.11**) and wood, in chips, in shavings, ground or powdered, of a kind used primarily in dyeing or in tanning (**heading 14.04**).

(2) Sawn, chipped, sliced, peeled, planed, sanded, end-jointed, e.g., finger-jointed (i.e., jointed by a process whereby shorter pieces of wood are glued together end to end, with joints resembling

interlaced fingers, in order to obtain a greater length of wood) and continuously shaped wood (headings 44.07 to 44.09).

(3) Particle board and similar board, fibreboard, laminated wood and densified wood (headings 44.10 to 44.13).

(4) Articles of wood (**except** certain kinds specified in Note 1 to this Chapter and which, together with others, are referred to in the Explanatory Notes to particular headings below) (headings 44.14 to 44.21).

As a general rule, building panels composed of layers of wood and plastics are classified in this Chapter. Classification of these panels depends on their external surface or surfaces which normally give them their essential character in terms of their intended uses. Thus, for example, a building panel, used as a structural element in roofing, wall or floor applications and consisting of an external layer of particle board and a layer of insulating material of plastics, is classified in heading 44.10, whatever the thickness of the layer of plastics, since it is the rigid, strong, wood portion which allows the panel to be used as a structural element, the plastics having a subsidiary insulation function. On the other hand, a panel in which a wood backing serves merely as a support for an exterior surface of plastics is, in most cases, classified in **Chapter 39**.

Articles of wood presented unassembled or disassembled are classified with the corresponding complete articles, provided the parts are presented together. Similarly, accessories or parts of glass, marble, metal or other material presented with wooden articles to which they belong are classified with such articles whether fitted thereto or not.

Headings 44.14 to 44.21 which cover manufactured articles of wood, apply to such articles whether made of ordinary wood or of particle board or similar board, fibreboard, laminated wood or densified wood (see Note 3 to this Chapter).

Generally speaking, throughout the Nomenclature, the classification of wood is not affected by treatment necessary for its preservation, such as seasoning, superficial charring, priming and stopping, or impregnation with creosote or other wood preservatives (e.g., coal tar, pentachlorophenol (ISO), chromated copper arsenate or ammoniacal copper arsenate); nor is it affected by reason of being painted, stained or varnished. However, these general considerations do **not** apply in the case of the subheadings of headings 44.03 and 44.06, where specific classification provision has been made for particular categories of painted, stained or preservative-treated wood.

Certain materials of a woody nature, e.g., bamboo and osier, are used mainly in making articles of basketware. In the unmanufactured state such materials are classified in **heading 14.01**, and in the form of articles of basketware in **Chapter 46**. However, products such as bamboo in chips or particles (used for the manufacture of particle board, fibreboard or cellulose pulp) and articles of bamboo or other woody materials, **other than** basketware, furniture or other articles specifically included in other Chapters, are classified in this Chapter with the corresponding products or articles of true wood, **except** where the context otherwise requires (e.g., in the case of headings 44.10 and 44.11) (see Note 6 to this Chapter).

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Subheading Explanatory Notes.

Names of certain tropical woods

For the purposes of the relevant subheadings of headings 44.03, 44.07, 44.08, 44.09 and 44.12, the names of tropical woods are designated according to the pilot-names recommended by the International Technical Association for Tropical Timber (l'Association technique internationale des bois tropicaux) (ATIBT), the French Agricultural Research Centre for International Development) (Centre de Coopération Internationale en Recherche Agronomique pour le Développement) (CIRAD) and the International Tropical Timber Organization (ITTO). The pilot-name is based on the popular name employed in the principal country of production or of consumption.

The relevant pilot-names, together with corresponding scientific names and local names, are listed in the Annex to the Explanatory Notes to this Chapter.

Heading 4401

Fuel wood, in logs, in billets, in twigs, in faggots or in similar forms; wood in chips or particles; sawdust and wood waste and scrap, whether or not agglomerated in logs, briquettes, pellets or similar forms.

EXPLANATORY NOTES

44.01 - Fuel wood, in logs, in billets, in twigs, in faggots or in similar forms; wood in chips or particles; sawdust and wood waste and scrap, whether or not agglomerated in logs, briquettes, pellets or similar forms.

- Fuel wood, in logs, in billets, in twigs, in faggots or in similar forms :

4401.11 - - Coniferous

4401.12 - - Non-coniferous

- Wood in chips or particles :

4401.21 - - Coniferous

4401.22 - - Non-coniferous

- Sawdust and wood waste and scrap, agglomerated in logs, briquettes, pellets or similar forms :

4401.31 - - Wood pellets

4401.32 - - Wood briquettes

4401.39 - - Other

- Sawdust and wood waste and scrap, not agglomerated:

4401.41- - Sawdust

4401.49 - - Other

This heading covers :

(A) **Fuel wood**, which is generally in the form of :

(1) Short pieces of logs, usually with the bark.

(2) Split logs or billets.

(3) Twigs, faggots, rough sticks, vine stems, tree stumps and roots.

(B) **Wood in chips or particles**, i.e., wood mechanically reduced into small chips (flat, rigid and roughly squared) or particles (thin and flexible) used for producing cellulose pulp by mechanical means, by chemical means or by combining mechanical and chemical means or for the manufacture of fibreboard or particle board. By virtue of Note 6 to this Chapter, the heading also includes similar products obtained, for example, from bamboo.

Pulpwood presented in the round or quarter-split is **excluded** (**heading 44.03**).

(C) **Sawdust**, whether or not agglomerated in logs, briquettes, pellets or similar forms.

(D) **Wood waste and scrap**, not usable as timber. These materials are used in particular for pulping (manufacture of paper) and in the manufacture of particle board and fibreboard and as fuel. Such waste and scrap includes, saw mill or planing mill rejects; manufacturing waste; broken planks; old crates unusable as such; bark and shavings (whether or not agglomerated in logs, briquettes, pellets or similar forms); other waste and scrap of joinery and carpentry; spent dyewood and tanning wood or bark. The heading also includes wood waste and scrap segregated from construction and demolition waste and not usable as timber. However, wood articles so segregated and suitable for reuse as such (e.g., beams, planks, doors) are classified in their appropriate headings.

The heading also **excludes :**

(a) Wood and wood waste coated with resin or otherwise made up as firelighters (**heading 36.06**).

(b) Logs of the kind used for pulping or for the manufacture of match sticks (**heading 44.03**); these, unlike fuel logs, are carefully graded, may be barked or peeled and are generally not broken, split, curved, knotty or forked.

(c) Chipwood of a kind used for plaiting or making sieves, chip-boxes, pill-boxes, etc., and wood shavings used in the manufacture of vinegar or for the clarification of liquids (**heading 44.04**).

(d) Wood wool and wood flour (**heading 44.05**).

4401.1

- Fuel wood, in logs, in billets, in twigs, in faggots or in similar forms :
4401.11

-- Coniferous
4401.12

-- Non-coniferous
4401.2

- Wood in chips or particles :
4401.21

-- Coniferous
4401.22

-- Non-coniferous
4401.3

- Sawdust and wood waste and scrap, agglomerated in logs, briquettes, pellets or similar forms :
4401.31

-- Wood pellets
4401.32

-- Wood briquettes
4401.39

-- Other
4401.4

- Sawdust and wood waste and scrap, not agglomerated :
4401.41

-- Sawdust
4401.49

-- Other
Heading 4402

Wood charcoal (including shell or nut charcoal), whether or not agglomerated.
EXPLANATORY NOTES

44.02 - Wood charcoal (including shell or nut charcoal), whether or not agglomerated.

4402.10 - Of bamboo

4402.20 - Of shell or nut

4402.90 - Other

Wood charcoal is obtained when wood is carbonised out of contact with air. It is classified in this heading whether in the form of blocks, sticks or in granules or powder, or agglomerated with tar or other substances in briquettes, tablets, balls, etc.

Wood charcoal, unlike animal or mineral carbon, is lighter than water and in the piece shows the grain of wood.

The similar products obtained by carbonising coconut or other shells also fall in this heading.

The heading **excludes** :

(a) Wood charcoal put up in the form of medicaments as defined in **Chapter 30**.

(b) Wood charcoal mixed with incense, put up in tablets or other forms (**heading 33.07**).

(c) Activated carbon (**heading 38.02**).

(d) Drawing charcoals (charcoal pencils) (**heading 96.09**).

4402.10

- Of bamboo

4402.20

- Of shell or nut

4402.90

- Other

Heading 4403

Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared.

EXPLANATORY NOTES

44.03 - Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared (+).

- Treated with paint, stains, creosote or other preservatives :

4403.11 - - Coniferous

4403.12 - - Non-coniferous

- Other, coniferous :

4403.21 - - Of pine (*Pinus spp.*), of which the smallest cross-sectional dimension is 15 cm or more

4403.22 - - Of pine (*Pinus spp.*), other

4403.23 - - Of fir (*Abies spp.*) and spruce (*Picea spp.*), of which any cross-sectional dimension is 15 cm or more

4403.24 - - Of fir (*Abies spp.*) and spruce (*Picea spp.*), other

4403.25 - - Other, of which the smallest cross-sectional dimension is 15 cm or more

4403.26 - - Other

- Other, of tropical wood :

4403.41 - - Dark Red Meranti, Light Red Meranti and Meranti Bakau

4403.42 - - Teak

4403.49 - - Other

- Other :

4403.91 - - Of oak (*Quercus spp.*)

4403.93 - - Of beech (*Fagus spp.*), of which the smallest cross-sectional dimension is 15 cm or more

4403.94 - - Of beech (*Fagus spp.*), other

4403.95 - - Of birch (*Betula spp.*), of which the smallest cross-sectional dimension is 15 cm or more

4403.96 - - Of birch (*Betula spp.*), other

4403.97 - - Of poplar and aspen (*Populus spp.*)

4403.98 - - Of eucalyptus (*Eucalyptus spp.*)

4403.99 - - Other

This heading includes timber in the natural state as felled, usually with the branches lopped off, and such timber stripped of its outer or both its outer and inner bark or from which merely the rough protuberances have been removed. It also includes wood from which the waste outer layers, consisting of the most recent growths (sapwood), have been removed for economy in transport or to prevent decay.

The principal products classified here, when of the above description, include : timber for sawing; poles for telephone, telegraph or electrical power transmission lines; unpointed and unsplit piles, pickets, stakes, poles and props; round pit-props; logs, whether or not quarter-split, for pulping; round logs for the manufacture of veneer sheets, etc.; logs for the manufacture of match sticks, woodware, etc.

Telegraph, telephone or electrical power transmission poles are also to be classified in this heading when further trimmed with a draw knife or peeled with a mechanical peeler to a smooth surface ready for use. These poles are often painted, stained, varnished or impregnated with creosote or other substances.

Tree stumps and roots of special woods, and certain growths such as those used for making veneers or smoking pipes, also fall here.

The heading also includes roughly squared wood which consists of trunks or sections of trunks of trees, the round surfaces of which have been reduced to flat surfaces by means of axe or adze, or by coarse sawing, to form wood of roughly rectangular (including square) cross-section; roughly squared wood is characterised by the presence of rough areas or bark traces. Half-squared wood, which is wood prepared in this manner on two opposite faces only, is also classified here. Timber is prepared in these forms for sawmills or may be used as such, e.g., as roofing timber.

Certain kinds of timber (e.g., teak) are split by wedges or hewn into baulks along the grain; such baulks are also regarded as falling in this heading.

The heading **excludes :**

(a) Roughly trimmed wood suitable for the manufacture of walking-sticks, umbrellas, tool handles or the like (**heading 44.04**).

(b) Wood cut into the form of railway or tramway sleepers (cross-ties) (**heading 44.06**).

(c) Wood cut into the form of planks, beams, etc. (**headings 44.07** or **44.18**).

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Subheading Explanatory Notes.

Subheadings 4403.11 and 4403.12

Subheadings 4403.11 and 4403.12 cover those products which have been treated with paint, stains, creosote or other preservatives, such as coal tar, pentachlorophenol (ISO), chromated copper arsenate or ammoniacal copper arsenate, with a view to their long-term preservation.

They do not include products treated with substances for the purpose of simply maintaining them during shipment or storage.

Subheadings 4403.21, 4403.23, 4403.25, 4403.93 and 4403.95

For the purposes of these subheadings, the smallest cross-sectional dimension is measured at the upper end of the trunk (top).

4403.1

- Treated with paint, stains, creosote or other preservatives :
4403.11

-- Coniferous
4403.12

-- Non-coniferous
4403.2

- Other, coniferous :
4403.21

-- Of pine (Pinus spp.), of which the smallest cross-sectional dimension is 15 cm or more
4403.22

-- Of pine (Pinus spp.), other
4403.23

-- Of fir (Abies spp.) and spruce (Picea spp.), of which the smallest cross-sectional dimension is 15 cm or more
4403.24

-- Of fir (Abies spp.) and spruce (Picea spp.), other

4403.25

-- Other, of which the smallest cross-sectional dimension is 15 cm or more

4403.26

-- Other

4403.4

- Other, of tropical wood :

4403.41

-- Dark Red Meranti, Light Red Meranti and Meranti Bakau

4403.42

-- Teak

4403.49

-- Other

4403.9

- Other :

4403.91

-- Of oak (Quercus spp.)

4403.93

-- Of beech (Fagus spp.), of which the smallest cross-sectional dimension is 15 cm or more

4403.94

-- Of beech (Fagus spp.), other

4403.95

-- Of birch (Betula spp.), of which the smallest cross-sectional dimension is 15 cm or more

4403.96

-- Of birch (Betula spp.), other

4403.97

-- Of poplar and aspen (Populus spp.)

4403.98

-- Of eucalyptus (Eucalyptus spp.)

4403.99

-- Other

Heading 4404

Hoopwood; split poles; piles, pickets and stakes of wood, pointed but not sawn lengthwise; wooden sticks, roughly trimmed but not turned, bent or otherwise worked, suitable for the manufacture of walking-sticks, umbrellas, tool handles or the like; chipwood and the like.

EXPLANATORY NOTES

44.04 - Hoopwood; split poles; piles, pickets and stakes of wood, pointed but not sawn lengthwise; wooden sticks, roughly trimmed but not turned, bent or otherwise worked, suitable for the manufacture of walking-sticks, umbrellas, tool handles or the like; chipwood and the like.

4404.10 - Coniferous

4404.20 - Non-coniferous

This heading covers :

(1) **Hoopwood**, consisting of split rods of willow, hazel, birch, etc., whether with the bark or roughly shaved, and used in the manufacture of barrel hoops, hurdles, etc. Hoopwood is usually put up in bundles or coils.

Hoopwood cut to length and notched at the ends for interlocking when fitted to the barrel falls in **heading 44.16**.

(2) **Split poles**, consisting of stems or branches of trees split along the length. These are largely used as supports in horticulture and agriculture, for fencing or in some cases as ceiling or roofing laths.

(3) **Pointed piles, pickets and stakes** (including fence posts), consisting of round or split poles, pointed at the ends, whether or not peeled or impregnated with preservative, but not sawn lengthwise.

(4) **Wooden sticks, roughly trimmed but not turned, bent or otherwise worked**, of a length and thickness clearly suitable for the manufacture of walking-sticks, whips, golf-club shafts, umbrellas, handles for tools, besoms, etc., dyeing sticks and the like.

Similar wood which has been planed, turned (on an ordinary or a pole lathe), bent, or otherwise further worked and is recognisable as umbrella handles, walking-sticks, tool handles, etc., is classified in the **headings for the respective articles**.

(5) **Chipwood**, that is, wood sliced, peeled or sometimes sawn in flexible, narrow, thin and even strips of a kind used for plaiting and for making sieves, chip-boxes, chip-baskets, pill-boxes, match-boxes, etc. It also includes similar strips of wood for making match splints and boot or shoe pegs.

The heading also covers wood shavings, usually of beech or hazel, which resemble coiled chipwood and are used in the manufacture of vinegar or for the clarification of liquids; these can be distinguished from the waste shavings of **heading 44.01** because they are of uniform thickness, width and length and are evenly coiled into rolls.

Blanks for brush bodies or for boot or shoe lasts fall in **heading 44.17**.

4404.10

- Coniferous

CLASSIFICATION OPINIONS

1. Pointed wooden poles with a round or half-round profile (cross-section), intended for driving into the ground for various uses (such as forming fences, support plants, tethering animals, marking boundaries, etc.).
They have a length of 1 to 2 metres and a diameter of 22 mm to 25 mm.
Application of GIRs 1 and 6.

Adopt



Round Stakes



Round Stakes



Rounds Stakes

4404.20

- Non-coniferous

Heading 4405

Wood wool; wood flour.

EXPLANATORY NOTES

44.05 - Wood wool; wood flour.

Wood woolconsists of fine slivers of wood, curled or twisted to form a tangled mass. The slivers are of regular size and thickness and of considerable length (thus differing from ordinary wood shavings of **heading 44.01**). They are manufactured in this form from logs (of poplars, coniferous wood, etc.) by a special shaving machine. Wood wool is usually presented in pressed bales.

Wood wool remains in this heading if dyed, gummed, etc., or if roughly twisted together or put in the form of sheets between layers of paper. It is used mainly for packing or stuffing purposes. It is also used in the manufacture of agglomerated panels (e.g., certain boards of heading 44.10 or 68.08).

Wood flouris a powder obtained by grinding sawdust, shavings or other wood waste or by sifting sawdust. It is used largely as a filler in the plastics industry, for the manufacture of particle board and in the manufacture of linoleum. Wood flour can be distinguished from sawdust of **heading 44.01** on the basis of the smaller size and greater regularity of its particles.

Similar flour made from shells of coconuts or the like is **excluded** (**heading 14.04**).

4405.00

Wood wool; wood flour.

Heading 4406

Railway or tramway sleepers (cross-ties) of wood.

EXPLANATORY NOTES

44.06 - Railway or tramway sleepers (cross-ties) of wood (+).

- Not impregnated :

4406.11 - - Coniferous

4406.12 - - Non-coniferous

- Other :

4406.91 - - Coniferous

4406.92 - - Non-coniferous

This heading covers unplaned wood in pieces of more or less rectangular section of the kind commonly used to support railway or tramway track. The heading also includes switch ties, which are longer than sleepers, and bridge ties, which are wider and thicker and usually longer than sleepers.

The edges of these products may be roughly chamfered and they may be provided with holes or seatings for fixing the rails or chairs. They may also sometimes be strengthened at the ends by means of staples, nails, bolts or steel strips to prevent their splitting.

The products of this heading may be surface treated with insecticides or fungicides for the purpose of protection. For long-term preservation they are often impregnated with creosote or other substances.

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Subheading Explanatory Note.

Subheadings 4406.11 to 4406.92

For the purposes of classification in these subheadings, the expression “impregnated” means treated with creosote or other preservatives with a view to their long-term preservation. It **does not include** sleepers treated with a fungicide or insecticide for the purpose of protecting them from fungi or parasites simply during shipment or storage, which are to be classified as “not impregnated”.

4406.1

- Not impregnated :
4406.11

-- Coniferous
4406.12

-- Non-coniferous
4406.9

- Other :
4406.91

-- Coniferous
4406.92

-- Non-coniferous

Heading 4407

Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm.

EXPLANATORY NOTES

44.07 - Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm.

- Coniferous :

4407.11 - - Of pine (*Pinus spp.*)

4407.12 - - Of fir (*Abies spp*.) and spruce (*Picea spp.*)

4407.13 - - Of S-P-F (spruce (*Picea spp*.), pine (*Pinus spp.*) and fir (*Abies spp*.))

4407.14 - - Of Hem-fir (Western hemlock (*Tsuga heterophylla*) and fir (*Abies spp*.))

4407.19 - - Other

- Of tropical wood :

4407.21 - - Mahogany (*Swietenia spp.*)

4407.22 - - Virola, Imbuia and Balsa

4407.23 - - Teak

4407.25 - - Dark Red Meranti, Light Red Meranti and Meranti Bakau

4407.26 - - White Lauan, White Meranti, White Seraya, Yellow Meranti and Alan

4407.27 - - Sapelli

4407.28 - - Iroko

4407.29 - - Other

- Other :

4407.91 - - Of oak (*Quercus spp.*)

4407.92 - - Of beech (*Fagus spp.*)

4407.93 - - Of maple (*Acer spp.*)

4407.94 - - Of cherry (*Prunus spp.*)

4407.95 - - Of ash (*Fraxinus spp.*)

4407.96 - - Of birch (*Betula spp.*)

4407.97 - - Of poplar and aspen (*Populus spp.*)

4407.99 - - Other

With a few exceptions, this heading covers all wood and timber, of any length but of a thickness exceeding 6 mm, sawn or chipped along the general direction of the grain or cut by slicing or peeling. Such wood and timber includes sawn beams, planks, flitches, boards, laths, etc., and products regarded as the equivalent of sawn wood or timber, which are obtained by the use of chipping machines and which have been chipped to extremely accurate dimensions, a process which results in a surface better than that obtained by sawing and which thereby renders subsequent planing unnecessary. It also includes sheets of sliced or peeled (rotary cut) wood, and wooden blocks, strips and friezes for flooring, **other than** those which have been continuously shaped along any of their edges, ends or faces (**heading 44.09**).

It is to be noted that the wood of this heading need not necessarily be of rectangular (including square) section nor of uniform section along the length.

The products of this heading may be planed (whether or not the angle formed by two adjacent sides is slightly rounded during the planing process), sanded or end-jointed, e.g. finger-jointed (see the General Explanatory Note to this Chapter).

The heading also **excludes :**

(a) Wood roughly squared, e.g., by coarse sawing (**heading 44.03**).

(b) Chipwood and the like (**heading 44.04**).

(c) Veneer sheets and sheets for plywood (and other wood not elsewhere specified or included) of a thickness not exceeding 6 mm (**heading 44.08**).

(d) Wood continuously shaped along any of its edges, ends or faces, of **heading 44.09**.

(e) Strips and friezes of wood of **heading 44.12**.

(f) Builders' joinery and carpentry (**heading 44.18**).

4407.1

- Coniferous :

4407.11

-- Of pine (Pinus spp.)

4407.12

-- Of fir (Abies spp.) and spruce (Picea spp.)

4407.13

-- Of S-P-F (spruce (Picea spp.), pine (Pinus spp.) and fir (Abies spp.))

4407.14

-- Of Hem-fir (Western hemlock (Tsuga heterophylla) and fir (Abies spp.))

4407.19

-- Other

4407.2

- Of tropical wood :

4407.21

-- Mahogany (Swietenia spp.)

4407.22

-- Virola, Imbuia and Balsa

4407.23

-- Teak

4407.25

-- Dark Red Meranti, Light Red Meranti and Meranti Bakau

4407.26

-- White Lauan, White Meranti, White Seraya, Yellow Meranti and Alan

4407.27

-- Sapelli

4407.28

-- Iroko

4407.29

-- Other

4407.9

- Other :

4407.91

-- Of oak (Quercus spp.)

4407.92

-- Of beech (Fagus spp.)

4407.93

-- Of maple (Acer spp.)

4407.94

-- Of cherry (Prunus spp.)

4407.95

-- Of ash (Fraxinus spp.)

4407.96

-- Of birch (Betula spp.)

4407.97

-- Of poplar and aspen (Populus spp.)

4407.99

-- Other

Heading 4408

Sheets for veneering (including those obtained by slicing laminated wood), for plywood or for similar laminated wood and other wood, sawn lengthwise, sliced or peeled, whether or not planed, sanded, spliced or end-jointed, of a thickness not exceeding 6 mm.

EXPLANATORY NOTES

44.08 - Sheets for veneering (including those obtained by slicing laminated wood), for plywood or for similar laminated wood and other wood, sawn lengthwise, sliced or peeled, whether or not planed, sanded, spliced or end-jointed, of a thickness not exceeding 6 mm.

4408.10 - Coniferous

- Of tropical wood :

4408.31 - - Dark Red Meranti, Light Red Meranti and Meranti Bakau

4408.39 - - Other

4408.90 - Other

This heading applies to wood, whether actually to be used for veneering or making plywood or for other purposes (for violins, cigar boxes, etc.), in sheets of a thickness not exceeding 6 mm (excluding any reinforcing material), obtained by sawing, slicing or peeling (rotary cutting), whether or not smoothed, dyed, coated or impregnated, or reinforced with paper or fabric backings, or in decorative sheets imitating marquetry.

Woods used for the manufacture of plywood are generally cut by the peeling process in which the log, usually prepared by steaming, or soaking in hot water, is turned on its axis against the blade of the peeling machine so that it is cut in a continuous sheet.

In slicing the log of wood, often first steamed or soaked in hot water, is cut by knives driven against it in a vertical or horizontal shearing action, the log moving towards the knife or vice versa after each operation. In a variation of the process, the log is moved forward against a stationary knife. In this way the wood is sliced into very thin sheets.

Sheets for veneering are also produced by slicing blocks of laminated wood as a substitute for veneer sheets made by the traditional method.

The sheets of this heading may be spliced (i.e., taped, stitched or glued together edge to edge to make larger sheets for use in plywood and similar laminated wood). In addition, they may be planed, sanded or end-jointed, e.g. finger-jointed (see the General Explanatory Note to this Chapter). Moreover, the fact that a sheet for plywood has been patched with paper, plastics or wood to cover or strengthen a defect (e.g., a knot hole) does not affect the classification of such a sheet in this heading.

The sheets for veneering of fine highly grained woods used in cabinet-making veneers are more often obtained by sawing or slicing.

The heading also includes short lengths of approximately square cross-section and about 3 mm in thickness used in making fireworks, cases, toys, models, etc.

The heading **excludes** sliced or peeled wood in narrow strips of the kind used for plaiting or to make chip-baskets, pill-boxes, etc. (**heading 44.04**).

4408.10

- Coniferous

CLASSIFICATION OPINIONS

1. Thin wood sheets (“kraft veneer”) (thickness : 1.59, 2.54, 3.18 or 4.76 mm), covered on both sides with kraft paper.
Adoption : 1970

4408.3

- Of tropical wood :

4408.31

-- Dark Red Meranti, Light Red Meranti and Meranti Bakau

CLASSIFICATION OPINIONS

1. Thin wood sheets (“kraft veneer”) (thickness : 1.59, 2.54, 3.18 or 4.76 mm), covered on both sides with kraft paper.

Adoption : 1970

4408.39

-- Other

CLASSIFICATION OPINIONS

1. Thin wood sheets (“kraft veneer”) (thickness : 1.59, 2.54, 3.18 or 4.76 mm), covered on both sides with kraft paper.
Adoption : 1970

4408.90

- Other

CLASSIFICATION OPINIONS

1. Thin wood sheets (“kraft veneer”) (thickness : 1.59, 2.54, 3.18 or 4.76 mm), covered on both sides with kraft paper.
Adoption : 1970

Heading 4409

Wood (including strips and friezes for parquet flooring, not assembled) continuously shaped (tongued, grooved, rebated, chamfered, V-jointed, beaded, moulded, rounded or the like) along any of its edges, ends or faces, whether or not planed, sanded or end-jointed.

EXPLANATORY NOTES

44.09 - Wood (including strips and friezes for parquet flooring, not assembled) continuously shaped (tongued, grooved, rebated, chamfered, v-jointed, beaded, moulded, rounded or the like) along any of its edges, ends or faces, whether or not planed, sanded or end-jointed.

4409.10 - Coniferous

- Non-coniferous :

4409.21 - - Of bamboo

4409.22 - - Of tropical wood

4409.29 - - Other

This heading covers timber, particularly in the form of boards, planks, etc., which, after sawing or squaring, has been continuously shaped along any of its edges, ends or faces either to facilitate subsequent assembly or to obtain the mouldings or beadings described in Item (4) below, whether or not planed, sanded or end-jointed, e.g. finger-jointed (see the General Explanatory Note to this Chapter). Continuously shaped wood covers both products with a uniform cross-section throughout the length or width and products having a repetitive design in relief.

Tongued and grooved wood consists of boards of which one edge or end is grooved and the other flanged (tongued), the tongue of one board fitting into the groove of another when assembled side by side.

Rebated boards are those in which one or more edges or ends have been cut to form a step.

Chamfered boards are those of which one or more corners have been removed at an angle to the face and the edge or end.

Other common forms of timber covered by the heading include :

(1) **Boards with rounded edges or ends**.

(2) **V-jointed** wood (i.e., wood tongued and grooved with chamfered edges or ends), including **centre-V-jointed** wood (i.e., with a V-shaped channel in the centre of the board and also usually tongued and grooved and sometimes chamfered at the edges or ends).

(3) **Beaded** wood (i.e., wood tongued and grooved with a simple bead between the edge or end and the tongue), including **centrebeaded** wood (i.e., wood tongued and grooved with a simple bead along the centre of the face).

(4) **Moulded wood** (also known as mouldings or beadings), i.e., strips of wood shaped to various contours (obtained mechanically or by hand), such as are used for the manufacture of picture frames, decoration of walls, furniture, doors and other carpentry or joinery.

(5) **Rounded woods** such as drawn woods, which are very thin rods, generally of round section, of a kind used in the manufacture of certain types of match splints, pegs for footwear, certain types of wooden sun-blinds (pinoleum blinds), toothpicks, cheese-making screens, etc. Dowelling in the length, being round wooden rods or poles of a uniform cross-section, generally ranging in diameter from 2 mm to 75 mm and in length from 45 cm to 250 cm, of a kind used, e.g., for joining parts of wooden furniture, is also classified in this heading.

The heading also covers strips and friezes for flooring consisting of narrow pieces of boards, provided they have been continuously shaped, e.g., tongued and grooved. If they have not been worked beyond planing, sanding or end-jointing, e.g. finger-jointing, they fall in **heading 44.07**.

Strips of plywood or veneered wood for parquet flooring are also **excluded** (**heading 44.12**).

The heading also **excludes :**

(a) Planed or other worked boards presented in sets as box boards (**heading 44.15**).

(b) Wood which has been mortised or tenoned, dovetailed or similarly worked at the ends and wood assembled into panels being builders' carpentry or joinery (e.g., assembled flooring panels, including parquet flooring panels, made up from wooden blocks, strips, friezes, etc., whether or not on a support of one or more layers of wood) (**heading 44.18**).

(c) Panels consisting of laths of roughly sawn wood, assembled with glue in order to facilitate transport or later working (**heading 44.21**).

(d) Moulded wood built up by superimposing a moulding on another piece of moulded or unmoulded wood (**heading 44.18** or **44.21**).

(e) Wood which has been surface worked beyond planing or sanding, other than painting, staining or varnishing (e.g., veneered, polished, bronzed, or faced with metal leaf) (generally **heading 44.21**).

(f) Wooden strips of a kind clearly identifiable for incorporation in an article of furniture, such as notched strips for cupboard and bookcase shelves, etc. (**heading 94.03**).

4409.10

- Coniferous

CLASSIFICATION OPINIONS

1. Strips for parquet flooring, not assembled, measuring approximately 40 cm long x 6 cm wide x 2 cm thick, made from a solid piece of wood, with side (the length) tongued and the opposite side grooved; the ends (the width) are also worked with one end having a tongue and the opposite end having a groove.
Adoption : 1998

4409.2

- Non-coniferous :

4409.21

-- Of bamboo

CLASSIFICATION OPINIONS

1. Strips for parquet flooring, not assembled, measuring approximately 40 cm long x 6 cm wide x 2 cm thick, made from a solid piece of wood, with side (the length) tongued and the opposite side grooved; the ends (the width) are also worked with one end having a tongue and the opposite end having a groove.
Adoption : 1998

4409.22

-- Of tropical wood

CLASSIFICATION OPINIONS

1. Strips for parquet flooring, not assembled, measuring approximately 40 cm long x 6 cm wide x 2 cm thick, made from a solid piece of wood, with side (the length) tongued and the opposite side grooved; the ends (the width) are also worked with one end having a tongue and the opposite end having a groove.
Adoption : 1998

4409.29

-- Other

CLASSIFICATION OPINIONS

1. Strips for parquet flooring, not assembled, measuring approximately 40 cm long x 6 cm wide x 2 cm thick, made from a solid piece of wood, with side (the length) tongued and the opposite side grooved; the ends (the width) are also worked with one end having a tongue and the opposite end having a groove.
Adoption : 1998

Heading 4410

Particle board, oriented strand board (OSB) and similar board (for example, waferboard) of wood or other ligneous materials, whether or not agglomerated with resins or other organic binding substances.

EXPLANATORY NOTES

44.10 - Particle board, oriented strand board (OSB) and similar board (for example, waferboard) of wood or other ligneous materials, whether or not agglomerated with resins or other organic binding substances.

- Of wood :

4410.11 - - Particle board

4410.12 - - Oriented strand board (OSB)

4410.19 - - Other

4410.90 - Other

Particle board is a flat product manufactured in various lengths, widths and thicknesses by pressing or extrusion. It is usually made from wood chips or particles obtained by the mechanical reduction of roundwood or wood residues. It may also be produced from other ligneous materials such as fragments obtained from bagasse, bamboo, cereal straw or from flax or hemp shives. Particle board is normally agglomerated by means of an added organic binder, usually a thermosetting resin, which generally does not exceed 15 % of the weight of the board.

The chips, particles or other fragments constituting the particle boards of this heading are usually recognisable at the edges of the board with the naked eye. However, in some cases, microscopic examination may be required to distinguish the particles and fragments from the ligno-cellulosic fibres characterising the fibreboard of heading 44.11.

This heading also covers :

(1) **Oriented strand board**, which is made from layers of thin strands of wood which are at least twice as long as they are wide. These strands are mixed with binders (usually waterproof) such as isocyanate or phenolic resins, interleaved together and laid down in layers forming a thick mat in which the strands are generally oriented lengthwise in the surface layers and generally cross oriented or laid down randomly in the inner layers in order to give the board improved elastomechanical properties. The mat is subjected to heat and pressure producing a solid, uniform, rigid structural board.

(2) **Waferboard**, which is made from thin wafers of wood which are less than twice as long as they are wide. These wafers are mixed with binders (usually waterproof) such as isocyanate or phenolic resins, interleaved together and laid down randomly, thus forming a thick mat. The mat is subjected to heat and pressure producing a solid, uniform, structural board having high strength and water resistance.

The particle boards of this heading are usually sanded. Moreover, they may be impregnated with one or more substances not essential for the agglomeration of their constituent materials but which confer on the board an additional property, e.g., impermeability to water, resistance to rot, insect attack, fire or the spread of flame, chemical agencies or electricity, greater density. In the last instance, the impregnating substances attain an important proportion.

Extruded particle board may have holes running internally from end to end.

Also classified in this heading are laminated panels consisting of :

(1) particle board covered on one or both faces with fibreboard;

(2) several particle boards whether or not covered on one or both faces with fibreboard;

(3) several particle boards and several fibreboards assembled in any order.

The products of this heading remain classified herein whether or not they have been worked to form the shapes provided for in respect of the goods of heading 44.09, curved, corrugated, perforated, cut or formed to shapes other than square or rectangular and whether or not they have been worked at the surface, the edge or the end, or coated or covered (e.g., with textile fabric, plastics, paint, paper or metal) or submitted to any other operation, **provided** these operations do not thereby give such products the essential character of articles of other headings.

The heading **does not cover** :

(a) Plates or strips of plastics containing wood flour as a filler (**Chapter 39**).

(b) Veneered particle board and similar board (for example, oriented strand board and waferboard), whether or not with holes running internally from end to end (**heading 44.12**).

(c) Cellular wood panels of which both faces are particle board (**heading 44.18**).

(d) Boards of ligneous materials agglomerated with cement, plaster or with other mineral binding substances (**heading 68.08**).

Also **excluded** from this heading are goods having the character of articles or parts of articles more specifically covered elsewhere, whether obtained directly by pressing, extrusion or moulding or by other processes.

4410.1

- Of wood :

4410.11

-- Particle board

CLASSIFICATION OPINIONS

1. Laminated panel consisting of three layers of particle board, cut to a circular shape (900 mm in diameter and 25 mm thick), covered with melamine resin impregnated paper on the top and bottom surface. The side edge is covered with 2 mm thick poly(vinyl chloride) (PVC) tape. The article, as presented, has no features indicating that it is intended to be combined with another article nor to identify its use, e.g., as a part of a table.
Application of GIRs 1 and 6.
Adoption : 2011

4410.12

-- Oriented strand board (OSB)

4410.19

-- Other

4410.90

- Other

Heading 4411

Fibreboard of wood or other ligneous materials, whether or not bonded with resins or other organic substances.

EXPLANATORY NOTES

44.11 - Fibreboard of wood or other ligneous materials, whether or not bonded with resins or other organic substances.

- Medium density fibreboard (MDF) :

4411.12 - - Of a thickness not exceeding 5 mm

4411.13 - - Of a thickness exceeding 5 mm but not exceeding 9 mm

4411.14 - - Of a thickness exceeding 9 mm

- Other :

4411.92 - - Of a density exceeding 0.8 g/cm^3

4411.93 - - Of a density exceeding 0.5 g/cm^3 but not exceeding 0.8 g/cm^3

4411.94 - - Of a density not exceeding 0.5 g/cm^3

Fibreboard is most often manufactured from wood chips which have been mechanically defibred (defibrated) or steam exploded or from other defibred ligno-cellulosic material (obtained e.g., from bagasse or bamboo). The fibres making up the board are recognisable under microscopic examination. They are bonded together in the board by felting and by their own adhesive properties, generally deriving from their lignin content. Additional resins or other organic bonding substances may be used to agglomerate the fibres. Impregnating or other agents may also be added during or after manufacture of the board to give an extra property, e.g., impermeability to water or resistance to rot, insect attack, fire or the spread of flame. Fibreboard may consist of a single sheet or of several sheets bonded together.

The categories of fibreboard of this heading can be distinguished according to their production process and they include :

(A) Fibreboard obtained by the “dry production process”

This group includes, in particular, **medium density fibreboard (MDF)**, which is manufactured in a process in which additional thermosetting resins are added to the dried wood fibres in order to assist the bonding process in the press. The density generally ranges from 0.45 g/cm^3 to 1 g/cm^3. In the unworked state it has two smooth surfaces. It can be used in many different applications such as furniture, interior decoration and in building.

Medium density fibreboard of a densityexceeding 0.8 g/cm^{3}is sometimes also referred to by the trade as “high density fibreboard (HDF)”.

(B) Fibreboard obtained by the “wet production process”

This group includes the following types of fibreboard :

(1) **Hardboard**, which is manufactured in a wet production process in which the wood fibres in suspension in water are compressed in the form of a mat under high temperature and high pressure on a metallic mesh. In the unworked state this type of fibreboard has one smooth and one rough surface with a mesh pattern. However, it can sometimes also have two smooth surfaces obtained by special surface treatment or a special production process. It generally has a density exceeding 0.8 g/cm^3. Hardboard is mainly used for furniture, in the automotive industries, for doorskins and for packaging, especially fruit and vegetable packaging.

(2) **Mediumboard**, which is manufactured in a way similar to the one for hardboard but at a lower pressure. It generally has a density exceeding 0.35 g/cm^{3}but not exceeding 0.8 g/cm^3. The main application is in furniture production and for interior or exterior walls.

(3) **Softboard**. This fibreboard is not compressed as the other types of fibreboard obtained by the wet production process. It generally has a density of 0.35 g/cm^{3}or less. These boards are used mainly for thermal or sound insulation in building. Special types of insulating board are used as sheathing or sarking materials.

The products of this heading remain classified herein whether or not they have been worked to form the shapes provided for in respect of the goods of heading 44.09, curved, corrugated, perforated, cut or formed to shapes other than square or rectangular and whether or not they have been worked at the surface, the edge or the end, or coated or covered (e.g., with textile fabric, plastics, paint, paper

or metal) or submitted to any other operation, **provided** these operations do not thereby give such products the essential character of articles of other headings.

The heading **does not cover** :

(a) Particle board whether or not laminated with one or several fibreboards (**heading 44.10**).

(b) Laminated wood with a core consisting of fibreboard (**heading 44.12**).

(c) Cellular wood panels of which both faces are fibreboard (**heading 44.18**).

(d) Paperboard, such as multiplex paperboard, “presspan” and strawboard, which can generally be distinguished from fibreboard by their layer structure made apparent on cleaving (**Chapter 48**).

(e) Fibreboard panels clearly identifiable as parts of furniture (generally **Chapter 94**).

4411.1

- Medium density fibreboard (MDF) :

4411.12

-- Of a thickness not exceeding 5 mm

CLASSIFICATION OPINIONS

1. Fibreboard of wood (MDF, Medium Density Fibreboard) of a density of 800 to 860 kg/m3, a thickness which varies between 3 and 4 mm (with a tolerance of +/- 0.2 mm) and measuring (L x W) 2,440 x 1,220 mm.
The product is manufactured by means of a dry production process.
Application of GIRs 1 and 6.
Adoption : 2019

4411.13

-- Of a thickness exceeding 5 mm but not exceeding 9 mm

4411.14

-- Of a thickness exceeding 9 mm

4411.9

- Other :

4411.92

-- Of a density exceeding 0.8 g/cm³

4411.93

-- Of a density exceeding 0.5 g/cm³ but not exceeding 0.8 g/cm³

4411.94

-- Of a density not exceeding 0.5 g/cm³

Heading 4412

Plywood, veneered panels and similar laminated wood.

EXPLANATORY NOTES

44.12 - Plywood, veneered panels and similar laminated wood (+).

4412.10 - Of bamboo

- Other plywood, consisting solely of sheets of wood (other than bamboo), each ply not exceeding 6 mm thickness :

4412.31 - - With at least one outer ply of tropical wood

4412.33 - - Other, with at least one outer ply of non-coniferous wood of the species alder (*Alnus spp.*), ash (*Fraxinus spp.*), beech (*Fagus spp.*), birch (*Betula spp.*), cherry (*Prunus spp.*), chestnut (*Castanea spp.*), elm (*Ulmus spp.*), eucalyptus (*Eucalyptus spp.*), hickory (*Carya spp.*), horse chestnut (*Aesculus spp.*), lime (*Tilia spp.*), maple (*Acer spp.*), oak (*Quercus spp.*), plane tree (*Platanus spp.*), poplar and aspen (*Populus spp.*), robinia (*Robinia spp.*), tulipwood (*Liriodendron spp.*) or walnut (*Juglans spp.*)

4412.34 - - Other, with at least one outer ply of non-coniferous wood not specified under subheading 4412.33

4412.39 - - Other, with both outer plies of coniferous wood

- Laminated veneered lumber (LVL):

4412.41 - - With at least one outer ply of tropical wood

4412.42 - - Other, with at least one outer ply of non-coniferous wood

4412.49 - - Other, with both outer plies of coniferous wood

- Blockboard, laminboard and battenboard :

4412.51 - - With at least one outer ply of tropical wood

4412.52 - - Other, with at least one outer ply of non-coniferous wood

4412.59 - - Other, with both outer plies of coniferous wood

- Other :

4412.91 - - With at least one outer ply of tropical wood

4412.92 - - Other, with at least one outer ply of non-coniferous wood

4412.99 - - Other, with both outer plies of coniferous wood

This heading covers :

(1) **Plywood** consisting of three or more sheets of wood glued and pressed one on the other and generally disposed so that the grains of successive layers are at an angle; this gives the panels greater strength and, by compensating shrinkage, reduces warping. Each component sheet is

known as a “ply” and plywood is usually formed of an odd number of plies, the middle ply being called the “core”.

(2) **Veneered panels**, which are panels consisting of a thin veneer of wood affixed to a base, usually of inferior wood, by glueing under pressure.

Wood veneered on to a base other than wood (e.g., panels of plastics) is also classified here provided it is the veneer which gives the panel its essential character.

(3) **Similar laminated wood**. This group can be divided into two categories :

- Blockboard, laminboard and battenboard, in which the core is thick and composed of blocks, laths or battens of wood glued together and surfaced with the outer plies. Panels of this kind are very rigid and strong and can be used without framing or backing.

- Panels in which the wooden core is replaced by other materials such as a layer or layers of particle board, fibreboard, wood waste glued together, asbestos or cork.

However, the heading **does not cover** massive products such as laminated beams and arches (so-called “glulam” products) (generally **heading 44.18**).

The products of this heading remain classified herein whether or not they have been worked to form the shapes provided for in respect of the goods of heading 44.09, curved, corrugated, perforated, cut or formed to shapes other than square or rectangular and whether or not they have been worked at the surface, the edge or the end, or coated or covered (e.g., with textile fabric, plastics, paint, paper or metal) or submitted to any other operation, **provided** these operations do not thereby give such products the essential character of articles of other headings.

The heading also covers plywood panels, veneered panels and panels of similar laminated wood, used as flooring panels, some of which are referred to as “parquet flooring”. These panels have a thin veneer of wood affixed to the surface, so as to imitate an assembled flooring panel.

The heading also **excludes :**

(a) Thin sheets of wood for veneering, obtained by slicing laminated wood (**heading 44.08**).

(b) Panels of laminated densified wood (**heading 44.13**).

(c) Cellular wood panels and assembled flooring panels, including parquet flooring panels, or tiles including those consisting of wooden blocks, strips, friezes, etc., assembled on a support of one or more layers of wood and known as “multilayer” parquet flooring panels (**heading 44.18**).

(d) Wood marquetry and inlaid wood (**heading 44.20**).

(e) Panels clearly identifiable as parts of furniture (generally **Chapter 94**).

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Subheading Explanatory Notes.

Subheadings 4412.10, 4412.31, 4412.33, 4412.34 and 4412.39

Plywood remains classified in these subheadings even if it has been surface-covered or further worked as described in the antepenultimate paragraph of the Explanatory Note to heading 44.12.

Subheadings 4412.41, 4412.42 and 4412.49

Laminated veneer lumber (LVL) is an engineered lumber composite used to build structures and has a high strength to weight ratio, however, these products are not designed to support the structural load of a building. It is composed of layers of wood veneer, the grain of the outer veneers and most or all other veneers running parallel to the longitudinal axis (e.g. successive veneers). Logs are peeled into thin veneers and glued together under heat and pressure. Veneers used in the production of LVL are often scarf jointed, butted or lapped to provide continuous strength characteristics.

4412.10

- Of bamboo

4412.3

- Other plywood, consisting solely of sheets of wood (other than bamboo), each ply not exceeding 6 mm thickness :

4412.31

-- With at least one outer ply of tropical wood

4412.33

-- Other, with at least one outer ply of non-coniferous wood of the species alder (Alnus spp.), ash (Fraxinus spp.), beech (Fagus spp.), birch (Betula spp.), cherry (Prunus spp.), chestnut (Castanea spp.), elm (Ulmus spp.), eucalyptus (Eucalyptus spp.), hickory (Carya spp.), horse chestnut (Aesculus spp.), lime (Tilia spp.), maple (Acer spp.), oak (Quercus spp.), plane tree (Platanus spp.), poplar and aspen (Populus spp.), robinia (Robinia spp.), tulipwood (Liriodendron spp.) or walnut (Juglans spp.)

4412.34

-- Other, with at least one outer ply of non-coniferous wood not specified under subheading 4412.33

4412.39

-- Other, with both outer plies of coniferous wood

4412.4

- Laminated veneered lumber (LVL) :

4412.41

-- With at least one outer ply of tropical wood

4412.42

-- Other, with at least one outer ply of non-coniferous wood

4412.49

-- Other, with both outer plies of coniferous wood

4412.5

- Blockboard, laminboard and battenboard :

4412.51

-- With at least one outer ply of tropical wood

4412.52

-- Other, with at least one outer ply of non-coniferous wood

4412.59

-- Other, with both outer plies of coniferous wood

CLASSIFICATION OPINIONS

1. Rectangular pieces of laminated wood (213 cm long x 11.26 cm wide x 23.8 mm thick), used for making a door frame, consisting of a thick core and two thin outer plies of coniferous wood, continuously grooved along both edges to fit a door casing and on one face to fit a door stopper. It is intended to be cut to size after the door casing and stopper have been fitted into the grooves so as to make a finished door frame.

Application of GIRs 1 and 6.

Adoption : 1998

4412.9

- Other :

4412.91

-- With at least one outer ply of tropical wood

4412.92

-- Other, with at least one outer ply of non-coniferous wood

4412.99

-- Other, with both outer plies of coniferous wood

CLASSIFICATION OPINIONS

1. Rectangular pieces of laminated wood (213 cm long x 11.26 cm wide x 23.8 mm thick), used for making a door frame, consisting of a thick core and two thin outer plies of coniferous wood, continuously grooved along both edges to fit a door casing and on one face to fit a door stopper. It is intended to be cut to size after the door casing and stopper have been fitted into the grooves so as to make a finished door frame.

Application of GIRs 1 and 6.

Adoption : 1998

Heading 4413

Densified wood, in blocks, plates, strips or profile shapes.

EXPLANATORY NOTES

44.13 - Densified wood, in blocks, plates, strips or profile shapes.

Densified wood covered by this heading has been chemically or physically treated to increase its density or hardness and improve its mechanical strength or resistance to chemical or electrical agencies. Such wood may be solid or consist of several layers bonded together, in the latter case the treatment applied being in excess of that required merely to produce a good bond between the layers.

Two main processes, impregnation and densification, are used to produce the products of this heading. These processes may be used separately or together.

In **impregnation** the wood is deeply impregnated, usually with thermosetting plastics or with molten metal.

Impregnation with thermosetting plastics (e.g., amino-resins or phenolic resins) is more often applied to very thin veneers built up into laminated wood than to solid wood, since penetration is thereby facilitated.

Metallised wood is obtained by plunging pieces of solid wood, previously heated, into a bath of molten metal (e.g., tin, antimony, lead, bismuth or their alloys) under pressure in a closed vessel. The density of metallised wood generally exceeds 3.5 g/cm^3.

Densification has the effect of contracting the cells of the wood; this may be done by transverse compression by means of powerful hydraulic presses or between rollers, or by compression in all directions at high temperature in an autoclave. Densified wood may have a density as great as 1.4 g/cm^3.

Impregnation and densification may be carried out simultaneously by glueing very thin sheets of wood (usually beech) with thermosetting plastics under heavy pressure at a high temperature so that the wood is deeply impregnated and compressed as well as bonded.

Densified wood is generally used in the manufacture of gears, shuttles, bearings and other machine parts, propellers, insulators and other electric goods, vessels for the chemical industry, etc.

4413.00

Densified wood, in blocks, plates, strips or profile shapes.

Heading 4414

Wooden frames for paintings, photographs, mirrors or similar objects.

EXPLANATORY NOTES

44.14 - Wooden frames for paintings, photographs, mirrors or similar objects.

4414.10 - Of tropical wood

4414.90 - Other

This heading covers wooden frames of all shapes and dimensions, whether cut in one piece from a solid block of wood or built up from beadings or mouldings. The frames of the heading may also be of wood marquetry or inlaid wood.

The articles of this heading may be made of ordinary wood or of particle board or similar board, fibreboard, laminated wood or densified wood (see Note 3 to this Chapter).

Frames remain in this heading if fitted with backs, supports and plain glass.

Printed pictures and photographs presented in wooden frames are also classified in this heading when the essential character of the whole is given by the frames; in other cases such articles are classified in **heading 49.11**.

Framed glass mirrors are also **excluded** (**heading 70.09**).

In the case of framed paintings, drawings, pastels, collages and similar decorative plaques, and original engravings, prints and lithographs, to determine whether the framed articles are to be classified as a whole or whether the frames are to be classified separately, see Note 6 to Chapter 97 and the Explanatory Notes to headings 97.01 and 97.02.

4414.10

- Of tropical wood

4414.90

- Other

Heading 4415

Packing cases, boxes, crates, drums and similar packings, of wood; cable-drums of wood; pallets, box pallets and other load boards, of wood; pallet collars of wood.

EXPLANATORY NOTES

44.15 - Packing cases, boxes, crates, drums and similar packings, of wood; cable-drums of wood; pallets, box pallets and other load boards, of wood; pallet collars of wood.

4415.10 - Cases, boxes, crates, drums and similar packings; cable-drums

4415.20 - Pallets, box pallets and other load boards; pallet collars

The articles of this heading may be made of ordinary wood or of particle board or similar board, fibreboard, laminated wood or densified wood (see Note 3 to this Chapter).

(I) PACKING CASES, BOXES, CRATES, DRUMS AND SIMILAR PACKINGS

This part of the heading includes :

(1) Packing cases and boxes with solid sides, lids and bottoms, used for general packing and transport purposes.

(2) Crates, fruit or vegetable boxes, egg trays and other containers with slatted sides and open tops (including those of a kind used for the transport of glassware, ceramic products, machinery, etc.).

(3) Boxes made of sliced or peeled wood (but **not** those of plaited wood) of the kind used for packing cheese, pharmaceutical products, etc.; match-boxes (including those with a striking surface) and conical open containers for marketing butter, fruit, etc.

(4) Drums and barrel-shaped containers, **not** of the kind made by coopers, such as are used for the transport of dry colours, chemicals, etc.

These containers may be presented without a lid (“open” containers such as cases, crates, etc.). They may be unassembled or partly assembled, **provided** the wood is in sets of the parts necessary to make a complete container or an incomplete container having the essential character of a complete container. Where the wood is not in such sets, it is to be classified as sawn or planed wood, plywood, etc., as the case may be.

The packing cases, etc., of this heading may be simply nailed or dovetailed or otherwise jointed. They may be fitted with hinges, handles, fasteners, feet or corner pieces, or lined with metal, paper, etc.

Used boxes, crates, etc., capable of further use as such, remain classified in this heading, but those not usable except as fuel are **excluded** (**heading 44.01**).

The heading also **excludes** :

(a) Articles of **heading 42.02**.

(b) Caskets, cases, and similar articles of **heading 44.20**.

(c) Containers specially designed and equipped for carriage by one or more modes of transport (**heading 86.09).**

(II) CABLE-DRUMS

Cable-drums are large drums, often with a diameter exceeding 1 m, used to hold and transport electric cables, telephone cables and similar cables. They are intended to be rolled to assist in laying the cable.

(III) PALLETS, BOX PALLETS AND OTHER LOAD BOARDS

Load boards are portable platforms for the assembly of a quantity of goods to form a unit load for handling, transportation and storage by mechanical appliances.

A pallet is a load board consisting of two decks separated by bearers or a single deck supported by feet and designed essentially for handling by means of fork-lift trucks or pallet trucks. Box pallets have a superstructure of at least three fixed, removable or collapsible vertical sides and designed for stacking with a double-decked pallet or another box pallet.

Platforms, post platforms, collar-type box platforms, side-rail platforms and end-rail platforms are other examples of load boards.

(IV) PALLET COLLARS

Pallet collars are collars made up of four pieces of wood, usually with hinges on the ends to form a frame that is placed over the pallet itself.

4415.10

- Cases, boxes, crates, drums and similar packings; cable-drums

4415.20

- Pallets, box pallets and other load boards; pallet collars

Heading 4416

Casks, barrels, vats, tubs and other coopers' products and parts thereof, of wood, including staves.

EXPLANATORY NOTES

44.16 - Casks, barrels, vats, tubs and other coopers' products and parts thereof, of wood, including staves.

This heading is restricted to containers which are products of the coopers' trade, that is those of which the bodies are composed of staves with grooves into which the heads and bottoms are fitted, the shape being maintained by hoops of wood or metal.

Coopers' products include casks of various kinds (tuns, barrels, hogsheads, etc.) whether tight (for wet goods) or slack (for dry goods), as well as vats, tubs, etc.

These goods may be disassembled or partly assembled, and are sometimes lined or coated inside.

The heading also covers staves and all other wooden products, finished or not, recognisable as parts of coopers' products (e.g., barrel heads, hoopwood cut to length and notched at the ends for assembly).

The heading also includes unfinished staves (stavewood), that is, the strips of wood used for forming the sides, heads or bottoms of barrels and other coopers' products. Such stavewood may be in the form of :

(1) Strips cleft from sectors of tree trunks along the direction of the medullary rays. Such cleft staves may also be further flat sawn on one of the principal faces, the other face being merely trued by axe or knife.

(2) Sawn staves, **provided** that at least one of the two-principal faces is concave or convex, such curved surfaces being produced by sawing with a cylindrical saw.

The heading **excludes** :

(a) Wood which is sawn flat on both principal faces (**headings 44.07** or **44.08**).

(b) Containers made of staves fixed to the heads and bottoms by nailing (**heading 44.15**).

(c) Casks, etc., cut to shape for use as furniture (e.g., tables and chairs) (**Chapter 94**).

4416.00

Casks, barrels, vats, tubs and other coopers' products and parts thereof, of wood, including staves.

Heading 4417

Tools, tool bodies, tool handles, broom or brush bodies and handles, of wood; boot or shoe lasts and trees, of wood.

EXPLANATORY NOTES

44.17 - Tools, tool bodies, tool handles, broom or brush bodies and handles, of wood; boot or shoe lasts and trees, of wood.

This heading covers :

(1) **Tools of wood**, **other than** tools in which the blade, working edge, working surface or other working part is formed by any of the materials specified in Note 1 to Chapter 82.

Tools of this heading include spatulas (**other than** kitchenware of **heading 44.19**), modelling-knives, mallets or mauls, rakes, forks, shovels, bench-screws and clamps, sand-papering blocks, etc.

(2) **Tool bodies of wood** (e.g., stocks for planes, spokeshaves, bow saws or similar tools) not fitted with their metal working parts (blades and irons).

(3) **Wooden handles**, whether or not turned, for tools or implements of all kinds (e.g., handles for spades, shovels, rakes, hammers, screwdrivers, saws, files, knives, smoothing irons, date or similar stamps).

(4) **Broom or brush bodies of wood**. These are pieces of wood, finished or not, shaped to the actual form of broom or brush heads. They may sometimes consist of more than one piece.

(5) **Brush or broom handles of wood**, whether or not turned, and whether of a kind for fitting with fibres or bristles at one end (such as paint brushes) or for fixing to bodies (e.g., broom handles).

(6) **Boot or shoe lasts of wood** (i.e., shapes used in the manufacture of footwear) and **boot or shoe trees**, finished or not, for preserving the shape or for stretching footwear.

The articles of this heading may be made of ordinary wood or of particle board or similar board, fibreboard, laminated wood or densified wood (see Note 3 to this Chapter).

The heading **does not cover** :

(a) Wood roughly trimmed or rounded for the manufacture of tool handles (**heading 44.04**).

(b) Wood merely sawn (e.g., into blocks) for manufacture into articles of this heading, but not having been shaped to the stage of blanks (**heading 44.07**).

(c) Wooden handles for table knives, spoons and forks (**heading 44.21**).

(d) Hat-making blocks (**heading 84.49**).

(e) Casting moulds, etc., of wood, of **heading 84.80**.

(f) Machinery or parts of machinery (**Chapter 84**).

4417.00

Tools, tool bodies, tool handles, broom or brush bodies and handles, of wood; boot or shoe lasts and trees, of wood.

Heading 4418

Builders' joinery and carpentry of wood, including cellular wood panels, assembled flooring panels, shingles and shakes.

EXPLANATORY NOTES

44.18 - Builders' joinery and carpentry of wood, including cellular wood panels, assembled flooring panels, shingles and shakes (+).

- Windows, French-windows and their frames :

4418.11 - - Of tropical wood

4418.19 - - Other

- Doors and their frames and thresholds :

4418.21 - - Of tropical wood

4418.29 - - Other

4418.30 - Posts and beams other than products of subheadings 4418.81 to 4418.89

4418.40 - Shuttering for concrete constructional work

4418.50 - Shingles and shakes

- Assembled flooring panels :

4418.73 - - Of bamboo or with at least the top layer (wear layer) of bamboo

4418.74 - - Other, for mosaic floors

4418.75 - - Other, multilayer

4418.79 - - Other

- Engineered structural timber products :

4418.81 - - Glue-laminated timber (glulam)

4418.82 - - Cross-laminated timber (CLT or X-lam)

4418.83 - - I beams

4418.89 - - Other

- Other :

4418.91 - - Of bamboo

4418.92 - - Cellular wood panels

4418.99 - - Other

This heading applies to woodwork, including that of wood marquetry or inlaid wood, used in the construction of any kind of building, etc., in the form of assembled goods or as recognisable unassembled pieces (e.g., prepared with tenons, mortises, dovetails or other similar joints for assembly), whether or not with their metal fittings such as hinges, locks, etc.

The articles of this heading may be made of ordinary wood or of particle board or similar board, fibreboard, laminated wood or densified wood (see Note 3 to this Chapter).

The term "**joinery**" applies more particularly to builders' fittings (such as doors, windows, shutters, stairs, door or window frames), whereas the term "**carpentry**" refers to woodwork (such as beams, rafters and roof struts) used for structural purposes or in scaffoldings, arch supports, etc., and includes assembled shuttering for concrete constructional work. However, plywood panels, even if surface treated for the purposes of concrete shuttering, are classified in **heading 44.12**.

Builders' carpentry also includes glue-laminated timber (glulam), which is a structural timber product obtained by gluing together a number of wood laminations having their grain essentially parallel. Laminations of curved members are arranged so that the plane of each lamination is at 90 degrees to the plane of the applied load; thus, laminations of a straight glulam beam are laid flat.

This heading also covers **cellular wood panels** which are somewhat similar in appearance to the blockboard and battenboard described in the Explanatory Note to heading 44.12, but the battens or laths forming the core are spaced one from the other, either parallel or in lattice form. In certain cases the panels may consist of facing sheets separated by an internal frame at the edges only. The interstices may be packed with sound-insulating or heat-resisting materials (e.g., cork, glass wool, wood pulp, asbestos). The facing sheets may be of solid wood, particle board or similar board, fibreboard or plywood, and the panels (like those in heading 44.12) may be faced with base metal. Panels of this kind are relatively light but strong and are used for partitions, doors and sometimes in the manufacture of furniture.

This heading also covers **solid blocks, strips, friezes, etc., assembled into flooring panels (including parquet panels) or tiles**, with or without borders. It also includes flooring panels or tiles consisting of blocks, strips, friezes, etc., assembled on a support of one or more layers of wood, known as **“multilayer” parquet flooring panels**. The top layer (wear layer) is commonly made from two or more rows of strips making up the panel. These panels or tiles may be tongued and grooved at the edges to facilitate assembly.

A **shingle** is wood sawn lengthwise which is generally thicker than 5 mm at one end (the butt) but thinner than 5 mm at the other end (the tip). It may have its edges resawn to be parallel; its butt may be resawn to be at right angles to its edges or to form a curve or other shape. One of its faces may be sanded from the butt to the tip or grooved along its length.

A **shake** is wood split by hand or machine from a bolt or block. Its face reveals the natural texture of the wood resulting from the splitting process. Shakes are sometimes sawn lengthwise through their thicknesses to obtain two shakes, each then having a split face and a sawn back.

The heading **does not cover :**

(a) Plywood panels, veneered panels or panels of similar laminated wood, used as flooring panels, which have a thin veneer of wood affixed to the surface so as to imitate an assembled flooring panel of heading 44.18 (**heading 44.12**).

(b) Cupboards, with or without backs, even if designed to be nailed or otherwise secured to the ceiling or wall (**heading 94.03**).

(c) Prefabricated buildings (**heading 94.06**).

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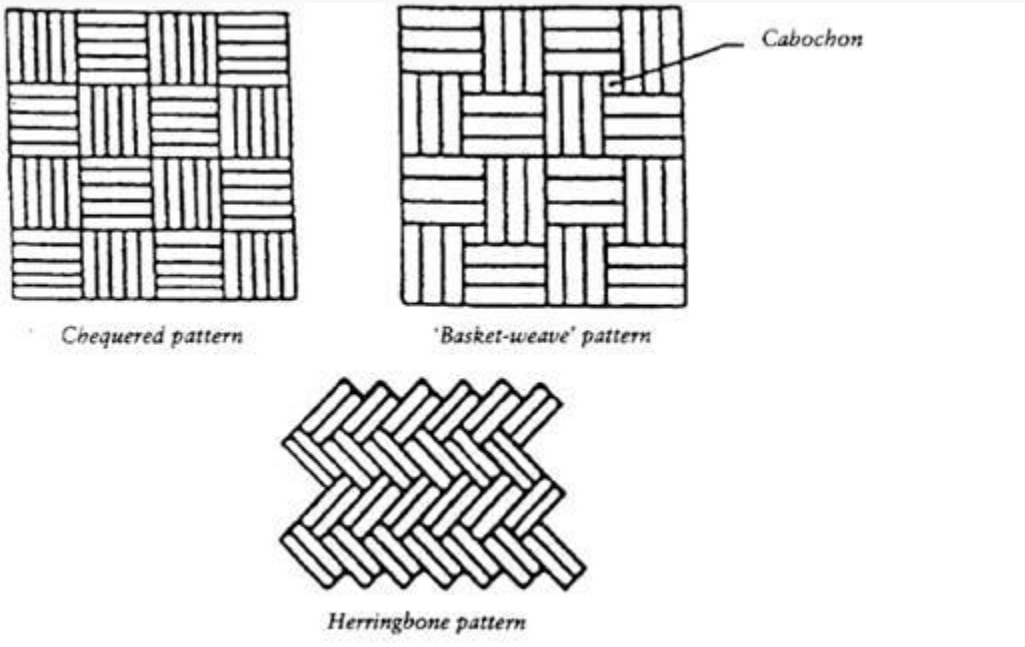
Subheading Explanatory Notes.

Subheading 4418.74

Assembled flooring panels for mosaic floors are prefabricated panels composed of a number of separate square or rectangular elements and possibly including “cabochons” (small square, rectangular, triangle, diamond or otherwise shaped wooden pieces used as fillers to attain the desired pattern). The strips are laid out according to a certain pattern, e.g., chequered, “basket-weave” and herringbone (see examples below).



Subheadings 4418.81, 4418.82, 4418.83 and 4418.89

For the purpose of these subheadings, the term “**Engineered structural timber products**” applies to products consisting of laminated timber or a combination of wood products, such as timber, laminated veneer lumber, plywood or Oriented Strand Board (OSB), to provide greater strength than just sawn timber (heading 44.07). These manufactured products are designed to support the structural load of a building.

Glue-laminated timber (Glulam) is a massive structural member constructed of multiple layers of timber that are glued together with the grain of each layer oriented parallel to those of the successive layers**.**

Cross-laminated timber (CLT, also referred to as **X-lam** or cross-ply timber) is a large structural building panel constructed of at least three layers of wood laminated together. Each layer is constructed of multiple solid timber boards (wood sawn or chipped lengthwise, sliced, or peeled, with a thickness exceeding 6mm) that have been placed side by side, whether or not glued together. The wood grain of each layer is typically oriented at a right angle to the grain of adjacent layers**.**

CLT is distinct from plywood as it is constructed from multiple pieces of solid sawn timber oriented in layers rather than sheets of veneer (which have a thickness not exceeding 6 mm). The alternating grain construction provides greater structural rigidity in both lengthwise and crosswise directions and provides structural support in load-bearing applications.

I-Beams (also called I-joists) are "I" shaped engineered wood structural members and are comprised of top and bottom flanges (horizontal members), united with webs (vertical members). The flange material is typically laminated veneer lumber (LVL) or solid sawn timber, and the web is made with plywood or oriented strand board (OSB)**.**

Subheading 4418.92

Subheading 4418.92 does not include cellular wood panels made of bamboo (**subheading 4418.91**).

4418.1

- Windows, French-windows and their frames :
4418.11

-- Of tropical wood
4418.19

-- Other
4418.2

- Doors and their frames and thresholds :
4418.21

-- Of tropical wood
4418.29

-- Other
4418.30

- Posts and beams other than products of subheadings 4418.81 to 4418.89
CLASSIFICATION OPINIONS

1. Drilled spruce/pine/fir (softwood) boards used as structural studs in the framing of a house, consisting of rectangular pieces of solid wood measuring approximately 3.81 cm (1 1/2 inches) thick and 8.25 cm (3 1/4 inches) wide, precision end trimmed in lengths of 243.84 cm to 365.76 cm (eight to twelve feet), with eased edges and unworked ends. There are drilled holes, 2.54 cm (one inch) in diameter, centred about 40.64 cm (16 inches) from each end for the purpose of allowing electrical

wiring, cables or pipes to be run through the studs.
Application of GIRs 1 and 6.
Adoption : 2000

4418.40

- Shuttering for concrete constructional work

4418.50

- Shingles and shakes

4418.7

- Assembled flooring panels :

4418.73

-- Of bamboo or with at least the top layer (wear layer) of bamboo

CLASSIFICATION OPINIONS

1. Assembled multilayer bamboo flooring panel (total thickness 15 mm, width 92 mm, length 1850 mm), consisting of three bonded layers, each layer about 5 mm thick. Each layer is made of five edge-glued, horizontally-oriented, strips of bamboo (width varying from 15 to 22 mm) that have been end-jointed to obtain the appropriate length. One edge and one end of the panel are tongued and the other edge and end are grooved to facilitate the installation of panels on the floor. The top layer is coated with several anti-abrasive and anti-scratch coatings or lacquers. The bottom layer has two shallow grooves running down its length in order to prevent warping of the panel. **Application of GIRs 1 and 6.**
Adoption : 2006





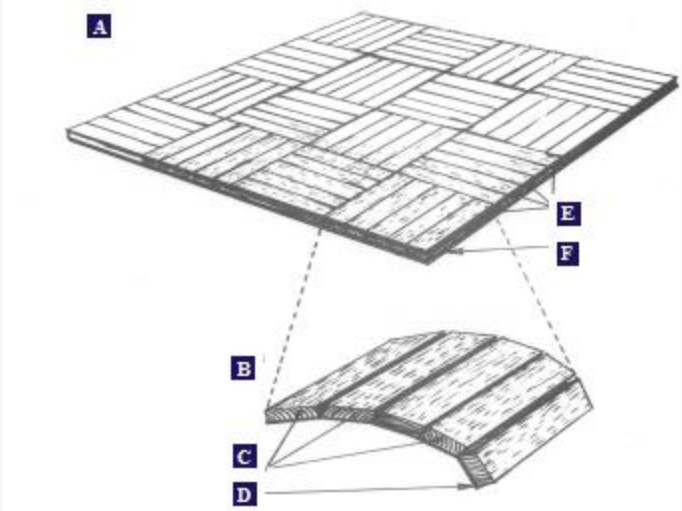
4418.74

-- Other, for mosaic floors

CLASSIFICATION OPINIONS

1. "Mosaic panels of oak", for parquet flooring, consisting of wooden strips planed on two sides and arranged in groups in chess-board pattern, and provisionally glued on a kraft paper backing to facilitate laying.
Adoption : 1962

A General appearance**B** Section of a panel fanned out for demonstration**C** Strips**D** Paper**E** Strips**F** Paper



4418.75

-- Other, multilayer

CLASSIFICATION OPINIONS

1. **Multilayer parquet flooring panel** (total thickness 10 mm, width 70 mm, length 600 mm) consisting of a 4 mm thick single strip top layer of solid Merbau glued onto a single-layer support of wood with perpendicular slits approximately every four centimetres throughout the length in order to give the product flexibility. The bottom layer is placed perpendicular to the grain of the top layer. The panel is tongued and grooved on the edges and ends. The top layer has been varnished. **Application of GIRs 1 and 6.** *Adoption : 2005*

2. **Multilayer parquet flooring panel** (total thickness 14 mm, width 210 mm, length 2,190 mm) consisting of a 4 mm thick top layer of solid oak on a two-layer support of wood. The top layer is made from two rows of strips; the core layer (8-9 mm thick) is placed perpendicular to the grain of the top and bottom layers. The panel is tongued and grooved along the edges. The top layer has been varnished. **Application of GIRs 1 and 6.** *Adoption : 2005*

3. **Multilayer parquet flooring panel** (total thickness 14 mm, width 145 mm, length varying) consisting of a 4 mm thick top layer of solid beech on a two-layer support of wood. The top layer is made from two rows of strips; the core layer (approximately 7 mm thick) is composed of wood strips that are placed perpendicular to the grain of the top and bottom layers; the bottom layer consists of two rows of strips. The panel is tongued and grooved along the edges. The top layer has been varnished. **Application of GIRs 1 and 6.** *Adoption : 2005*

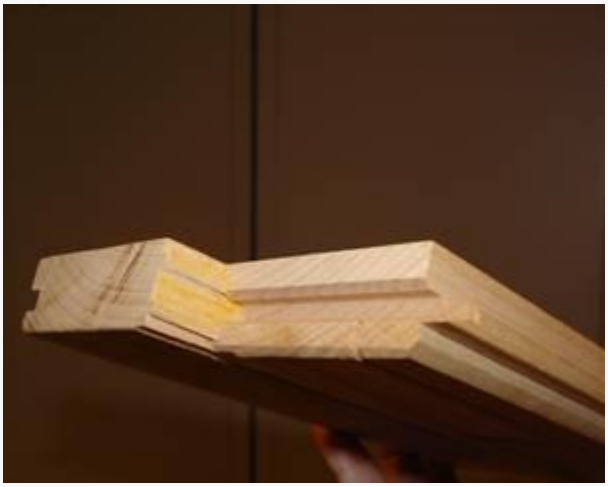
4418.79

-- Other

CLASSIFICATION OPINIONS

1. **Parquet flooring panels of beech** (thickness 13.8 mm or 21.8 mm, width 129 mm, length 3,700 mm, 1,830 mm or 900 mm) made from two rows of solid wood strips which have been assembled in the length with a tongue/groove construction, the rows being assembled by a glued double dovetail construction. The panels are provided with a polypropylene film (moisture balancer) on the

underside and are tongued and grooved on the edges and ends. The length of the individual strips is 308 mm, 408 mm, 467.5 mm, 474 mm or 623.5 mm. The strips comprising the panels do not form a particular pattern.
Application of GIRs 1 and 6.
Adoption : 2004





4418.8

- Engineered structural timber products :

4418.81

-- Glue-laminated timber (glulam)

4418.82

-- Cross-laminated timber (CLT or X-lam)

4418.83

-- I beams

4418.89

-- Other

4418.9

- Other :

4418.91

-- Of bamboo

CLASSIFICATION OPINIONS

1. Cellular bamboo panels.

Application of GIRs 1, 3 (a) and 6.

Adoption : 2022

4418.92

-- Cellular wood panels

4418.99

-- Other

Heading 4419

Tableware and kitchenware, of wood.

EXPLANATORY NOTES

44.19 - Tableware and kitchenware, of wood.

- Of bamboo :

4419.11 - - Bread boards, chopping boards and similar boards

4419.12 - - Chopsticks

4419.19 - - Other

4419.20 - Of tropical wood

4419.90 - Other

This heading covers **only** household articles of wood, whether or not turned, or of wood marquetry or inlaid wood, which are of the nature of tableware or kitchenware. It **does not**, however, **cover** goods which are primarily ornamental in character, nor furniture.

The articles of this heading may be made of ordinary wood or of particle board or similar board, fibreboard, laminated wood or densified wood (see Note 3 to this Chapter).

The heading includes : spoons, forks, salad-servers; platters and serving-dishes; jars, cups and saucers; common spice-boxes and other kitchen containers; crumb-scoops, **not** incorporating brushes; napkin rings; rolling pins; pastry moulds; butter patters; pestles; nutcrackers; trays; bowls; bread boards; chopping boards; plate racks; capacity measures for use in the kitchen.

The heading **does not cover :**

(a) Coopers' products (**heading 44.16**).

(b) Wooden parts of tableware or kitchenware (**heading 44.21**).

(c) Brushes and brooms (**heading 96.03**).

(d) Hand sieves (**heading 96.04**).

4419.1

- Of bamboo :
4419.11

-- Bread boards, chopping boards and similar boards
4419.12

-- Chopsticks
4419.19

-- Other
4419.20

- Of tropical wood
4419.90

- Other

Heading 4420

Wood marquetry and inlaid wood; caskets and cases for jewellery or cutlery, and similar articles, of wood; statuettes and other ornaments, of wood; wooden articles of furniture not falling in Chapter 94.

EXPLANATORY NOTES

44.20 - Wood marquetry and inlaid wood; caskets and cases for jewellery or cutlery, and similar articles, of wood; statuettes and other ornaments, of wood; wooden articles of furniture not falling in chapter 94.

- Statuettes and other ornaments :

4420.11 - - Of tropical wood

4420.19 - - Other

4420.90 - Other

This heading covers panels of wood marquetry and inlaid wood, including those partly of material other than wood.

The articles of this heading may be made of ordinary wood or of particle board or similar board, fibreboard, laminated wood or densified wood (see Note 3 to this Chapter).

It also covers a wide variety of articles of wood (including those of wood marquetry or inlaid wood), generally of careful manufacture and good finish, such as : small articles of cabinetwork (for example, caskets and jewel cases); small furnishing goods; decorative articles. Such articles are classified in this heading, even if fitted with mirrors, **provided** they remain essentially articles of the kind described in the heading. Similarly, the heading includes articles wholly or partly lined with natural or composition leather, paperboard, plastics, textile fabrics, etc., **provided** they are articles essentially of wood.

The heading includes :

(1) Boxes of lacquered wood (of the Chinese or Japanese type); cases and boxes of wood, for knives, cutlery, scientific apparatus, etc; snuff-boxes and other small boxes to be carried in the pocket, in the handbag or on the person; stationery cases, etc.; needlework boxes; tobacco jars and sweetmeat boxes. However, the heading **excludes** ordinary kitchen spice-boxes, etc. (**heading 44.19**).

(2) Articles of wooden furniture, **other than** those of **Chapter 94** (see the General Explanatory Note to that Chapter). This heading therefore covers such goods as coat or hat racks, clothes brush hangers, letter trays for office use, ashtrays, pen-trays and ink stands.

(3) Statuettes, animals, figures and other ornaments.

Wooden parts of the articles of this heading are **excluded** (**heading 44.21**).

The heading also **excludes** :

(a) Cases for musical instruments or for guns, of wood, and sheaths, cases, boxes and similar containers covered with leather or composition leather, paper or paperboard, vulcanised fibre, sheeting of plastics, or textile materials (**heading 42.02**).

(b) Imitation jewellery (**heading 71.17**).

(c) Clock cases and parts thereof of **Chapter 91**.

(d) Musical instruments and parts thereof of **Chapter 92**.

(e) Scabbards and sheaths for side-arms (**heading 93.07**).

(f) Articles of **Chapter 94** (for example, furniture, luminaires and lighting fittings).

(g) Smoking pipes and parts thereof, buttons, pencils and other articles of **Chapter 96**.

(h) Works of art or antiques of **Chapter 97**.

4420.1

- Statuettes and other ornaments, of wood :

4420.11

-- Of tropical wood

4420.19

-- Other

4420.90

- Other

CLASSIFICATION OPINIONS

1. Table top art easel, containing a drawer for holding art supplies. Measuring 10 cm in height (when folded) x 40 cm in width x 38 cm in depth; it holds canvases or panels up to 86 cm high. **Application of GIRs 1 and 6.** *Adoption : 2017*



Heading 4421

Other articles of wood.

EXPLANATORY NOTES

44.21 - Other articles of wood.

4421.10 - Clothes hangers

4421.20 - Coffins

- Other :

4421.91 - - Of bamboo

4421.99 - - Other

This heading covers all articles of wood manufactured by turning or by any other method, or of wood marquetry or inlaid wood, **other than** those specified or included in the preceding headings and **other than** articles of a kind classified elsewhere irrespective of their constituent material (see, for example, Chapter Note 1).

It also covers wooden parts of the articles specified or included in the preceding headings, **other than** those of **heading 44.16**.

The articles of this heading may be made of ordinary wood or of particle board or similar board, fibreboard, laminated wood or densified wood (see Note 3 to this Chapter).

The heading includes :

(1) Spools, cops, bobbins, sewing thread reels, etc. These articles normally have a stem (or core) of turned wood on which yarn or fine wire can be wound; the stem may be cylindrical or conical,

usually with a central bore, and may have a flange at one or both ends. The heading also includes bobbins made up of a central stem of turned wood with fitted ends of wood or other material and used, for example, for insulated electric wire.

(2) Rabbit-hutches, hen-coops, bee-hives, cages, kennels, troughs; yokes for livestock.

(3) Theatrical scenery; joiners' benches; tables with a screw device for holding the cross threads, used in the hand sewing of books; ladders and steps; trestles; letters, road signs, figures; signs; labels for horticulture, etc.; toothpicks; trellises and fencing panels; level crossing gates; roller blinds, Venetian and other blinds; spigots; templates; rollers for spring blinds; clothes hangers; washing boards; ironing boards; clothes pegs; dowel pins; oars, paddles, rudders; coffins.

(4) Wood paving blocks which are usually uniform in size and generally have rectangular sides. They are manufactured by means of a multiple circular saw cutter.

Spacing strips may sometimes be nailed to the sides to allow for swelling of the blocks when laid.

(5) Match splints which are manufactured by cutting drawn, or more usually, sliced or peeled wood, to the dimensions of matches. They may also be punched in quantity out of a single block of wood. They may be impregnated with chemical substances (e.g., ammonium phosphates) but are not classified in this Chapter if with their inflammable heads. The heading also covers strips of wood toothed or slotted on one edge for the manufacture of book matches.

(6) Wooden pegs or pins for footwear which are made in the same way as match splints, but which are pointed at one end and may be of round, square or triangular section. They are used in some cases instead of nails for fixing the soles and heels of boots and shoes.

(7) Capacity measures **other than** kitchenware of **heading 44.19**.

(8) Wooden handles for table knives, spoons and forks.

(9) Panels consisting of laths of roughly sawn wood, assembled with glue in order to facilitate transport or later working.

(10) Moulded wood built up by superimposing a moulding on another piece of moulded or unmoulded wood (**other than** that of **heading 44.18**).

The heading **does not cover :**

(a) Strips of wood for match splints (**heading 44.04**).

(b) Unfinished shoe pegs in the form of strips of wood, of which one edge is sharply bevelled on both sides, ready for cutting into pegs (**heading 44.09**).

(c) Wooden handles, for knives (**other than** table knives) and other tools or implements, of **heading 44.17**.

(d) Articles of **Chapter 46**.

(e) Footwear and parts thereof of **Chapter 64**.

(f) Walking-sticks and parts of walking-sticks, umbrellas or riding-crops (**Chapter 66**).

(g) Machines, machinery parts and electrical goods of **Section XVI** (for example, wooden moulding patterns of **heading 84.80**).

(h) Goods of **Section XVII** (for example, boats, wheel-barrows, carts and other vehicles, wheelwrights' wares).

(ij) Mathematical or drawing instruments, measuring instruments (**other than** those for measuring capacity) and other goods of **Chapter 90**.

(k) Gun stocks and other parts of arms (**heading 93.05**).

(l) Toys, games and sports requisites (**Chapter 95**).

*

* *

ANNEX

APPELLATION OF CERTAIN TROPICAL WOODS [1]

Pilot-name	**Scientific names**	**Local names**	
Abarco	*Cariniana pyriformis* Miers.	Venezuela	Bacu
Abura	*Hallea ciliata* Leroy (Syn. *Mitragyna ciliata* Aubr. & Pellegr.) *Hallea rubrostipulata* F. Leroy	Angola Cameroon Congo Côte d'Ivoire Equatorial Guinea Gabon	Mivuku Elolom Vuku Bahia Elelon Elelom Nzam

	(Syn. *Mitragyna rubrostipulata* Harv.) *Hallea stipulosa* O. Kuntze (Syn. *Mitragyna stipulosa* O. Ktze)	Ghana Nigeria Sierra Leone Uganda Dem. Rep. of the Congo Zambia *France*	Subaha Abura Mboi Nzingu Mvuku Nzingu *Bahia*
Acacia	*Acacia auriculiformis* A.Cunn. ex Benth. *Acacia mangium* Willd.	Australia Indonesia Malaysia Papua New Guinea Thailand *UK* *USA*	Black Wattle, Brown Salwood Mangge Hutan, Tongke Hutan Kayu Safoda Arr Kra Thin Tepa *Brown Salwood,* *Black Wattle* *Brown Salwood,* *Black Wattle*

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[1] **Note :**

The third column shows the commercial names used in the *exporting* countries, together with the name of the exporting country. The commercial names in use in the *importing* countries, when they differ from the pilot-names, are given in italics.

Pilot-name	Scientific names	Local names	
Acajou d'Afrique	*Khaya spp.* *Khaya ivorensis* A. Chev. (Syn. *Khaya klainei* Pierre ex A.Chev.)	Angola Cameroon Côte d'Ivoire Equatorial Guinea Gabon Ghana Nigeria *France* *Germany* *UK*	Undia Nunu N'Gollon Acajou Bassam Caoba del Galón Zaminguila Takoradi Mahogany Ogwango *Acajou Bassam* *Khaya Mahagoni* *African Mahogany*
	Khaya anthotheca C. DC.	Angola Cameroon Congo Côte d'Ivoire Ghana Uganda	N'Dola Mangona N'Dola Acajou Blanc, Acajou Krala Ahafo Munyama

Pilot-name	Scientific names	Local names	
		France *Germany*	*Acajou Blanc* *Khaya Mahagoni*
	Khaya grandifoliola C. DC.	Côte d'Ivoire Nigeria Uganda *France* *UK*	Acajou à Grandes Feuilles Akuk, Benin Mahogany, Eri Kire *Acajou à Grandes Feuilles* *Heavy African Mahogany*
Adjouaba	*Dacryodes klaineana* (Pierre) H. J. Lam (Syn. *Pahylobus deliciosa* Pellegr.)	Dem. Rep. of the Congo Congo Gabon	Mouguengueri Safukala Assia, Igaganga, Ossabel
Afina	*Strombosia glaucescens* Engl.	Côte d'Ivoire	Poe

Pilot-name	Scientific names	Local names	
	Strombosia pustulata Oliv.	Nigeria	Itako, Otingbo
Afrormosia	*Pericopsis elata* Van Meeuwen (Syn. *Afrormosia elata* Harms)	Cameroon Central African Republic Côte d'Ivoire Ghana Dem. Rep. of the Congo *France*	Obang Obang Assamela Kokrodua Ole, Bohala, Mohole *Assamela*, *Oleo Pardo*
Pilot-name	**Scientific names**	**Local names**	
Aielé	*Canarium schweinfurtii* Engl.	Angola Cameroon Central African Republic Congo Gabon	M'bili Abel Gberi M'bili Abeul, Ovili

Pilot-name	Scientific names	Local names	
		Ghana Equatorial Guinea Nigeria Uganda Dem. Rep. of the Congo Sierra Leone *UK*	Bediwunua, Eyere Abe Elemi Mwafu Bidikala, M'bidikala Billi *Canarium*
Aiéouéko	*Dimorphandra spp.*		
Akak	*Duboscia viridiflora* (K.Schum.) Mildbr.		
Ako	*Antiaris toxicaria* subsp. *africana* (Engl.) C.C.Berg (Syn. *Antiaris africana* Engl.) *Antiaris toxicaria* subsp. *welwitschii* (Engl.) C.C.Berg. (Syn. *Antiaris welwitschii* Engl.)	Angola Côte d'Ivoire Ghana Nigeria Tanzania	Sansama Ako, Akede Chenchen, Kyenkyen Oro, Ogiovu Mlulu,

Pilot-name	Scientific names	Local names	
		Uganda Dem. Rep. of the Congo *Germany* *UK*	Mkuzu Kirundu, Mumaka Bonkonko, Bonkongo *Antiaris* *Antiaris*
Akossika	*Scottellia spp.* *Scottellia coriacea* A. Chev.	Cameroon Central African Republic Gabon Ghana Liberia Nigeria *Germany* *Italy* *UK*	Ngobisolo Kelembicho Bilogh-Bi-Nkele Koroko, Kruku Korokon Odoko *Odoko* *Odoko* *Odoko*
Alan	*Shorea albida* Sym.	Malaysia	Alan-Batu,

Pilot-name	Scientific names	Local names	
			Red Selangan, Meraka, Selangan Merah, Alan-Paya
Alep	*Desbordesia glaucescens* A. Chev. ex Hutch. & Dalziel	Cameroon Congo Gabon Nigeria Dem. Rep of the Congo	Omang Benga Alep Kowo Benga

Pilot-name	Scientific names	Local names	
Almácigo	*Bursera simaruba (L.) Sarg.*	South America	Almácigo, Almácigo Blanco, Chacaj Chaca-Jiote, Desnudo, Gumo-Limbo, Indio Desnudo, Indo Desnudo, Jiñocuave

Pilot-name	Scientific names	Local names	
		France *UK*	*Bois d'encens,* *Chiboue,* *Chique,* *Gommier blanc* *Gum tree,* *Mexican White Beach,* *Turpentine Tree,* *West Indian Birch*
Almendrillo	*Taralea oppositifolia* Aubl. (Syn. *Coumarouna oppositifolia* (Willd.)Taub.)	South America	Cumaru Rana, Shihuahuaco, Tarala
Alumbi	*Julbernardia seretii* Troupin (Syn. *Berlinia seretii* De Wild.)		
Amapa	*Brosimum parinarioides* Ducke	Brazil	Amapá Doce
Amapola	*Pseudobombax ellipticum* (Kunth) Dugand		
Amberoi	*Pterocymbium beccarii* K. Schum.	Indonesia	Kelumbuk, Papita

Pilot-name	Scientific names	Local names	
		Malaysia Myanmar Philippines Thailand	Melembu, Teluto, Keluak Sawbya Taluto Oi-chang, Po-ikeng, Po-kradang
Amourette	*Brosimum guianense* (Aubl.) Huber	French Guiana Peru Suriname Venezuela *UK*	Lettre Mouchete, Mourette Cashiba Playa, Waira Caspi Belokoro, Peni-Paia, Poevinga Palo de Oro *Snakewood*
Andira	*Andira spp.*	Brazil	Acapurana, Almendo de Rio,

Pilot-name	Scientific names	Local names	
		Colombia Ecuador French Guiana Guyana Mexico Peru Suriname Trinidad and Tobago Venezuela	Andira Uchi, Angelim Congo Moton Saint Martin Rouge Bat Seed, Koraro Maquilla Quinillo Colorado Rode Kabbes Angelin Sarrapio Montanero
Pilot-name	**Scientific names**	**Local names**	
Andiroba	*Carapa guianensis* Aubl. *Carapa procera* DC.	Brazil Colombia	Andiroba, Carapa, Andirobeira, Andiroba Branca, Andiroba Vermelha Masabalo, Mazabalo

Pilot-name	Scientific names	Local names	
		Costa Rica Ecuador Guyana French Guiana Honduras Panama Surinam Trinidad and Tobago Venezuela	Cedro Bateo, Cedro Macho Tangare, Figueroa Crabwood Carapa Bastard Mahogany, Cedro Macho Cedro Bateo, Cedro Macho Krappa Crappo Carapa, Masabalo
Andoung	*Monopetalanthus spp.* *Monopetalanthus coriaceus* Morel *Monopetalanthus durandii* Hallé & Normand *Monopetalanthus hedinii* (A.Chev.) Aubrev. *Monopetalanthus heitzii* Pellegr.	Gabon	Andjung, Andoung de heitz, Ekop, Ekop-mayo, N'Douma, Zoele

Pilot-name	Scientific names	Local names	
	Monopetalanthus letestui Pellegr.		
Angelim	*Hymenolobium spp.*	Brazil French Guiana Suriname	Angelim Amarelo, Angelim da Mata, Angelim Pedra, Angelim Rosa, Mirarena, Sapupira Amarella Saint Martin Gris, Saint Martin Jaune Makkakabes, Saandoe
Angelim rajado	*Marmaroxylon racemosum* (Ducke) Killip.	Brazil French Guiana Guyana Suriname	Angelim Rajado, Ingarana da Terra Firma, Ingarana, Bois Serpent Snakewood Bostamarinde Sneki Oedoe

Pilot-name	Scientific names	Local names	
Angelim vermelho	*Dinizia excelsa* Ducke	Brazil Guyana	Angelim Falso, Angelim Ferro, Angelim Pedra, Faveira Grande, Faveira Preta, Gurupa Parakwa

Pilot-name	Scientific names	Local names	
Angueuk	*Ongokea gore* Pierre	Cameroon Côte d'Ivoire Gabon Dem. Rep. of the Congo	Andjek, Angueuk Kouero Andjek, Angueuk Boleko
Aniégré (Aningré)	*Aningeria spp.* *Aningeria robusta* Aubr. & Pellegr.	Angola Central African Republic Congo	Mukali, Kali M'Boul

Pilot-name	Scientific names	Local names	
	Aningeria altissima Aubr. & Pellegr. (Syn. *Sideroxylon altissimum* Hutch. & Dalz.) *Pouteria superba* A.Chev. (Syn. *Aningeria superba* A. Chev. Syn. *Malacantha superba* Verm.) *Chrysophyllum giganteum* A.Chev (Syn. *Gambeyobotrys gigantea* (A.Chev.) Aubrev.)	Côte d'Ivoire Ethiopia Kenya Nigeria Uganda Dem. Rep. of the Congo *Germany* *Italy* *UK*	Mukali, N'Kali Aningueri blanc, Aniegre Kararo Muna, Mukangu Landojan Osan Tutu *Aningré-Tanganyika Nuss* *Tanganyika Nuss* *Aningeria*
Apobeaou	*Breviea leptosperma* (Baehni) Heine		
Araribà	*Centrolobium spp.*	Brazil Colombia	Ararauba, Ararauva Guayacan Hobo,

Pilot-name	Scientific names	Local names	
		Ecuador Panama Paraguay Venezuela	Balaustre Amarillo Guayaquil Amarillo Guayaquil Morosimo Balaustre, Guayacan Hobo
Arisauro	*Vatairea guianensis* Aubl.	Brazil	Amargoso, Gele Kabbes, Inkassa, Yonko
Aromata	*Clathrotropis macrocarpa* Ducke	South America	Alma negra, Cabari, Sapan, Timbo Pau, Timbo Rana
Assacù	*Hura crepitans* L.	Bolivia Brazil Colombia Ecuador	Ochoco Assacu Ceiba Lechosa Habillo

Pilot-name	Scientific names	Local names	
		Guyana French Guiana Peru Suriname Venezuela *USA*	Sandbox Bois du Diable, Sablier Catahua Possentrie, Possum, Ura Wood Ceiba Habillo, Jabillo *Possumwood*

Pilot-name	Scientific names	Local names	
Assas	*Bridelia aubrevillei* Pellegr.		
Avodiré	*Turraeanthus africana* Pellegr.	Côte d'Ivoire Ghana Liberia Nigeria Dem. Rep. of the Congo	Avodiré Apapaye Blimah-Pu Apaya M'Fube, Lusamba

Pilot-name	Scientific names	Local names	
		Belgium	*Lusamba*
Awoura	*Julbernardia pellegriniana* Troupin (Syn. *Paraberlinia bifoliolata* Pellegr.)	Cameroon Gabon *France* *Germany*	Ekop-Beli Awoura, Beli *Zebrali* *Zebrali*
Ayous (Obéché)	*Triplochiton scleroxylon* K. Schum.	Cameroon Central African Republic Côte d'Ivoire Equatorial Guinea Ghana Nigeria *France* *Germany*	Ayous M'Bado Samba Ayus Wawa Arere, Obeche *Samba*, *Abachi*

Pilot-name	Scientific names	Local names	
		UK *USA*	*Wawa* *Obeche* or *Samba*
Azobé	*Lophira alata* Banks ex Gaertn. (Syn. *Lophira procera* A. Chev.)	Cameroon Congo Côte d'Ivoire Equatorial Guinea Gabon Ghana Nigeria Sierra Leone *Germany* *UK*	Bongossi Bonkolé Azobé Akoga Akoga Kaku Ekki, Eba Hendui *Bonkole,* *Bongossi* *Ekki*
Balata pomme	*Chrysophyllum sanguinolentum* (Pierre) Baehni	South America	Assopokballi, Balata Pommier, Balata Saignant, Barataballi, Bois Cochon,

Pilot-name	Scientific names	Local names	
			Suitiamini

Pilot-name	Scientific names	Local names	
Balau red	*Shorea spp.* *Shorea balangeran* (Korth.) Burck *Shorea collina* Ridl. *Shorea guiso* Blume *Shorea inaequilateralis* Sym. *Shorea kunstleri* King *Shorea ochrophloia* Strugnell ex Desch.	Indonesia Malaysia Philippines Thailand	Belangeran, Balau Merah Balau Laut Merah, Damar Laut Merah, Balau Membatu, Balau Merah, Red Selangan Batu, Membatu, Seri, Selangan Batu Merah, Seraya Sirup, Selangan Batu No. 1, Sengawan, Semayur, Empenit-Meraka Guijo, Gisok Makata,

Pilot-name	Scientific names	Local names	
			Chankhau
		Germany	*Red Balau*
		UK	*Red Balau*
Pilot-name	**Scientific names**	**Local names**	
Balau yellow	*Shorea spp.* *Shorea argentea* C.F.C. Fisher *Shorea atrinervosa* Sym. *Shorea balangeran* (Korth.) Burck *Shorea barbata* Brandis *Shorea ciliata* King *Shorea exelliptica* W. Meijer *Shorea foxworthyi* Sym. *Shorea gisok* Foxw. *Shorea glauca* King *Shorea laevis* Ridl. *Shorea laevifolia* (Parijs.) Endert *Shorea materialis* Ridl. *Shorea maxwelliana* King *Shorea obtusa* Wall. ex Blume	India Indonesia Malaysia	Sal Bangkirai, Agelam, Benuas, Brunas, Selangan batu, Kumus, Kedawang, Pooti Damar laut Kumus, Sengkawan Darat, Balau Kumus, Balau Simantok, Selangan Batu No.1,

Pilot-name	Scientific names	Local names	
	Shorea roxburghii G. Don *Shorea seminis* V. Sl. *Shorea submontana* Sym. *Shorea sumatrana* Sym. *Shorea scrobiculata* Burck *Shorea superba* Sym.	 Myanmar Philippines Thailand *Germany* *UK*	Selangan Batu No.2 Thitya Yakal, Gisok, Malaykal Chan, Ak or Aek, Pa-Yom Dong *Balau* *Balau,* *Selangan Batu*

Pilot-name	Scientific names	Local names	
Balsa	*Ochroma lagopus* Sw. *Ochroma pyramidale* (Cav. ex Lam.) Urb.	Bolivia Brazil Colombia Central America Ecuador El Salvador Guatemala	Tami Pau de Balsa Lanu Balsa Balsa Algodon Lanilla

Pilot-name	Scientific names	Local names	
		Honduras Nicaragua Peru Trinidad and Tobago Venezuela	Guano, Balsa Gatillo Balsa, Topa, Palo de Balsa Bois flot Balso
Balsamo	*Myroxylon balsamum* Harms.	Mexico Peru *France*	Arbol del Bálsamo, Bálsamo, Bálsamo de Perú o de Tolu Myroxylon *Baumier du Pérou*
Banga-wanga	*Amblygonocarpus andongensis* Exell & Torre (Syn. *Amblygonocarpus obtusangulus* (Oliv.) Harms)		
Baromalli	*Catostemma fragrans* Benth.	South America	Arenillo,

Pilot-name	Scientific names	Local names	
			Baramalli, Baraman, Baramanni, Flambeau Rouge, Kajoewaballi
Basralocus	*Dicorynia guianensis* Amshoff & Vouacapoua	Brazil French Guiana Suriname	Angelica do Para, Tapainuna Angelique Basralokus, Barakaroeballi
Batai	*Paraserianthes falcataria* (L.) I.C.Nielsen (Syn. *Albizia falcataria* (L.) Fosberg)	Philippines Indonesia Malaysia *UK*	Falcata, Moluccan sau Jeungjing, Sengon laut, Sikat Batai, Kayu machis, Puah *Indonesian albizia*

Pilot-name	Scientific names	Local names	
Batibatra	*Enterolobium schomburgkii* Benth.	Brazil French Guiana Suriname	Batibatra, Fava de Rosca, Fava Orelha de Macaco, Fava Orelha de Negro, Timbauba, Timborana Acacia Franc, Bougou Bati Batra Tamaren Prokoni
Pilot-name	**Scientific names**	**Local names**	
Benuang	*Octomeles sumatrana* Miq.	Indonesia Papua New Guinea Philippines	Benuang, Binuang Bini, Winuang Erima, Irima, Ilimo Binuang
Bété (Mansonia)	*Mansonia altissima* A. Chev.	Cameroon Côte d'Ivoire	Koul Bété

Pilot-name	Scientific names	Local names	
		Ghana Nigeria	Aprono Ofun
Bilinga	*Nauclea diderrichii* Merr. (Syn. *Sarcocephalus diderrichii* De Wild. Syn. *Nauclea trillesii* Merr.) *Nauclea xanthoxylon* (A.Chev.) Aubrév. (Syn. *Sarcocephalus xanthoxylon* A. Chev.) *Nauclea gilletii* De Wild. Merr.	Angola Benin Cameroon Central African Republic Congo Côte d'Ivoire Dem. Rep. of the Congo Equatorial Guinea Ghana Gabon Nigeria Sierra Leone Uganda	Engolo Opepe Akondoc Kilu Linzi, Mokesse, N'Gulu-Maza Badi Bonkingu, N'Gulu-Maza Aloma Kusia Bilinga Opepe Bundui Kilingi

Pilot-name	Scientific names	Local names	
		Germany *UK*	*Aloma* *Opepe*
Billian	*Eusideroxylon zwageri* Teijsm. & Binn.	Indonesia Philippines	Onglen, Un Tambulian
Bintangor	*Calophyllum spp.*	Indonesia Madagascar Malaysia Myanmar New Caledonia Papua New Guinea Philippines Solomon Islands Sri-Lanka Thailand Vietnam	Bintangur Vintanina Bintangor, Penaga Sultan Champa Tamanou Calophyllum Bansanghal, Vutalau Koila Domba-Gass Poon Cong,

Pilot-name	Scientific names	Local names	
		Vanuatu	Mu-u Tamanou
Bitis	*Madhuca spp.*	Southeast Asia	Belian, Betis
Bodioa	*Anopyxis klaineana* Pierre ex Engl. (Syn. *Anopyxis ealaensis* (De Wild) Sprague)		

Pilot-name	Scientific names	Local names	
Bois rose femelle	*Aniba rosaeodora* Ducke (Syn. *Aniba duckei* Kosterm.)	Brazil	Pau-Rosa
Bomanga	*Brachystegia laurentii* Louis. *Brachystegia mildbraedii* Harms (Syn. *Brachystegia nzang* Pellegr.) *Brachystegia zenkeri* Harms	Cameroon Congo Dem. Rep. of the Congo Gabon *France* *UK*	Ekop-Evene, Ekop-Leke Bomanga Bomanga, Nzang Yegna *Ariella* *Ariella*

Pilot-name	Scientific names	Local names	
Bossé clair	*Guarea cedrata* Pellegr. *Guarea laurentii* De Wild.	Côte d'Ivoire Ghana Nigeria Dem. Rep. of the Congo *Germany* *UK*	Bossé Kwabohoro Obobo Nofua Bosasa *Bossé* *Scented Guarea*
Bossé foncé	*Guarea thompsonii* Sprague & Hutch.	Côte d'Ivoire Kenya Nigeria Dem. Rep. of the Congo *Germany* *UK*	Mutigbanaye Bolon Obobo Nekwi Diampi *Diampi* *Black Guarea*
Botong	*Barringtonia asiatica* (L.) Kurz.	Southeast Asia	Fish Poison Tree, Sea Poison Tree
Breu-sucuruba	*Trattinickia spp.*	Brazil	Amesclão,

Pilot-name	Scientific names	Local names	
			Breu Preto, Mangue, Morcegueira, Ulu
Bubinga	*Guibourtia spp.* *Guibourtia demeusei* (Harms) J. Léon. *Guibourtia pellegriniana* J. Léon. *Guibourtia tessmannii* (Harms) J. Léon.	Cameroon Gabon *UK*	Essingang Buvenga *Kevasingo*
Pilot-name	**Scientific names**	**Local names**	
Burada	*Parinari campestris* Aubl.	Brazil French Guiana Guyana	Parinari Fongouti Koko, Gaulette Blanc, Gris-Gris Blanc Broad-Leaved Burada, Burada, Candlewood, Kupisini, Mahaicaballi,

Pilot-name	Scientific names	Local names	
		Suriname Venezuela	Makarai, Wamuk, Wamuku Behoerada, Foengoe, Koebesini Guaray, Merecurillo
Burmese Ebony	*Diospyros burmanica* Kurz.	Myanmar	Burmese Ebony, Hpunmang, Maimakho-Ling, Mia-Mate-Si, Te
Burmese Rosewood	*Dalbergia oliveri* Gamble ex Prain	Myanmar	Ching-Chan, Ket-Daeng
Busehi	*Lebrunia bushaie* Staner		
Cabreùva	*Myrocarpus frondosus* Allem.	South America	Cabreùva Parda, Ibirà,

Pilot-name	Scientific names	Local names	
			Incienso, Oleo de Caboreiba, Oleo de Macaco, Oleo Pardo, Pagé, Payò
Cachimbo	*Cariniana decandra* Ducke		
Cambara (Jaboty)	*Erisma spp.* *Erisma uncinatum Warm.*	Brazil French Guiana Peru Suriname Venezuela	Quarubarana, Jaboty, Cedrinho, Cambara, Quarubatinga, Quaruba, Vermelha Jaboty, Manonti Kouali, Felli Kouali Cambara Singri-Kwari Mureillo

Pilot-name	Scientific names	Local names	
		Germany	Cambara
Canalete	*Cordia spp.*	Argentina Brazil Colombia Cuba Mexico Venezuela	Loro Negro Louro Pardo Canalete Anacahuite, Baria Amapa Asta, Bocote, Cupane, Siricote Canalete

Pilot-name	Scientific names	Local names	
Canelo	*Nectandra spp.* *Ocotea spp.*	Brazil Central America	Louro Louro Branco, Louro Inhamui Aguacatillo Laurel

Pilot-name	Scientific names	Local names	
		Colombia Ecuador French Guiana Guyana Peru Suriname Trinidad and Tobago Venezuela	Amarillo Laurel, Canelo Amarillo, Jigua Amarillo Tinchi Cedre Apici Kereti-Silverballi Moena Amarilla Pisi Laurier Laurel
Canelón	*Aniba guianensis* Aubl.		
Capomo	*Brosimum alicastrum* Sw.	South America	Charo, Ramón
Caracoli	*Anacardium excelsum* Skeels	Brazil Colombia Ecuador Nicaragua	Caju Assu, Caju da Matta Caracoli Maranon Espavel

Pilot-name	Scientific names	Local names	
		Venezuela	Caracoli
Castanheiro Para	*Bertholletia excelsa* Humb. & Bonpl.	Brazil Colombia *France* *UK*	Castanha-do-Brasil, Castanha-do Pará, Castanheira Canstana do Brasil, Canstana do Pará, Castaña, Castanha-do-Maranhao, Nuez del Brasil *Châtaigne du brésil*, *Noix du brésil* *Noix du pará* *Brazil nut*, *Butter nut*, *Cream nut*, *Para nut*
Castanopsis	*Castanopsis spp.*		
Catiguà	*Trichilia catigua A. Juss.*		

Pilot-name	Scientific names	Local names	
Cativo	*Prioria copaifera* Griseb.	Colombia Costa-Rica Panama Venezuela	Cativo, Trementino Amasamujer Copachu Cativo, Camibar Cativo Muramo, Curucai
Pilot-name	**Scientific names**	**Local names**	
Cedro	*Cedrela spp.* *Cedrela angustifolia* DC. (Syn. *Cedrela lilloi* C. de Candolle) *Cedrela fissilis* Vell. *Cedrela odorata* L.	Brazil French Guiana Guyana Honduras Suriname	Cedro Cedrat, Cedro Red Cedar Cedro, Cigarbox Ceder
Cedroi	*Tapirira spp.* *Tapirira guianensis* Aubl.	Guyana	Warimia

Pilot-name	Scientific names	Local names	
Celtis d'Afrique (Diania, Ohia)	*Celtis spp.* *Celtis adolfi-friderici* Engl. *Celtis brieyi* De Wild. *Celtis gomphophylla* Baker (Syn. *Celtis durandii* Engl.) *Celtis mildbraedii* Engl. *Celtis tessmannii* Rendle *Celtis zenkeri* Engl.	Benin Cameroon Central African Republic Dem. Rep. of the Congo Congo Côte d'Ivoire Gabon Ghana Kenya Liberia Nigeria	Bawe Odou, Odou Vrai Balze Bolunde, Diania, Kayombo Edou, Kiliakamba Asan, Ba, Lohonfe Engo, Celtis, Esa-Kokoo, Esa-Kosua Shiunza Lokonfi Dunki, Ita,

Pilot-name	Scientific names	Local names	
		Uganda *Germany* *UK*	Zuwo Ekembe-Bakaswa, Namanuka *Celtis* *Red-Fruited White-Stinkwood*
Cerejeira	*Amburana cearensis* (Allemão) A. C. Sm.	Argentina Bolivia Brazil Paraguay Peru	Roble Criollo, Roble del País, Roble, Palo Trébol, Trébol Roble Americano Amburana, Cerejeira, Cumarú de Cheiro, Umburana Trébol Ishipingo, Sorioco

Pilot-name	Scientific names	Local names	
Champak	*Michelia spp.* (Syn. *Magnolia spp.*)	Myanmar Philippines	Saga, Sagawa, Sanga Hangilo, Sandit
Checham	*Metopium brownei* Roxb.	Central and South America	Caribbean Rosewood Black Poisonwood
Chengal	*Balanocarpus heimii* King.	Indonesia Malaysia Thailand	Penak-Bunga, Penak-Sabut, Penak-Tembaga Chengal Takian Chan
Chicha / Xixa	*Sterculia spp.* *Sterculia apetala* (Jacq.) Karst.	Bolivia Brazil Colombia Cuba	Mani Achicha, Chicha, Tacacazeiro Camajura Anacaguita Cacao de Mote,

Pilot-name	Scientific names	Local names	
		Ecuador French Guiana Guyana Mexico Peru Puerto Rico Suriname Trinidad and Tobago Venezuela	Sapote, Saput, Zapote Kobe Maho Bellota, Chiapas Huarmi-Caspi, Zapote Silvestre Anacaguita Jahoballi, Kobehe, Okro-Oedoe Mahoe Camoruco, Mayagua, Sunsun
Cocobolo	*Dalbergia retusa* Hemsl.		
Comino Crespo	*Aniba perutilis* Hemsl.	Bolivia	Coto, Coto Piquiante

Pilot-name	Scientific names	Local names	
		Brazil Colombia Peru *UK*	Laurel Amarelo, Pau Rosa Aceite de Palo, Caparrapi, Chachajo, Comino, Comino Canelo, Comino Real, Laurel Comino, Punte Comino, Ishpingo Chico, Moena Amarilla, Muena Negro *Keriti*
Pilot-name	**Scientific names**	**Local names**	
Congotali	*Letestua durissima* Lecomte	Congo Gabon	Congotali Kong-Afane

Pilot-name	Scientific names	Local names	
Copaiba	*Copaifera spp.*	Argentina Brazil Colombia Panama Venezuela	Timbo-y-Ata Copaibarana, Copahyba Canime, Copaiba Cabino Blanco, Camiba Cabimo, Palo de Aceite
Cordia d'Afrique	*Cordia spp.* *Cordia africana* Lam. (Syn. *Cordia abyssinica* R. Br. Syn. *Cordia holstii* Gürke ex Engl.) *Cordia millenii* Baker *Cordia platythyrsa* Baker	Cameroon Central African Republic Congo Ethiopia Gabon	Ebais, Ebe Sumba Makobokobo, Mringamringa, Mringaringa, Mukumari Auhi, Awhi, Ekhi Ebais,

Pilot-name	Scientific names	Local names	
		Nigeria Uganda *UK*	Ebe Omo Mukebu *African Cordia,* *East African cordia,* *Large-leafed cordia,* *Sudan teak*
Coula	*Coula edulis* Baill.		
Crabwood d'Afrique	*Carapa spp.* *Carapa grandiflora* Sprague	Côte d'Ivoire Ghana Liberia Nigeria Sierra Leone Uganda	Alla, Dona Bete, Krupi Toon-kor-dah Agogo Gobi, Kowi Mujogo, Mutongana

Pilot-name	Scientific names	Local names	
		USA *UK*	*African Crabwood* *African Crabwood*
Cristobal granadillo	*Platymiscium pleiostachyum* Donn. Sm	South America	Jacaranda do brejo

Pilot-name	Scientific names	Local names	
Cumaru	*Dipteryx spp.*	Bolivia Brazil Colombia Guyana French Guiana Honduras Peru Suriname	Almendrillo Cumaru, Cumaru Ferro, Cumarurana Sarrapia Kumaru, Tonka Bean Gaiac de Cayenne, Tonka Ebo Charapilla, Shihuahuaco Amarillo Koemaroe, Tonka

Pilot-name	Scientific names	Local names	
		Venezuela	Sarrapia
Cupiuba	*Goupia glabra* Aubl.	Brazil Colombia French Guiana Guyana Peru Suriname Venezuela *UK*	Cachaceiro, Copiuva, Cupiuba Chaquiro, Saino, Sapino Goupi Copi, Kabukalli Capricornia Koepi Congrio Blanco *Kabulalli*
Curupay	*Anadenanthera colubrina* (Vell.) Brenan	South America	Angico, Cebil, Huilco, Vilca, Wilco

Pilot-name	Scientific names	Local names	
Dabéma	*Piptadeniastrum africanum* Brenan (Syn. *Piptadenia africana* Hook. f.)	Cameroon Congo Côte d'Ivoire Equatorial Guinea Gabon Ghana Liberia Nigeria Uganda Sierra Leone Dem. Rep. of the Congo *UK*	 Atui N'Singa Dabema Tom Toum Dahoma Mbeli Agboin, Ekhimi Mpewere Mbele, Guli Bokungu, Likundu *Dahoma,* *Ekhimi*
Pilot-name	**Scientific names**	**Local names**	

Pilot-name	Scientific names	Local names	
Dibétou	*Lovoa spp.* *Lovoa brownii* Sprague *Lovoa swynnertonii* Baker f. *Lovoa trichilioides* Harms (Syn. *Lovoa klaineana* Pierre)	Cameroon Côte d'Ivoire Equatorial Guinea Gabon Ghana Kenya Nigeria Sierra Leone Dem. Rep. of the Congo Uganda *France*	Bibolo Dibétou Nivero, Embero Eyan Dubini-Biri, Mpengwa Mukongoro Mukusu Apopo, Sida, Anamenila Wnaimei Lifaki-Maindu, Bombulu Nkoba *Noyer d'Afrique,* *Noyer du Gabon*

Pilot-name	Scientific names	Local names	
		UK *USA*	*African Walnut, Tigerwood* *Tigerwood, Uganda Walnut* *Congowood*
Difou	*Morus lactea* Mildbr. *Morus mesozygia* Stapf	*Portugal* *France* *UK*	*Chocobondo* *Mûrier du Sénégal* *East African mulberry,* *African mulberry,* *Uganda mulberry*
Divida	*Scorodophloeus zenkeri* Harms		
Djohar	*Senna siamea* (Lam.) H.S.Irwin & Barneby. (Syn. *Cassia siamea* (Lam.) H.S.Irwin & Barneby)	Southeast Asia *France*	Bombay Blackwood, Iron Wood, Kassod Tree, Siamese Senna, Thailand Shower, Yellow Cassia *Casse de Siam*

Pilot-name	Scientific names	Local names	
Douka (Makoré)	*Tieghemella spp.* *Tieghemella africana* Pierre (Syn. *Dumoria africana* Dubard) *Tieghemella heckelii* Pierre ex Dubard (Syn. *Mimusops heckelii* Hutch. & Dalz.)	Côte d'Ivoire Ghana Equatorial Guinea Gabon	Makoré Baku, Abacu Okola Douka

Pilot-name	Scientific names	Local names	
Doussié	*Afzelia africana* Smith *Afzelia pachyloba* Eggeling & Dale *Afzelia bipindensis* Harms (Syn. *Afzelia bella* Harms) *Afzelia cuanzensis* Oliv.	Angola Cameroon Congo Côte d'Ivoire Ghana Mozambique Nigeria	N'kokongo Uvala M'Banga, Doussié N'Kokongo Lingue, Azodau Papao Mussacossa, Chanfuta Apa, Aligna

Pilot-name	Scientific names	Local names	
		Senegal Sierra Leone Tanzania Dem. Rep. of the Congo *Germany* *Portugal* *UK* *USA*	Lingue Kpendei Mkora, Mbembakofi Bolengu *Afzelia* *Chafuta* *Afzelia* *Afzelia*
Drago	*Pterocarpus officinalis* Jacq.	South America *France*	Lagunero, Pallo de Poyo, Sangre, Sangre de Drago, Sangrillo *Mangle-médaille,* *Mangle-rivière Palétuvier*,

Pilot-name	Scientific names	Local names	
		UK	*Sang-dragon* *Blood-wood,* *Dragon's-blood*
Duabanga	*Duabanga grandiflora* (Roxb. ex DC.) Walpers	India Indonesia Malaysia Myanmar Papua New Guinea Philippines Thailand Vietnam	Lampati Ramdala Kalam Magas, Magaswith, Phay-Sung, Tagahas Myaukngo Duabanga Loktob Linkwai Phay
Dukali	*Parahancornia fasciculata* (Poir.) Benoist		
Durian	*Durio spp.*	Indonesia Malaysia	Durian Apa-Apa,

Pilot-name	Scientific names	Local names	
			Bengang, Durian, Durian Isa, Punggai
		France *UK*	*Durion* *Durian*
Pilot-name	**Scientific names**	**Local names**	
Ebène d'Afrique (Ebène Madagascar)	*Diospyros spp.* *Diospyros crassiflora* Hiern. (Syn. *Diospyros evila* Pierre ex A.Chev.) *Diospyros perrieri* Jum.	Benin Cameroon Central African Republic Congo Equatorial Guinea Gabon	Cubaga, Ebène Epinde-pinde, Mavini, Mevini, Ndou Bingo, Ngoubou Mopini Ébano Evila Abokpo,

Pilot-name	Scientific names	Local names	
		Nigeria *Germany* *UK*	Kanran, Nyareti Osibin *Afrikanishes Ebenholz* *African ebony, Madagascar ebony*
Ebène noire d'Asie	*Diospyros ebenum* J. Koen. *Diosyros vera* (Lour.) A.Chev. (Syn. *Diospyros ferrea* Willd.) *Diospyros melanoxylon* Roxb. *Diospyros mollis* Griff. *Diospyros mun* A.Chev. & Lecomte		
Ebène veinée d'Asie	*Diospyros celebica* Bakh. *Diospyros marmorata* R.Park. *Diospyros rumphii* Bakh.		
Ebiara	*Berlinia bracteosa* Benth.	Angola Benin	M'possa Bagbe

Pilot-name	Scientific names	Local names	
	Berlinia confusa Hoyle. *Berlinia grandiflora* Hutch. & Delz.	Cameroon Congo Dem. Rep. of the Congo Côte d'Ivoire Gabon Ghana Nigeria Sierra Leone *Germany* *UK*	Abem, Essabem M'Possa M'Possa Melegba, Pocouli Ebiara Berlinia Ekpogoi Sarkpei *Berlinia* *Berlinia*

Pilot-name	Scientific names	Local names	
Ekaba	*Tetraberlinia spp.* *Tetraberlinia bifoliolata* (Harms) Hauman (Syn. *Berlinia bifoliolata* Harms)	Cameroon Congo Equatorial Guinea Gabon Liberia	Ekop-Ribi Eko-Andoung Ekop Ekop-Andoung Hoh,

Pilot-name	Scientific names	Local names	
	Tetraberlinia tubmaniana J. León.	*Germany* *Netherlands* *Spain* *UK*	Sikon *Ekop* *Ekop* *Ekaban* *Tetraberlinia*
Ekoune	*Coelocaryon preussii* Warb.	Cameroon Central African Republic Congo Dem. Rep. of the Congo Equatorial Guinea Gabon Nigeria	Nom Eteng Kolomeko Kikubi-Lomba Lomba-Kumbi Ekoune, Ekun Ekoune, Ekun Egbenrin
Emien	*Alstonia boonei* De Wild. *Alstonia congensis* Engl. (Syn. *Alstonia gilletii* De Wild.)	Nigeria Uganda	Awun, Egbu Mubajangalabi, Mujua, Mukoge,

Pilot-name	Scientific names	Local names	
		UK	Musoga *Alstonia,* *Pattern wood,* *Stool wood*
Essessang	*Ricinodendron spp.* *Ricinodendron africanum* Müll. Arg. *Ricinodendron heudelotii* Pierre ex Henckel *Ricinodendron rautanenii* Schinz.	Benin Congo Côte d'Ivoire Ghana Mozambique Togo *UK*	Muawa Erimado Erimado Erimado Muawa Erimado *African Nut Tree,* *African Wood,* *African Wood-Oil Nut Tree,* *Cork Wood*
Essia	*Petersianthus macrocarpus* Liben (Syn. *Petersia africana* Welw.)	*UK*	*Esia*

Pilot-name	Scientific names	Local names	
Essoula	*Plagiostyles africana* Prain ex De Wild.		
Etimoé	*Copaifera mildbraedii* Harms *Copaifera salikounda* Heckel	Benin Cameroon Central African Republic Congo Côte d'Ivoire Dem. Rep. of the Congo Gabon Ghana Nigeria	Akpaflo Essak Bilombi Yama Etimoé Bofelele Andem-Evine Entedua Ovbialeke
Pilot-name	**Scientific names**	**Local names**	
Eveuss	*Klainedoxa buesgenii* Engl. *Klainedoxa gabonensis* Pierre ex Engl.	Cameroon Central African Republic Congo Côte d'Ivoire Dem. Rep. of the Congo Equatorial Guinea Gabon	Ngon Oboro Kuma-kuma Kroma Ikele, Kuma-kuma Eves Eveuss

Pilot-name	Scientific names	Local names	
		Ghana Nigeria	Kruma Odudu
Evino	*Vitex ciliata* Pellegr. *Vitex pachyphylla* Baker		
Eyek	*Pachyelasma tessmannii* Harms		
Eyong	*Eribroma oblongum* Pierre ex A.Chev. (Syn. *Sterculia oblonga* Masters)	Cameroon Central African Republic Côte d'Ivoire Equatorial Guinea Gabon Ghana Nigeria *UK*	Bongele, Eyong Bongo Bi N'Chong, N'Zong N'Chong, N'Zong Ohaa Okoko *White Sterculia,* *Yellow Sterculia*

Pilot-name	Scientific names	Local names	
Eyoum	*Dialium spp.* *Dialium bipindense* Harms. *Dialium dinklagei* Harms. *Dialium aubrevillei* Pellegr. *Dialium pachyphyllum* Harms.	Cameroon Congo Côte d'Ivoire Gabon Guinea-Bissau Liberia Mozambique Dem. Rep. of the Congo	Mfang, M'Fan Penzi Afambeou, Kofina Eyoum, Omvong Pau Veludo Ciania, Gbelle-Flu, Gia Kaba Ziba Bongola, Kasudu
Faro	*Daniellia spp.* *Daniellia klainei* Pierre *Daniellia ogea* Rolfe	Benin Cameroon Congo Côte d'Ivoire Dem. Rep. of the Congo Equatorial Guinea	Jatin Nsou Singa N'Dola Faro Bolengu N'Su

Pilot-name	Scientific names	Local names	
	Daniellia thurifera Bennet	Gabon Ghana Nigeria Sierra Leone *Germany* *UK*	Lonlaviol Ogea Oziya Gnessi *Daniellia* *Ogea*

Pilot-name	Scientific names	Local names	
Faveira	*Parkia multijuga* Benth.	Brazil Colombia Ecuador French Guiana Guyana	Fava Araba Tucupi, Fava Bolota, Faveira, Parica, Visgueiro Huarango, Rayo Tangama Dodomissinga, Kouatakaman Black Manariballi, Ipanai,

Pilot-name	Scientific names	Local names	
		Peru Suriname Venezuela	Uya Goma Pashaco Kwatakama Cascaron
Faveira Amargosa	*Vatairea paraensis* Ducke	Brazil Colombia Guyana French Guiana Honduras Panama	Angelim Amargoso, Aracuy, Fava Amarela, Fava Amargosa, Faveria Amarela, Faveira Amargosa, Faveria Bolacha Guerra, Maqui Arisauro, Bastard Purpleheart, Bauwau Inkassa, Yongo Amargo Amargo

Pilot-name	Scientific names	Local names	
		Peru Suriname	Mari-Mari, Marupa del Bajo Arisoeroe, Gele Kabbes, Geli-Kabissi
Fijian Sterculia	*Sterculia vitiensis* Seem.	Oceania	Waciwaci
Framiré	*Terminalia ivorensis* A. Chev.	Cameroon Côte d'Ivoire Ghana Liberia Nigeria Sierra Leone *UK*	Lidia Framiré Emeri Baji Idigbo, Black Afara Baji *Idigbo*
Formigueiro	*Triplaris cumingiana* Fisch. & C.A.Mey. (Syn. *Triplaris guayaquilensis* Wedd.)	Ecuador	Fernansanchez
Freijo	*Cordia goeldiana* Hub.	Brazil	Freijo

Pilot-name	Scientific names	Local names	
			Frei-Jorge

Pilot-name	Scientific names	Local names	
Fuma (Fromager)	*Ceiba pentandra* (L.) Gaertn. (Syn. *Ceiba thonningii* A. Chev. Syn. *Bombax pentandrum* L.)	Cameroon Congo Côte d'Ivoire Ghana Liberia Nigeria Sierra Leone Dem. Rep. of the Congo *France* *Germany* *UK*	Doum Fuma Enia, Fromager Onyina Ghe Okha, Araba Ngwe, Banda Fuma *Fromager* *Ceiba* *Ceiba*
Gaiac	*Guaiacum spp.*	Mexico	Palo Santo, Guayacancillo

Pilot-name	Scientific names	Local names	
		Venezuela *France* *Germany* *Netherlands* *Spain* *UK*	Guayacán *Gaiac* *Mexiko-Pockholz* *Pockhout* *Guayacán* *Guaiacum Wood*
Galacwood	*Bulnesia sarmientoi* Lorentz ex Griseb.		
Gale Silverballi	*Aniba hypoglauca* Sandwith (Syn. *Aniba ovalifolia* Mez.)	South America	Gale Silverballi, Garl, Kawioi, Kurero Shiruaballi, Kurero Silverballi, Moena Puchiri, Silverballi, Yellow Silverballi, Yellow Sweetwood
Gavilan	*Schizolobium amazonicum* Huber ex Ducke		Pashaco, Pino Chuncho

Pilot-name	Scientific names	Local names	
Gavilán Blanco	*Oreomunnea pterocarpa* Oerst.		
Geronggang	*Cratoxylum arborescens* (Vahl) Bl. *Cratoxylum arborescens* var. *miquelli* King *Cratoxylum glaucum* Korth. *Cratoxylum lingustrinum* Bl. *Cratoxylum polyanthum* Korth.	Indonesia Malaysia	Gerunggang Mapat Mulu Selunus Gonggang Serungan

Pilot-name	Scientific names	Local names	
Gerutu	*Parashorea densiflora* Slooten & Sym. *Parashorea lucida* (Miq.) Kurz *Parashorea parvifolia* Wyatt-Smith ex P.S.Ashton *Parashorea smythiesii* Wyatt-Smith ex P.S.Ashton	India Indonesia Laos Malaysia	Tavoy Wood White Meranti Mai Hao Gerutu, Gerutu Pasir, Heavy White Seraya, Meranti Gerutu, Meruyun, Urat Mata Batu, Urat Mata Bukit, Urat Mata Daun Kechil,

Pilot-name	Scientific names	Local names	
		Thailand	Khai Khieo
Gheombi	*Sindoropsis letestui* (Pellegr.) J. Léon. (Syn. *Copaifera letestui* Pellegr.)	Cameroon Gabon	Lumbandjii Gheombi, Ngom
Goiabao	*Chrysophyllum lucentifolium* Cronquist (Syn. *Planchonella pachycarpa* Pires Syn. *Pouteria pachycarpa* Pires Syn. *Syzygiopsis pachycarpa* Ducke)	Brazil	Abiu Casca, Abiurana, Abiurana Amarela, Abiurana Goiaba, Goiabao, Goyabao
Gombé	*Didelotia africana* Baill. *Didelotia idae* Oldem., de Wit & Léon. *Didelotia letouzeyi* Pellegr.	Cameroon Côte d'Ivoire Gabon Liberia Sierra Leone	Ekop-Gombe, Gombe Broutou Angok Bondu Timba
Greenheart	*Chlorocardium rodiei* (Schomb.) Rohwer, H.G.Richt. & van der Werff	Brazil Guyana	Bibiru, Itauba Branca Bibiru,

Pilot-name	Scientific names	Local names	
		Surinam Venezuela	Demerara, Greenheart Beeberoe Groenhart Sipiroe Viruviru
Pilot-name	**Scientific names**	**Local names**	
Grenadille d'Afrique	*Dalbergia melanoxylon* Gutif. & Perr.	Chad Dem. Rep. of the Congo Ethiopia Kenya Namibia and South Africa Uganda Zambia	Tabum Kafundula Zobbi, Zebe Kikwaju, Mpingo, Poyi Driedoring Ebbehout, Mokelete, Sebrahout, Swartdriedoring, Umbambangwe Motangu

Pilot-name	Scientific names	Local names	
		Zimbabwe *UK*	Chinsale, Kasalusalu, Mfwankomo, Mkelete, Mkumudwe, Msalu, Mukelete, Musonkomo Murwiti, Pulupulu *African blackwood*, *African ebony*, *Mugembe*, *Poyi*
Grigri	*Licania spp.*	Brazil Colombia Costa Rica	Anauerá, Caraipé, Turiuva Carbonero Zapote

Pilot-name	Scientific names	Local names	
		Guyana Mexico Peru Venezuela	Kautaballi, Konoko, Zapote Carbonero, Zapote Carbonero
Guágara	*Sabal mauritiiformis* Griseb. & H.Wendl.	South America	Catarata, Palma Amarga, Palma de Guagara, Palma de Vaca, Palmiche

Pilot-name	Scientific names	Local names	
Guariuba	*Clarisia racemosa* Ruiz. & Pav.	Bolivia Brazil Colombia Ecuador	Murure Guariuba, Oiticica Amarela, Oiticica da Mata Aji, Guariuba Mata Palo,

Pilot-name	Scientific names	Local names	
		Peru	Moral Bobo, Pituca Capinuri, Guariuba, Murere, Turupay Amarillo
Haiari	*Alexa spp.*	Brazil Guyana Suriname	Melancieira Haiariballi Nekoe-Oedoe
Haldu	*Haldina cordifolia* (Roxb.) Ridsdale (Syn. *Adina cordifolia* (Roxb.) Hook. f.)	Cambodia India Indonesia Laos Malaysia Myanmar Philippines Sri Lanka Thailand	Khvao, Kwao Haldu Lasi Thom Meraga Hnaw Adina, Haldu Kolon Kwao,

Pilot-name	Scientific names	Local names	
		Vietnam	Tong Lueang Gao-Vang
Hard Alstonia (Pulaï)	*Alstonia angustiloba* Miq. *Alstonia macrophylla* Wall. ex G.Don. *Alstonia spatulata* Bl. *Alstonia scholaris* (L.) R. Br. *Alstonia pneumatophora* Back. ex Den Berger	Indonesia Malaysia Myanmar Papua New Guinea Philippines Thailand Vietnam *Australia* *India* *UK*	Pulai, Sepati Pulai Letok, Sega White Cheese Wood, Mike Wood Dita Thia Mo-Cua *White Cheese Wood,* *Mike Wood* *Chaitanwood,* *Chatian* *Pagoda Tree,* *Patternwood*
Pilot-name	**Scientific names**	**Local names**	

Pilot-name	Scientific names	Local names	
Hevea	*Hevea brasiliensis* (Willd. ex A.Juss.) Müll.Arg.	Brazil Guyana Malaysia Peru Thailand Venezuela *UK* *USA*	Mapalapa, Seringa, Seringueira Hatti Hevea Wood Jeve, Shirenga Rubber Tree Arbol de Caucho *Para Rubber Tree* *Rubber Wood*
Higuerilla	*Micandra spruceana* (Baill.) R. Shultes	Colombia Peru Venezuela	Reventillo, Yetcha Carapacho, Higuerilla Negra, Shiringa Masha Cunuri

Pilot-name	Scientific names	Local names	
Huruasa	*Abarema jupunba* (Willd.) Britton & Killip	Guyana	Ingarana, Tento Azul
Iatandza	*Albizia angolensis* Welw. *Albizia ferruginea* Benth.	Angola Benin Cameroon Congo Côte d'Ivoire Gabon Ghana Liberia Nigeria Uganda Dem. Rep. of the Congo *UK*	Zanzangue Agla Nyinfun Evouvous Sifou-Sifou Yatanza Iatandza Awiemfo-Samina, Okuro Musase Ayinre-Ogo Mugavu, Nongo Elongwamba, Okuru *West African Albizia*
Ibirà Pytâ	*Peltophorum dubium* (Spreng.) Taub	Argentina Brazil	Canafístula Guarucaia

Pilot-name	Scientific names	Local names	
	(Syn. *Peltophorum vogelianum* Benth.)	Paraguay	Yvyrapyta
Idewa	*Haplormosia monophylla* Harms	Liberia	Black Gum, Liberian Black Gum
Igaganga	*Dacryodes igaganga* Aubr. & Pell.		
Ilomba	*Pycnanthus angolensis* (Welw.) Warb. (Syn. *Pycnanthus kombo* Baill.) Warb.	Angola Cameroon Congo Côte d'Ivoire Equatorial Guinea Gabon Ghana Nigeria Sierra Leone Dem. Rep. of the Congo	Ilomba Eteng Ilomba Walélé Calabo Eteng Otié Akomu Kpoyéi Lolako, Lejonclo
Pilot-name	**Scientific names**	**Local names**	
Imbuia	*Ocotea porosa* Barosso	Brazil	Canela, Imbuia,

Pilot-name	Scientific names	Local names	
	(Syn. *Phoebe porosa* (Nees & Mart.) Mez.)	South America	Embuia Laurel
			Brazilian Walnut
		UK	*Imbuya,*
		USA	*Brazilian Walnut*
Inga	*Inga spp.*	Argentina	Inga
		Brazil	Inga, Ingazeira, Inga-Chi-Chi, Inga-Chi-Chica
		French Guiana	Bois Pagode, Bougouni, Lebi Oueko, Oueko
		Guyana	Kurang, Kwari, Kwarye, Maporokon, Yokar

Pilot-name	Scientific names	Local names	
		Honduras Peru Suriname	Guama Shimbillo Abonkini, Prokonie
Ingyin	*Pentacme siamensis* (Miq.) Kurz		
Inyak	*Antonia ovata* Pohl		
Ipé	*Handroanthus heptaphyllus* (Vell.) Mattos (Syn. *Tabebuia ipe* (Mart.) Standl.) *Handroanthus capitatus* (Bur & K.Schum) Sanwith (Syn. *Tabebuia capitata* Sandw.) *Handroanthus serratifolius* (Vahl) S.O.Grose (Syn. *Tabebuia serratifolia* Nichols)	Argentina Bolivia Brazil Central America Colombia	Lapacho Ipé, Lapacho, Tajibo Ipé, Ipé Roxo, Pau d'Arco Amapa, Prieta, Cortez, Guayacan, Cortés Canaguate,

Pilot-name	Scientific names	Local names	
	Handroanthus impetiginosus (Mart. ex DC.) Mattos (Syn. *Tabebuia impetiginosa* (Mart.) Standl.)	French Guiana Guyana Paraguay Peru Suriname Trinidad and Tobago Venezuela	Polvillo, Roble Morado Ebene verte Hakia, Ironwood Lapacho Negro Tahuari Negro, Ebano Verde Groenhart Poui, Yellow Poui Acapro, Araguaney
Pilot-name	**Scientific names**	**Local names**	
Iroko	*Milicia spp.* *Milicia excelsa* C.C. Berg (Syn. *Chlorophora excelsa* (Welw.) Benth.)	Angola Cameroon Congo Côte d'Ivoire East Africa	Moreira Abang Kambala Iroko Mvuli, Mvule

Pilot-name	Scientific names	Local names	
	Milicia regia C.C. Berg (Syn. *Chlorophora regia* A. Chev.)	Equatorial Guinea Gabon Ghana Liberia Mozambique Nigeria Sierra Leone Dem. Rep. of the Congo *Belgium*	Abang Abang, Mandji Odum Semli Tule Mufula Iroko Semli Lusanga, Molundu, Mokongo *Kambala*
Itaùba	*Mezilaurus spp.*	Brazil French Guiana Suriname	Louro Itauba Taoub Jaune Kaneelhout
Izombé	*Testulea gabonensis* Pellegr.	Cameroon Congo Gabon	Rone N'Gwaki Ake, Akewe,

Pilot-name	Scientific names	Local names	
			Izombe, N'Komi
Jacareuba	*Calophyllum brasiliense* Cambess.	Brazil	Árbol de santa María, Calophylle du Brésil, Guanandi, Maria, Santa Maria

Pilot-name	Scientific names	Local names	
Jatoba	*Hymenaea courbaril* L.	Brazil French Guiana Central and South America, Caribbean	Jatobá Gomme Animée, Pois Confiture Algarrobo, Algarrobo de la Antillas, Algarrobo das Antilhas, Azucar, Cuapinol, Curbaril, Guapinol, Huayo,

Pilot-name	Scientific names	Local names	
		Suriname *UK*	Jataí, Jutaby Rode Lokus *Brazilian Cherry,* *Brazilian Copal,* *Cayenne Copal,* *Copal,* *Demarara Copal,* *Kerosene Tree,* *Stinking Toe,* *Latin American Locust,* *West Indian Locust*
Jelutong	*Dyera costulata* Hook. f. *Dyera polyphylla* (Miq.) Steenis (Syn. *Dyera lowii* Hook. f.)	Indonesia Malaysia	Jelutong, Djelutong, Melabuwai Jelutong, Andjaroetoeng, Letoeng, Pantoeng,

Pilot-name	Scientific names	Local names	
		Singapore	Jelutong Bukit, Jelutong Paya Red and/or White Jelutong
Jequitiba	*Cariniana legalis* O. Ktze (Syn. *Cariniana brasiliensis* Casar.) *Allantoma integrifolia* (Ducke) S.A.Mori (Syn. *Cariniana integrifolia* Ducke)	Bolivia Brazil	Yesquero Jequitiba, Jequitiba Branco, Jequitiba Rosa, Jequitiba Vermelho, Estopeiro
Jito	*Guarea guidonia* (L.) Sleumer (Syn. *Guarea guara* (Jacq.) P. Wils. Syn. *Guarea trichilioides* L.)		
Jongkong	*Dactylocladus stenostachys* Oliv.	Indonesia Malaysia	Mentibu, Sampinur Medang-Tabak, Jongkong, Medang,

Pilot-name	Scientific names	Local names	
			Merubong
Pilot-name	**Scientific names**	**Local names**	
Jorori	*Swartzia jorori* Harms		
Jùraco	*Bucida buceras* L.	Mexico, Central and South America	Black Olive, Bois Gris-Gris, Bois Margot, Gregre, Júcaro, Oxhorn Bucida, Ucar
Kabok	*Irvingia malayana* Oliv. ex A. Benn.	Malaysia Thailand *UK*	Pau Kijang Kabok *Wild Almond*
Kadam	*Neolamarckia spp.* *Neolamarckia cadamba* (Roxb.) Bosser (Syn. *Anthocephalus cadamba* (Roxb.) Miq.)	Indonesia Malaysia	Jabon, Kelempajan Kalempayn Kelampo, Kelepayan,

Pilot-name	Scientific names	Local names	
	Neolamarckia macrophylla (Roxb.) Bosser (Syn. *Anthocephalus macrophyllus* (Kuntze) Havil.)	Myanmar Philippines	Ludai, Kelempayan Mau, Yemau, Maukadon, Mau-Lettan-She Kaatoan Bangkal
Kanda (Kanda brun, Kanda rose)	*Beilschmiedia spp.* *Beilschmiedia congolana* Robyns & Wilczek *Beilschmiedia gaboonensis* Benth. & Hook. *Beilschmiedia hutchinsoniana* Robyns & Wilczek *Beilschmiedia letouzeyi* Robyns & Wilczek *Beilschmiedia mannii* Robyns & Wilczek *Beilschmiedia oblongifolia* Robyns & Wilczek	Cameroon Central African Republic Côte d'Ivoire Gabon Tanzania	Kanda Bonzale Bitehi Nkonengu Mfimbo
Kapokier	*Bombax buonopozense* P. Beauv.		

Pilot-name	Scientific names	Local names	
	(Syn. *Bombax flammeum* Ulbr.)		

Pilot-name	Scientific names	Local names	
Kapur	*Dryobalanops spp.* *Dryobalanops sumatrensis* (J.F.Gmel.) Kosterm. (Syn. *Dryobalanops aromatica* C.F. Gaertn.) *Dryobalanops beccarii* Dyer *Dryobalanops fusca* V. St. *Dryobalanops lanceolata* Burck *Dryobalanops oblongifolia* Dyer *Dryobalanops rappa* Becc.	Brunei Darussalam Indonesia Malaysia *France* *UK*	Kapur Bukit, Kapur Peringii, Kapur Anggi Kapur Singkel, Kapur Sintuk, Kapur Empedu, Kapur Tanduk, Kapur Kayatan, Petanang Kapur-Kejatan, Keladan, Swamp Kapur, Borneo Camphorwood-Paigie *Capur* *Borneo Camphor,* *Borneo Camphorwood,*

Pilot-name	Scientific names	Local names	
			Borneo Camphorwood-Paigie
Karité	*Vitellaria paradoxa* C.F.Gaertn. (Syn. *Butyrospermum paradoxum* (C.F. Gaertn.) Hepper Syn. *Butyrospermum parkii* (G. Don) Kotschy)	Africa	Shea Butter Tree, Shea Tree, Shi Tree
Kasai	*Pometia spp.*	Papua New Guinea Myanmar Philippines Vietnam *France* *Spain* *UK*	Taun Sibu Malugai Truong *Bois de Pieux* *Longán de Fiji* *Fiji Longan,* *Island Lychee*
Kaudamu	*Myristica castaneifolia* A. Gray	Southeast Asia	Fiji Nutmeg
Kedondong	*Canarium spp.*	India	Dhuwhite,

Pilot-name	Scientific names	Local names	
	Dacryodes spp. *Santiria spp.*	Indonesia Malaysia Philippines Thailand Vietnam	White Dhup Kenari, Kiharpan Kedondong, Upi Dulit, Pili Ma-Kerm Cham
Pilot-name	**Scientific names**	**Local names**	
Kekatong	*Cynometra spp.*	Fiji Malaysia Myanmar Philippines Thailand	Moivi Belangkan, Kekatong Myinga Oringen Mang-kha
Kékélé	*Holoptelea grandis* Mildbr.	Benin Cameroon Central African Republic	Sayo Avep-Ele Gomboul

Pilot-name	Scientific names	Local names	
		Congo Côte d'Ivoire Dem. Rep. of the Congo Ghana Nigeria Uganda	Mbosso Kékélé Nemba-Mbobolo Onakwa Olazo Mumuli
Kelat	*Eugenia spp.*	India Indonesia Malaysia Myanmar Papua New Guinea Philippines Thailand	Jaman Jaman, Jambu, Jamun, Meralu, Nir-Naval Black Kelat, Common Kelat, Kelat Tabye Water Gum Makasin Chomphu Plong,

Pilot-name	Scientific names	Local names	
		Vietnam	Tram
Keledang (Terap)	*Artocarpus spp.*	Indonesia Malaysia Philippines Thailand	Teureup Pudau, Terap Antipolo Ka-ok
Kembang semangkok	*Scaphium spp.*	Malaysia Myanmar Thailand	Kembang semangkok, Selayar Thitlaung Samrong
Kempas	*Koompassia malaccensis* Maing. ex Benth.	Indonesia Malaysia Papua New Guinea Thailand	Menggeris, Toemaling Kempas, Mengris, Impas Kempas Yuan

Pilot-name	Scientific names	Local names	
Keranji	*Dialium spp.*	Cambodia Indonesia Myanmar Thailand Vietnam *UK*	Xoay, Kralanh Kerandji Taung-Kaye Kaki-Khao, Khleng, Yi-Thongbung Xoay *Keranji,* *Kranji*
Keriti Silverballi	*Ocotea puberula* (Rich.) Nees	Argentina Brazil Peru	Canela Guaica, Guaicá Canela-de-Corvo, Guaica, Canela-Parda, Canela-Pimenta, Canela Pinho, Canela-Sebo Moraja Kaspi

Pilot-name	Scientific names	Local names	
		Paraguay Suriname	Laurel Guaika, Guaika Keretiballi
Keruing	*Dipterocarpus spp.* *Dipterocarpus acutangulus* Vesque *Dipterocarpus appendiculatus* Scheff. *Dipterocarpus alatus* A. DC. *Dipterocarpus baudii* Korth. *Diptrocarpus gracilis* Blume (Syn. *Dipterocarpus pilosus* Roxb.) *Dipterocarpus cornutus* Dyer	Cambodia India Indonesia Laos Malaysia Myanmar Philippines Sri Lanka Thailand Vietnam	Chloeuteal, Dau, Khlong, Thbeng, Gurjun Keroeing, Nhang, Keruing Gaga, Keruing Bajak, Keruing Beras Yang, Kanyin Apitong Hora Yang Dau (Yaou), Tro

Pilot-name	Scientific names	Local names	
	Dipterocarpus costulatus V. SI. *Dipterocarpus kerrii* King *Dipterocarpus verrucosus* Foxw. ex Slooten		
Kiasose	*Pentadesma butyracea* Sabine *Pentadesma lebrunii* Staner		
Kibakoko	*Anthonotha fragrans* (Baker f.) Exell & Hillc. (Syn. *Macrolobium fragrans* Baker f.)		
Pilot-name	**Scientific names**	**Local names**	
Kikenzi	*Ocotea usambarensis* Engl.		
Kokko	*Albizia lebbek* (L.) Benth.	Bangladesh Philippines	Sirish, Sirisha Aninapla, Langil

Pilot-name	Scientific names	Local names	
		India	Siris,
			Sirs
		Indonesia	Kitoke,
			Tarisi,
			Tekik
		Malaysia	Batai,
			Batai Batu,
			Kungkur,
			Oriang
		Nepal	Kalo Siris
		Thailand	Cha Kham,
			Chamchuri,
			Kampu,
			Phruek,
			Suek
		Vietnam	Lim Xanh
		France	*Bois noir*,
			Bois savane,
			Tcha Tcha

Pilot-name	Scientific names	Local names	
		Spain	*Acacia Chachá,* *Algarroba de Olor,* *Amor Plantónico,* *Aroma,* *Aroma Fracesca,* *Cabellos de Ángel,* *Faurestina,* *Florestina,* *Lengua de Mujer,* *Lengua Viperina*
		UK	*Acacia Amarilla,* *East Indian Walnut,* *English Woman's Tongue,* *Fry wood,* *Indian Siris,* *Lebbeck,* *Siris Tree,* *Woman's Tongue Tree*

Pilot-name	Scientific names	Local names	
Kondroti	*Rhodognaphalon brevicuspe* Roberty (Syn. *Bombax brevicuspe* Sprague) *Rhodognaphalon schumannianum* A. Robyns (Syn. *Bombax rhodognaphalon* K. Schum.) *Bombax chevalieri* Pellegr.	Benin Cameroon Congo Côte d'Ivoire Gabon Ghana Mozambique Nigeria Tanzania *UK*	Kpatin Dehun Ovong N'Demo Kondroti Alone, Ogumalanga Bombax Meguza, Mungusa Awori Mfume *East African Bombax*

Pilot-name	Scientific names	Local names	
Kosipo	*Entandrophragma candollei* Harms	Angola Cameroon Côte d'Ivoire Ghana Nigeria	Lifuco Atom-Assie Kosipo Penkwa-Akowaa Omu, Heavy Sapelle

Pilot-name	Scientific names	Local names	
		Dem. Rep. of the Congo *Germany* *UK*	Impompo *Kosipo-Mahagoni* *Omu*
Kotibé	*Nesogordonia spp.* *Nesogordonia kabingaensis* var. *kabingaensis* (K.Schum.) Capuron (Syn. *Nesogordonia papaverifera* R. Capuron Syn. *Cistanthera papaverifera* A. Chev.)	Angola Cameroon Central African Republic Côte d'Ivoire Gabon Ghana Nigeria Dem. Rep. of the Congo *UK*	Kissinhungo Ovoe, Ovoui Naouya Kotibé Aborbora Danta Otutu Kondofindo *Danta*
Koto	*Pterygota spp.* *Pterygota macrocarpa* K. Schum.	Central African Republic Côte d'Ivoire Gabon	Kakende Koto Ake

Pilot-name	Scientific names	Local names	
	Pterygota bequaertii De Wild.	Ghana Nigeria Dem. Rep. of the Congo *Germany* *UK*	Kyere, Awari Kefe, Poroposo Ikame *Anatolia* *African Pterygota, Pterygota*
Kulim	*Scorodocarpus borneensis* (Baillon) Becc.	Malaysia	Bawang Hutan
Kumbi	*Lannea welwitschii* (Hiern) Engl.	Côte d'Ivoire Ghana Nigeria	Baiséguma, Kakoro, Loloti Kumenini Ekika
Kungkur	*Albizia saman* (Jacq.) Merr.		
Pilot-name	**Scientific names**	**Local names**	

Pilot-name	Scientific names	Local names	
Kurokaï	*Protium spp.*	Bolivia Brazil Colombia Ecuador French Guiana Guyana Peru Suriname Venezuela	Carano Almecega, Aruru, Breu Anime, Carano, Currucay Anime Blanco Encens Blanc, Gris Rouge Haiawa, Kurokay, Porokay Copal-Caspi Tinguimoni Anime, Carano, Azucarito
Landa	*Erythroxylum mannii* Oliv.	Cameroon Congo	Landa Lukienzo

Pilot-name	Scientific names	Local names	
		Côte d'Ivoire Gabon Dem. Rep. Of the Congo Sierra Leone	Dabe Landa Nkanza Bimini
Lati	*Amphimas spp.* *Amphimas pterocarpoides* Harms	Cameroon Côte d'Ivoire Ghana Congo	Edjin, Edzil Lati Edzui Muzui, Bokanga
Laurel, Indian	*Terminalia tomentosa* (Roxb.) Wight & Arn.	Cambodia Indonesia Laos Myanmar	Chhlik Snaeng Arjun, Jaha, Jelawai, Talisai, Telinsi, Kumbuk Suak Dam Taukyan,

Pilot-name	Scientific names	Local names	
		Philippines Thailand Vietnam	Thinsein Indian Laurel Hok Fa Chieu-Lieu
Limba	*Terminalia superba* Engl. & Diels	Cameroon Central African Republic Congo Côte d'Ivoire Equatorial Guinea Ghana Nigeria Sierra Leone Dem. Rep. of the Congo *France* *USA*	Akom N'Ganga Limba Fraké Akom Ofram Afara, White Afara Kojagei Limba *Limbo,* *Fraké,* *Noyer du Mayombé* *Korina*

Pilot-name	Scientific names	Local names	
Limbali	*Gilbertiodendron spp.* *Gilbertiodendron dewevrei* (De Wild.) J. Léon (Syn. *Macrolobium dewevrei* De Wild.) *Gilbertiodendron preussii* J. Léon	Cameroon Central African Republic Congo Côte d'Ivoire Dem. Rep. of the Congo Gabon Ghana Liberia	Ekobem Molapa Epal Vaa Ditshipi, Ligudu Limbali Abeum Tetekon, Sehmeh
Limonaballi	*Chrysophyllum pomiferum* (Eyma) T.D.Penn.		
Loliondo	*Olea welwitschii* (Knobl.) Gilg. & G.Schellenb. (Syn. *Steganthus welwitschii* Knobl.)	*UK*	*Elgon olive*
Longhi	*Chrysophyllum spp.* (Syn. *Gambeya spp.*) *Chrysophyllum africanum* G.Don,	Cameroon Central African Republic Congo Côte d'Ivoire	Abam Bopambu Longhi Akatio,

Pilot-name	Scientific names	Local names	
	(Syn. *Gambeya africana* Pierre) *Chrysophyllum lacourtianum* De Wild.) (Syn. *Gambeya lacourtiana* Aubrev. & Pellegr.) *Chrysophyllum subnudum* Baker (Syn. *Gambeya subnuda* Pierre)	 Gabon Ghana Nigeria	Anandio, Aningueri Rouge M'bebame Akasa Ekpiro, Osan
Lotofa	*Sterculia rhinopetala* Schum.	Cameroon Côte d'Ivoire Ghana Nigeria *UK*	N'Kanang Lotofa Wawabima Aye *Brown Sterculia*
Louro vermelho	*Ocotea rubra* Mez.	Brazil French Guiana	Gamela, Louro Gamela, Louro Vermelho Grignon Franc

Pilot-name	Scientific names	Local names	
		Guyana Suriname *UK*	Baaka, Determa, Red Louro, Wanu Teteroma *Determa*
Lupuna	*Chorisia spp.*	South America	Árbol botella, Árbol de lana, Paina de seda, Painera, Palo Borracho, Palo Barrigudo, Palo Botella
Pilot-name	**Scientific names**	**Local names**	
Lusambya	*Markhamia lutea* (Benth.) K. Schum. (Syn. *Markhamia platycalyx* Sprague)		
Maçaranduba	*Manilkara spp.*	Brazil	Maçaranduba,

Pilot-name	Scientific names	Local names	
	Manilkara bidentata A Chev. (Syn. *Manilkara surinamensis* (Miq.) Dubard) *Manilkara huberi* (Ducke) Standl. Dubard	Colombia French Guiana Guyana Panama Peru Suriname Venezuela *UK* *USA*	Maparajuba, Paraju Balata, Nispero Balata franc, Balata rouge, Balata gomme, Balata, Bulletwood, Beefwood Nispero Pamashto, Quinilla Colorada Bolletrie Balata Massarandu *Bulletwood* *Bulletwood,* *Beefwood*

Pilot-name	Scientific names	Local names	
Machang	*Mangifera spp.*	India Indonesia Malaysia Myanmar Pakistan Papua New Guinea Philippines Solomon Islands Thailand Vietnam *France* *UK*	Mangga, Mango Membacang Asam, Machang, Sepam Mangowood, Thayet Mango Mango Ailai, Asai, Pahutan Ma-Muang-Pa Ma-Muang-Pa, Pamutan Xoai *Manguier* *Mangowood*

Pilot-name	Scientific names	Local names	
Machiche	*Lonchocarpus lanceolatus* Benth.	Central America	Black Cabbagebark, Chaprerno, Sindjaplé
Mafu	*Clausena melioides* Hiern. *Fagaropsis angolensis* H.M.Gardn	Tanzania Kenya	Mfu, Mkunguni, Mtongoti Muyinja
Mafumati	*Newtonia buchananii* Gilb. & Bout (Syn. *Piptadenia buchananii* Bak.)		

Pilot-name	Scientific names	Local names	
Mahogany	*Swietenia macrophylla* King (Syn. *Swietenia candollei* Pitt. Syn. *Swietenia tessmannii* Harms. Syn. *Swietenia krukovii* Gleason) *Swietenia mahagoni* (L.) Jacq.	Bolivia Brazil Central America	Caoba, Mara Aguano, Mogno Araputanga Caoba, Caoba del Sur, Caoba del Atlantica

Pilot-name	Scientific names	Local names	
	Swietenia humilis Zucc.	Colombia	Caoba
		Cuba	Caoba
		Dominican Republic	Mahogani
		Guatemala	Chacalte
		Haiti	Mahogani
		Mexico	Zopilote, Baywood
		Nicaragua	Mahogani
		Peru	Aguano, Caoba
		Venezuela	Caoba, Orura
		France	*Acajou d'Amérique*
		Italy	*Mogano*
		Netherlands	*Mahonie*
		Spain	*Caoba*
		UK	*Mahogany, Brazilian Mahogany*
		USA	*Mahogany,*

Pilot-name	Scientific names	Local names	
			Brazilian Mahogany
Malagangai	*Eusideroxylon melagangai* (Symington) Kosterm.		
Malas	*Homalium spp.*	Indonesia Malaysia Philippines Myanmar Laos	Dlingsem, Gia, Melmas, Momala Banisian, Padang, Selimbar, Takaliu, Aranga Myaukchaw, Myaukugo Khen Nang Kha Nang
Manbodé	*Detarium macrocarpum* Harms	West and Central Africa	Dankh, Petit Détar, Sweet Dattock

Pilot-name	Scientific names	Local names	
	Detarium senegalense J.F. Gmel.		
Mandioqueira	*Qualea spp.*	Brazil French Guiana Suriname Venezuela	Mandio, Mandioqueira, Quaruba Gronfolo Gris Grignon Fou, Kouali Gronfoeloe Florecillo
Pilot-name	**Scientific names**	**Local names**	
Manil	*Symphonia globulifera* L.f.	Bolivia Brazil Colombia Ecuador	Azufre, Bolivia Anani, Canadi, Mani Azufre, Machare Machare, Puenga,

Pilot-name	Scientific names	Local names	
		French Guiana Guyana Peru Suriname Trinidad and Tobago Venezuela *USA*	Zaputi Manil, Manil Marecage Manni Azufre, Brea-Caspi Mani, Mataki Mangue Mani, Paraman, Peramancillo *Boarwood*
Manil Montagne	*Moronobea coccinea* Aubl.	Brazil French Guiana Guyana	Anani Da Terra Firme, Bacuri de Anta Manil Montagne, Manil Peou, Parcouri-Manil Coronobo,

Pilot-name	Scientific names	Local names	
		Suriname	Morombo-Rai, Moronobo Manniballi, Matakkie
Marupa	*Simarouba amara* Aubl.	Bolivia Brazil Colombia Ecuador French Guiana Guyana Peru Suriname Venezuela	Chiriuana Marupa, Marupauba, Parahyba, Paraiba, Tamanquiera Simaruba Cedro Amargo, Cuna, Guitarro Simarouba Simarupa Marupa Soemaroeba Cedro Blanco, Simarouba

Pilot-name	Scientific names	Local names	
		UK	*Bitterwood*

Pilot-name	Scientific names	Local names	
Mata-Mata	*Eschweilera spp.* *Eschweilera amara* Mart. ex O. Berg	Brazil French Guiana Guyana Suriname	Mata-Mata, Matamata Preto Baakalaka, Baikaaki, Balibon, Kouanda, Maho, Mahot Noir, Mahou Black Kakaralli, Kakaralli Hoogland Barklak, Manbarklak
Mata Ulat	*Kokoona spp.*		
Mecrussé	*Androstachys johnsonii* Prain	Mozambique South Africa	Cimbirre Lebombo Ironwood,

Pilot-name	Scientific names	Local names	
			Nsimbitsi
Medang	*Litsea spp.*	Australia Malaysia Myanmar Philippines Vietnam Indonesia Laos Myanmar	Bollywood Medang Padang Ondon Bagaoring, Batikuling Boi loi Huru Chick Dong Kyese
Melunak	*Pentace spp.*	Malaysia Myanmar Thailand	Baru Baran, Melunak, Takalis Baru Baran Sisiat
Mempening	*Lithocarpus spp.*		
Mengkulang	*Heritiera spp.* (Syn. *Tarrietia spp.*)	Cambodia Indonesia	Don-Chem Palapi, Teraling

Pilot-name	Scientific names	Local names	
	Heritiera albiflora (Ridl.) Kosterm. *Heritiera borneensis* (Merr.) Kosterm. *Heritiera simplicifolia* (Mast.) Kosterm. *Heritiera javanica* (Bl.) Kosterm. *Heritiera kuenstleri* (King) Kosterm. *Heritiera sumatrana* (Miq.) Kosterm. *Tarrietia perakensis* King	Malaysia Myanmar Philippines Thailand Vietnam *Australia*	Mengkulang, Kembang Kanze Lumbayau Chumprag Huynh *Red* or *Brown Tulip Oak*
Pilot-name	**Scientific names**	**Local names**	
Mepepe	*Albizia adianthifolia* W.F. Wight		

Pilot-name	Scientific names	Local names	
	Albizia gummifera A.C. Sm. (Syn. *Albizia fastigiata* Oliv.) *Albizia zygia* J.F. Macbr.		
Meransi	*Carallia spp.* *Carallia borneensis* Oliv.	Southeast Asia	Karibas Kemuning Hutan Magtungod
Meranti, Dark red	*Shorea spp.* *Shorea curtisii* Dyer ex King *Shorea pauciflora* King *Shorea platyclados* Sloten ex Endert *Shorea argentifolia* Sym. *Shorea ovata* Dyer ex King *Shorea parvifolia* King *Shorea singkawang* (Miq.) Burck *Shorea pachyphylla* Ridl. ex Sym. *Shorea acuminata* Dyer *Shorea hemsleyana* King	Indonesia Malaysia	Red Meranti, Red Mertih, Meranti Ketung, Meranti Bunga, Meranti Merah-Tua Nemesu, Meranti Bukit, Meranti Daun Basar, Dark Red Seraya, Obar Suluk, Seraya Bukit, Seraya Daun, Binatoh, Engbang-Chenak,

Pilot-name	Scientific names	Local names	
	Shorea leprosula Miq. *Shorea macrantha* Brandis *Shorea hemsleyana* (King) King ex Foxw. *Shorea platycarpa* Heim. *Shorea polysperma* (Blanco) Merr.	Philippines *UK* *USA*	Meranti Bunga Sengawan Tanguile, Bataan, Red Lauan *Red Lauan,* *Dark Red Seraya* *Dark Meranti*

Pilot-name	Scientific names	Local names	
Meranti, Light red	*Shorea spp.* *Shorea acuminata* Dyer *Shorea dasyphylla* Foxw. *Shorea hemsleyana* (King) King ex Foxw. *Shorea macrantha* Brandis *Shorea johorensis* Foxw. *Shorea lepidota* (Korth.) Bl.	Indonesia Malaysia	Red Meranti, Meranti Merah-Muda, Meranti Bunga Damar Siput, Meranti-Hantu, Meranti Kepong, Meranti Langgang, Meranti Melanthi, Meranti Paya,

Pilot-name	Scientific names	Local names	
	Shorea leprosula Miq. *Shorea macroptera* Dyer *Shorea sandakanensis* Sym. *Shorea ovalis* (Korth.) Bl. *Shorea parvifolia* Dyer *Shorea palembanica* Miq. *Shorea platycarpa* Heim. *Shorea teysmanniana* Dyer ex Brandis *Shorea revoluta* Ashton *Shorea argentifolia* Sym. *Shorea leptoclados* Sym. *Shorea smithiana* Sym. *Shorea albida* Sym. *Shorea macrophylla* (de Vriese) Ashton *Shorea quadrinervis* Slooten. *Shorea gysbertsiana* Burck	Philippines Thailand	Meranti Rambai, Meranti Tembaga, Meranti Tengkawang, Meranti Sengkawang, Engkawang, Seraya Batu, Seraya Punai Seraya Bunga, Kawang Almon, Light Red Luan Saya Khao, Saya Lueang, Chan Hoi

Pilot-name	Scientific names	Local names	
	Shorea pachyphylla Ridl. ex Sym.		
Pilot-name	**Scientific names**	**Local names**	
Meranti, White	*Shorea spp.* *Shorea agami* Ashton *Shorea assamica* Dyer *Shorea bracteolata* Dyer *Shorea dealbata* Foxw. *Shorea henryana* Lanessan *Shorea lamellata* Foxw. *Shorea resinosa* Foxw. *Shorea roxburghii* G. Don *Shorea stalura* Roxb. *Shorea hypochra* Hance *Shorea hentonyensis* Foxw. *Shorea sericeiflora* C.E.C. Fischer & Hutch. *Shorea farinosa* C.E.C. Fischer	Cambodia Indonesia Malaysia Myanmar Philippines Thailand	Lumber, Koki Phnom Meranti Putih, Damar Puthi Meranti Jerit, Meranti Lapis, Meranti Pa'ang or Kebon Tang, Meranti Temak, Melapi, White Meranti Makai White Lauan, White Meranti Pendan, Pa Nong, Sual, Kabak Kau,

Pilot-name	Scientific names	Local names	
	Shorea gratissima Dyer *Shorea ochracea* Sym. *Parashorea malaanonan* (Blco.) Merr. *Shorea polita* S. Vidal	Vietnam	Xen, Chai

Pilot-name	Scientific names	Local names	
Meranti, Yellow	*Shorea spp.* *Shorea faguetiana* Heim. *Shorea dolichocarpa* Slooten. *Shorea maxima* (King) Sym. *Shorea longisperma* Roxb. *Shorea gibbosa* Brandis *Shorea multiflora* (Burck) Sym. *Shorea hopeifolia* (Heim.) Sym. *Shorea resina-nigra* Foxw. *Shorea peltata* Sym.	Indonesia Malaysia	Meranti Kuning, Kunyit, Damar Hitam Meranti Telepok, Meranti Kelim, Yellow Meranti, Meranti Damar Hitam, Yellow Seraya, Seraya Kuning, Selangan Kuning, Selangan Kacha, Seraya Kuning, Lun Kuning, Lun Gajah,

Pilot-name	Scientific names	Local names	
	Shorea acuminatissima Sym. *Shorea blumutensis* Foxw. *Shorea faguetioides* Ashton	Thailand	Lun Merat, Lun Siput Kalo
Meranti Bakau	*Shorea rugosa* F. Heim *Shorea uliginosa* Foxw.		
Merawan	*Hopea spp.* *Hopea apiculata* Sym. *Hopea griffithii* Kurz *Hopea lowii* Dyer *Hopea mengarawan* Miq. *Hopea nervosa* King *Hopea odorata* Roxb. *Hopea papuana* Diels *Hopea sangal* Korth. *Hopea sulcata* Sym.	Cambodia Indonesia Malaysia Myanmar Papua New Guinea Philippines Thailand Vietnam	Koki Merawan/Sengal Merawan/Sengal Gagil Selangan, Selangan-Kasha Thingan Light Hopea Manggachapui Takhian Sao, Sau
Pilot-name	**Scientific names**	**Local names**	

Pilot-name	Scientific names	Local names	
Merbau	*Intsia palembanica* Miq. (Syn. *Intsia bakeri* Prain.) *Intsia palembanica* (Miq.) *Intsia bijuga* (Colebr.) Kuntze (Syn. *Intsia retusa* (Kurz.) O.Kuntze.)	Fiji Indonesia Madagascar Malaysia New Caledonia Papua New Guinea Philippines Thailand Vietnam *Australia* *China* *UK*	Vesi Merbau Hintsy Merbau Komu Kwila Ipil, Ipil Laut Lum-Paw, Gonuo *Kwila* *Kalabau* *Moluccan Ironwood*
Merpauh	*Swintonia spp.* *Swintonia floribunda* Griff. *Swintonia schwenkii* Teijsm. & Binn. ex Hook. f.	Cambodia India Malaysia Myanmar	Muom Thayet-Kin Merpau Merpauh Taung Thayet

Pilot-name	Scientific names	Local names	
	Swintonia penangiana King *Swintonia pierrei* Hance *Swintonia spicifera* Hook. f.	 Pakistan Vietnam	Civit Taungthayet Civit Muom
Mersawa	*Anisoptera spp.* *Anisoptera curtisii* King *Anisoptera costata* Korth. (Syn. *Anisoptera oblonga* Dyer) *Anisoptera laevis* Ridl. *Anisoptera marginata* Korth. Anisoptera thurifera Blume	Cambodia Indonesia Laos Malaysia Myanmar Papua New Guinea Philippines Thailand *France* *UK* *USA*	Phdiek Mersawa Mai Bak Mersawa, Pengiran Kaunghmu Mersawa Palosapis Krabak, Pik *Ven-Ven* *Krabak* *Bella Rosa*

Pilot-name	Scientific names	Local names	
Messassa	*Brachystegia spiciformis* Benth.		
Metondo	*Cordyla africana* Lour.	Tanzania	Mroma, Mpachamu, Mgwata
Mirindiba-Doce	*Glycydendron amazonicum* Ducke	Brazil	Mirindiba-Doce, Pau-de-Casca-Doce
Mjombo	*Brachystegia boehmii* Taub.	Africa	Miombo

Pilot-name	Scientific names	Local names	
Moabi	*Baillonella toxisperma* Pierre (Syn. *Mimusops djave* Engl.)	Cameroon Congo Equatorial Guinea Gabon Dem. Rep. of the Congo *UK*	Adjap, Ayap Dimpampi Ayap M'Foi Muamba jaune *African Pearwood*
Moambé jaune	*Enantia spp.*	*UK*	*African whitewood*

Pilot-name	Scientific names	Local names	
	Enantia chlorantha Oliv.		
Molave	*Vitex parviflora* Juss.	Indonesia Philippines	Fuli Kaa, Kayu Kula Amugauan, Molave, Sagat
Momoqui	*Caesalpinia pluviosa* DC.	South America	False Brazilwood, Sibipiruna
Monghinza	*Manilkara mabokeensis* Aubr. *Manilkara obovata* J.H. Hemsley *Manilkara sylvestris* Aubt. & Pellegr.		
Mopaani	*Colophospermum mopane* (J. Kirk ex Benth.) J. Léonard. (Syn. *Copaifera mopane* Kirk & Benth.)		

Pilot-name	Scientific names	Local names	
Mopé	*Spondias mombin* L.	South America	Coolie Plum Gully Plum, Hog Plum, Jobo, Mopé, Prunier Mombin, Spanish Plum
Mora	*Mora spp.*	South America	Alcornoque, Morabukea, Nato, Nato Rojo, Pracuba Branca, Pracuuba
Moral	*Maclura tinctoria (*L.) D. Don ex Steud. (Syn. *Chlorophora tinctoria* (L) Gaudich.)	Argentina Bolivia Brazil Colombia Costa Rica	Tatayiva-Saiyu Amarillo Amarello, Taiuva Dinde, Palo Amarillo Palo de Mora

Pilot-name	Scientific names	Local names	
		Mexico Trinidad and Tobago	Barossa, Moral Bois d'Orange
Pilot-name	**Scientific names**	**Local names**	
Morototo	*Schefflera morototoni* (Aubl.) Maguire, Steyerm**.** & Frodin (Syn. *Didymopanax morototoni* (Aubl.) Decne. & Planch)	Argentina Brazil Colombia Cuba Dominican Rep. Mexico Puerto Rico Suriname Venezuela	Ambayguazu Mandioqueira Yarumero Yagrumo Macho Yagrumo Macho Chancaro Blanco Yagrumo Macho Kasavehout, Morototo Tinajero
Movingui	*Distemonanthus benthamianus* Baill.	Benin Cameroon Côte d'Ivoire Equatorial Guinea Gabon	Ayan Eyen Barre Eyen Eyen,

Pilot-name	Scientific names	Local names		
			Ghana Nigeria *UK*	Movingui Ayan Ayan, Ayanran *Ayan,* *Distemonanthus*
Mtambara	*Cephalosphaera usambarensis* Warb.			
Mtandarusi	*Trachylobium verrucosum* Oliv.		*UK*	*East African copal*
Mubala	*Pentaclethra macrophylla* Benth.			
Mueri	*Prunus africana* (Hook.f.) Kalk. (Syn. *Pygeum africanum* Hook.f.)		*UK*	*Red Stinkwood* *Bitter almond*
Mugaita	*Rapanea rhododendroides* Mez.			
Mugonha	*Adina microcephala* Hiern.		Africa	Matumi Rhodesian Redwood
Muhimbi	*Cynometra alexandri* C.H. Wright		Africa	Angu Baira

Pilot-name	Scientific names	Local names	
			Bapa Bosengere Kahimbi Kampiniungu Lukuanga Mbombele Mubale Mubangu Mubindi Mudindi Muhindi Mupombe Tembwe Uganda Ironwood

Pilot-name	Scientific names	Local names	
Mühühü	*Brachylaena huillensis* O.Hoffm. (Syn. *Brachylaena hutchinsii* Hutch.)	Congo	Mkalambaki, Mkarambati, Muhugu, Muhuhu, Mvumo

Pilot-name	Scientific names	Local names	
		Kenya	Mkalambaki, Mkarambati, Muhugu, Muhuhu, Mvumo
		South Africa	Laeveldvaalbos
		Tanzania	Mkalambaki, Mkarambati, Muhugu, Muhuhu, Mvumo
		Uganda	Mkalambaki, Mkarambati, Muhugu, Muhuhu, Mvumo
		UK	*Low Veld Brachyleana,* *Low Veld Silver Oak,* *Silver Oak*

Pilot-name	Scientific names	Local names	
Muira-piranga	*Brosimum rubescens* Taub.	Brazil French Guiana Guyana Suriname *Italy* *Spain* *UK*	Amapa Rana, Conduru, Falso Pao Brasil, Muirapiranga, Pau Rainha Satine, Satine Rouge, Satine Rubaine, Siton Paya Satinwood Doekaliballi, Satijnhout *Legno Satino,* *Ferolia* *Palo de Oro* *Bloodwood*
Muiratinga	*Maquira coriacea* (H.Karst.) C.C.Berg	Brazil	Capinuri, Muiratinga
Mukarati	*Burkea africana* Hook.		

Pilot-name	Scientific names	Local names	
Mukulungu	*Autranella congolensis* A. Chev. (Syn. *Mimusops congolensis* De Wild.)	Angola Cameroon Central African Republic Congo Dem. Rep. of the Congo Gabon Nigeria	Kungulu Elang, Elanzok Bouanga Mfua Mukulungu Akola Uku
Muninga	*Pterocarpus angolensis* DC.		
Muniridan	*Siparuna spp.*		
Pilot-name	**Scientific names**	**Local names**	
Musharagi	*Olea hochstetteri* Baker	UK	East African olive
Musine	*Croton megalocarpus* Hutch.		
Mussibi (Mutenyé)	*Guibourtia coleosperma* J. Léon (Syn. *Copaifera coleosperma* Benth.)	Zimbabwe *UK*	*Muzaule* *African Rosewood,* *Copalier,*

Pilot-name	Scientific names	Local names	
	Guibourtia arnoldiana J. Léon		*False Mopane,* *Mushibi,* *Musibi,* *Mussive,* *Muzaule,* *Muxibe,* *Rhodesian copalwood*
Mutaco	*Entandrophragma spicatum (*C.DC.) Sprague (Syn. *Entandrophragma ekebergioides (Harms)* Sprague Syn. *Wulfhorstia ekebergioides* Harms)		
Mutondo	*Funtumia africana* (Benth.) Stapf *Funtumia elastica* (P.Preuss) Stapf *Funtumia latifolia* (Stapf) Stapf		

Pilot-name	Scientific names	Local names	
Muziga	*Warburgia ugandensis* Sprague		
N'téné	*Copaifera religiosa* J. Léon.	Africa	Anzem, Bengi
Naga	*Brachystegia cynometroides* Harms *Brachystegia eurycoma* Harms. *Brachystegia leonensis* Hutch. & Davy *Brachystegia nigerica* Hoyle & A.P.D. Jones	Cameroon Côte d'Ivoire Gabon Liberia Nigeria Sierra Leone *UK*	Ekop-Naga Meblo Mendou Tebako Okwen Bogdei *Okwen*
Nargusta	*Terminalia amazonia* (J.F.Gmel.) Exell. *Terminalia guyanensis* Eichler	Brazil Colombia Honduras Mexico Panama Venezuela	Pau-Mulato Brancho Guayabo Leon Almendro Canshan Amarillo Carabazuelo Pardillo Negro

Pilot-name	Scientific names	Local names	
Nganga	*Cynometra spp.* *Cynometra hankei* Harms		
Niangon	*Tarrietia utilis* (Sprague) Sprague (Syn. *Heritiera utilis* (Sprague) Sprague) *Tarrietia densiflora* Aubr. & Normand (Syn. *Heritiera densiflora* (Pellegr.) Kosterm.	Côte d'Ivoire Gabon Ghana Liberia Sierra Leone	Niangon Ogoue Nyankom Whismore Yami
Nieuk	*Fillaeopsis discophora* Harms		
Niové	*Staudtia gabonensis* Warb. *Staudtia kamerunensis* Warb. *Staudtia stipitata* Warb.	Angola Cameroon Central African Republic Equatorial Guinea Gabon	Menga-Menga M'Bonda, Menga-Menga Molanga Bokapi M'Boun, Niove

Pilot-name	Scientific names	Local names	
		Dem. Rep. of the Congo	Kamashi, Susumenga
Nyatoh	*Palaquium spp.* *Palaquium gutta* (Hook.) Burck (Syn. *Palaquium acuminatum* Burck) *Palaquium hexandrum* (Griff.) Baill. *Palaquium maingayi* Engl. *Palaquium rostratum* (Miq.) Burck *Palaquium xanthochymum* Pierre ex Burck *Payena spp.* *Payena maingayi* C.B. Clarke *Madhuca motleyana* (de Vriese) J.F.Macbr. (Syn. *Ganua motleyana* (de Vriese) Pierre ex Dubard)	India Indonesia Malaysia Papua New Guinea Philippines Thailand Vietnam *Netherlands* *UK*	Pali Nyatoh Nyatoh, Mayang Taban, Riam Pencil Cedar Nato Kha-Nunnok Chay *Balam* *Padang*
Obéro	*Picralima nitida* (Stapf) T.Durand		

Pilot-name	Scientific names	Local names	
	(Syn. *Picralima klaineana* Pierre)		
Odzikouna	*Scytopetalum spp.*		
Pilot-name	**Scientific names**	**Local names**	
Okan	*Cylicodiscus gabunensis* Harms	Cameroon Congo Côte d'Ivoire Gabon Ghana Nigeria	Adoum, African Greenheart, Bokoka N'Duma Bouemon Edoum, Oduma Adadua, Benya, Denya Okan
Okoué	*Baphia nitida* Lodd. *Baphia pubescens* Hook.f.		

Pilot-name	Scientific names	Local names	
Okoumé	*Aucoumea klaineana* Pierre	Congo Equatorial Guinea Gabon *UK*	N'Kumi Okumé, N'Goumi, Okoumé, Angouma *Gaboon*
Olon	*Fagara heitzii* Aubrev. & Pellegr.	Cameroon Congo Dem. Rep. of the Congo Equatorial Guinea Gabon	Bongo M'Banza Kamasumu Olong Olon
Olonvogo	*Zanthoxylum gilletii* (De Wild.) P.G.Waterman (Syn. *Fagara inaequalis* Engl. Syn. *Fagara macrophylla* Engl. Syn. *Fagara tessmannii* Engl.)		
Onzabili	*Antrocaryon micraster* A. Chev.& Guill.	Angola Cameroon	N'Gongo Angonga

Pilot-name	Scientific names	Local names	
	Antrocaryon klaineanum Pierre *Antrocaryon nannanii* De Wild.	Côte d'Ivoire Equatorial Guinea Gabon Ghana Dem. Rep. of the Congo *Portugal*	Akoua Anguekong Onzabili Aprokuma Mugongo *Mongongo*
Orey	*Campnosperma panamense* Standl. *Campnosperma gummifera* (L). March.		
Osanga	*Pteleopsis hylodendron* Mildbr.	Cameroon Côte d'Ivoire Dem. Rep. of the Congo	Sikon Koframire Osanga
Ossimiale	*Newtonia leucocarpa* Gilb. & Bout. (Syn. *Piptadenia leucocarpa* Harms)		

Pilot-name	Scientific names	Local names	
Ossoko	*Scyphocephalium ochocoa* Warb. *Scyphocephalium mannii* Warb.	Gabon	Ossoko, Sogho
Ovengkol	*Guibourtia ehie* (A.Chev.) J. Léonard	Côte d'Ivoire Equatorial Guinea Gabon Ghana *USA*	Amazakoue Palissandro Ovengkol Hyeduanini, Anokye *Mozambique*
Ovoga	*Poga oleosa* Pierre	Cameroon Gabon Nigeria	Ngale Afo, Ovoga Inoi
Ozigo	*Dacryodes buettneri* (Engl.) H.J. Lam. (Syn. *Pachylobus buettneri* Engl.)	Equatorial Guinea Gabon *Germany*	Assia Ozigo, Assia *Assia*

Pilot-name	Scientific names	Local names	
Ozouga	*Sacoglottis gabonensis* Urb.	Cameroon Congo Côte d'Ivoire Gabon Ghana Nigeria Sierra Leone	Bedwa, Bidou, Bodoua, Edoue, Eloue Niuka Akouapo, Tougbi Essoua, Ozouga Ozouga, Atala, Tala, Ugu Kpowuli
Paco	*Ptaeroxylon obliquum* Radlk.		
Padauk Amboyna	*Pterocarpus indicus* Willd. (Syn. *Pterocarpus vidalianus* Rolfe)	India Indonesia	Andaman-Padauk Sena, Sonokembang

Pilot-name	Scientific names	Local names	
			Linggua
			Angsana
			Amboina
		Malaysia	Sena
		Myanmar	Pashu-Padauk
		Papua New Guinea	Png-Rosewood
		Philippines	Manila-Padouk,
			Narra
			Vitali
		France	*Amboine/Amboyna* or *Padouk*
			Amboine/Amboyna or *Padouk*
		Germany	*Amboyna* or *Padouk*
			Karin
		UK	
		Japan	

Pilot-name	Scientific names	Local names	
Padouk d'Afrique	*Pterocarpus osun* Craib.	Angola	Tacula
	Pterocarpus soyauxii Taub.	Cameroon	Mbel
		Congo	Kisese

Pilot-name	Scientific names	Local names	
	Pterocarpus tinctorius Welw.	Equatorial Guinea Gabon Nigeria Central African Republic Dem. Rep. of the Congo *Germany* *Belgium* *Italy* *Netherlands* *UK*	Palo rojo Mbel Osun Padouk Mongola, Mukula, N'Gula *Padauk* *Corail* *Paduk* *Padoek* *African Padauk,* *Barwood,* *Camwood,* *Padauk*
Paldao	*Dracontomelon dao* (Blanco) Merr. & Rolfe *Dracontomelon edule* Skeeis.	Malaysia Philippines	Sengkulang Dao, Ulandug, Lamio

Pilot-name	Scientific names	Local names	
	Dracontomelon sylvestre Bl.		
Palissandre d'Asie	*Dalbergia bariensis* Pierre *Dalbergia cambodiana* Pierre *Dalbergia cochinchinensis* Pierre *Dalbergia latifolia* Roxb. *Dalbergia oliveri* Prain *Dalbergia sissoo* Roxb.	Cambodia Laos Thailand Vietnam	East Indian Palisander East Indian rosewood Neang Nuon Palissandre d'Asie Tamalan
Palissandre de Guatemala	*Dalbergia tucurensis* Donn. Sm.		
Palissandre de Madagascar	*Dalbergia spp.* *Dalbergia louveli* R.Vig.	*France* *UK*	*Bois de rose de Madagascar* *Madagascar rosewood*

Pilot-name	Scientific names	Local names	
	Dalbergia monticola Bosser & R. Rabev. *Dalbergia normandii* Bosser & R. Rabev. *Dalbergia purpurascens* Baill. *Dalbergia xerophila* Bosser & R. Rabev.		
Palissandre de Rose	*Dalbergia decipularis* Rizz. & Matt.	Brazil French Guiana	Pau Rosa Bois de rose femelle

Pilot-name	Scientific names	Local names	
Palissandre de Santos	*Machaerium scleroxylon* Tul.	Brazil Bolivia French Guiana	Caviuna, Jacarand, Pau Ferro Morado Palissandre de Santos
Palissandre Honduras	*Dalbergia stevensonii* Standl.		
Palissandre Panama	*Dalbergia darienensis* Rudd.		

Pilot-name	Scientific names	Local names	
Palissandre Para	*Dalbergia spruceana* Benth.	Brazil *France* *Germany* *Spain* *UK* *USA* *Japan*	Caviuna We-We Jacaranda *Palissandre Rio* *Palissander* *Palisandro* *Brazilian Rosewood* *Jacaranda Pardo* *Brazilian Rosewood* *Shitan*
Palissandre Rio	*Dalbergia nigra* (Vell.) Allem. ex Benth.		
Panacoco	*Swartzia leiocalycina* Benth.	Brazil French Guiana	Carrapatinho, Coraçao de Negro, Gombeira Bois Perdrix, Ferreol, Panacoco Agui,

Pilot-name	Scientific names	Local names	
		Guyana Suriname *Germany* *UK*	Banya, Wamara Gandoe, Ijzerhart, Zwart Parelhout *Wamara* *Ironwood,* *Wamara*
Pao rosa	*Bobgunnia fistuloides* (Harms) J.H. Kirkbr. & Wiersema (Syn. *Swartzia fistuloides* Harms) *Bobgunnia madagascariensis* (Desv.) J.H. Kirkbr. & Wiers. (Syn. *Swartzia madagascariensis* Desv.)	Cameroon Congo Côte d'Ivoire Central African Republic Dem. Rep. of the Congo Gabon Mozambique Nigeria	Nom Nsas Kisasambra Boto N'Guessa Nsakala Oken Pau Ferro Udoghogho
Pilot-name	**Scientific names**	**Local names**	
Parapara	*Jacaranda copaia* Aubl.	Brazil	Carnauba da Matta,

Pilot-name	Scientific names	Local names	
		Colombia French Guiana Panama Suriname Venezuela	Para-Para Chingale Copaia, Faux Simarouba Gualandai Goebaja Abey, Cupay
Parcouri	*Platonia insignis* Mart.	Brazil Ecuador French Guiana Guyana Suriname	Bacuri, Bacuri-Açu, Bacuriuba Matazama Parcouri Pakuri Goelhart, Pakoeli
Pashaco	*Parkia velutina* Benoist		
Pau amarelo	*Euxylophora paraensis* Huber		

Pilot-name	Scientific names	Local names	
Pau marfim (Peroba rosa)	*Aspidosperma spp.*	Belize Bolivia Brazil Colombia French Guiana Guatemala Guyana Honduras Mexico Panama Peru Suriname Venezuela	My Lady Gavetillo Araracanga, Ararauba, Jacamin Copachi Quillo Caspi Kiantioutiou, Koumanti Oudou Chichica Shibadan Chaperna, Chapel Volador Alcarreto Pumaquiro Kormanti kopi Nielillo Negro
Pau mulato	*Calycophyllum spruceanum* (Benth.) K. Schum.	Ecuador	Capirona

Pilot-name	Scientific names	Local names	
Pau rosapau	*Rhamnus zeyheri* Sond.	*UK*	*Pink Ivory*

Pilot-name	Scientific names	Local names	
Pau Roxo	*Peltogyne maranhensis* Ducke	Brazil Colombia Guyana Mexico Suriname *France* *Netherlands* *UK*	Jatobazinho, Guarabu, Roxinho Tananeo Koroborelli, Merawayana, Saka Palo de Rosa, Pau Morado Dastan, Kocolorelli, Malako *Bois Pourpre* *Bois Violet* *Purperhart* *Amarant,* *Purpleheart,*

Pilot-name	Scientific names	Local names	
		USA	*Violetwood* *Amarant,* *Purpleheart,* *Violetwood*
Penaga	*Mesua ferrea* L.	India Malaysia *UK*	Agacuram, Atha, Mallaynangai, Naga Sampige, Nagappu, Nangil, Nangu, Nangul, Suruli Churuli, Nagacampakam, Nagapoovu, Nanku, Vayanavu *Iron wood tree*

Pilot-name	Scientific names	Local names	
Pernambouc	*Caesalpinia echinata* Lam.	Brazil	Brasileto, Ibirapitanga, Orabutá, Pernambuco, Pau Brasil, Pau Rosado
Peruvian Pepper	*Schinus molle* L.	South America *France* *UK*	Arveira Pimienta Pirul *Poivre Rosé* *California Pepper Tree,* *Chilean Pepper Tree,* *Mastic Tree,* *Molle,* *Pepper Berry Tree,* *Pepper Tree,* *Peruvian Mastic,* *Peruvian Pepper Tree,* *Pink Pepper,* *Weeping Pepper*
Pilot-name	**Scientific names**	**Local names**	

Pilot-name	Scientific names	Local names	
Pillarwood	*Cassipourea spp.* *Cassipourea malosana* (Baker) Alston (Syn. *Cassipourea elliottii* (Engl.) Alston)		
Pilon	*Hieronyma spp.*	Belize Brazil Colombia Ecuador Honduras Nicaragua Venezuela	Suradanni Acuarana, Sangue De Boi, Urucurana Mascarey Mascaré Rosita Nanciton Trompillo
Piquia	*Caryocar spp.* *Caryocar costaricense* Donn. Sm.	Brazil Colombia Costa Rica Guyana	Piquia Almendrillo, Almendron, Cagui Aji, Ajillo Pekia

Pilot-name	Scientific names	Local names	
		Suriname	Sawarie
Platano	*Pouteria spp.*		
Pombeira	*Citharexylum fruticosum* L.	Southeast Asia	Fiddlewood
Primavera	*Tabebuia donnell-smithii* Rose	*UK*	*Gold Tree*
Punah	*Tetramerista glabra* Miq.	Indonesia Malaysia	Punal, Bang Kalis, Paya Punam, Ponga, Peda, Entuyut, Amat, Tuyut
Pyinkado	*Xylia spp.*		
Quaruba	*Vochysia spp.* *Vochysia guatemalensis* Don. Sm.	Guyana	Iteballi, San Juán

Pilot-name	Scientific names	Local names	
	Vochysia schomburgkii Warm.		

Pilot-name	Scientific names	Local names	
Ramin	*Gonystylus bancanus* (Miq.) Kurz *Gonystylus macrophyllus* (Miq.) Airy Shaw (Syn. *Gonystylus philippinensis* Elm.) *Gonystylus reticulatus* (Elm.) Merr.	Indonesia Malaysia Philippines Solomon Islands *Switzerland*	Garu-Buaja, Akenia, Medang Keram Melawis, Ramin Batu, Ramin Telur, Ahmin Lantunan-Bagio Ainunura, Latareko, Petata, Fungunigalo *Akenia*
Rengas	*Gluta spp.*	Malaysia	Jalang, Kerbau, Rengas

Pilot-name	Scientific names	Local names	
		Myanmar Indonesia Thailand	Thayet-Thitsi Rengas, Tembaga Rakban
Resak	*Vatica spp.*		
Rikio	*Uapaca spp.* *Uapaca guineensis* Müll. Arg.	Cameroon Côte d'Ivoire Nigeria	Borikio, Rikio, Rikio Riviere Borikio, Rikio, Rikio Riviere Abo Emido, Yeye
Rosawa	*Gmelina vitiensis* (Seem) A.C. Sm.		
Rose of the Mountain	*Brownea spp.*		
Sabicu	*Lysiloma latisiliquum (L.) Benth.*	Central America	False Tamarind, Tsalam, Tzalam

Pilot-name	Scientific names	Local names	
Saboarana	*Swartzia benthamiana* Miq.	Guyana	Guyana Rosewood, Wamara
Safukala	*Dacryodes pubescens* H.J. Lam (Syn. *Pachylobus pubescens* Engl.)		
Sal	*Shorea obtusa Wall.* *Shorea robusta* C.F. Gaertn.	Asie du Sud-Est	Rang
Sali	*Tetragastris spp.*	Brazil Colombia French Guiana Guyana Nicaragua Puerto Rico	Almesca Aguarras, Palo de Cerdo Encens rouge, Gommier Haiawaballi Kerosen Masa, Palo de aceite
Sandalwood	*Santalum album* L.	Southeast Asia	Indian Sandalwood, Santal Blanc

Pilot-name	Scientific names	Local names	
Pilot-name	**Scientific names**	**Local names**	
Sapelli	*Entandrophragma cylindricum* Sprague	Angola Cameroon Central African Republic Congo Côte d'Ivoire Ghana Nigeria Uganda Dem. Rep. of the Congo *Germany* *UK*	Undianuno Assié-Sapelli M'Boyo Undianuno Aboudikro Penkwa Sapele Muyovu Lifaki *Sapelli-Mahagoni* *Sapele*
Sapucaia	*Eschweilera grandiflora* (Aubl.) Sandwith (Syn. *Lecythis grandiflora* Aubl.) *Lecythis pisonis* Cambess.	South America	Sapucaia Sapukaina
Saqui-Saqui	*Bombacopsis quinata* (Jacq.) Dugand	Central America	Cedro Espino,

Pilot-name	Scientific names	Local names	
		Colombia Venezuela	Cedro Espinoso, Cedro Tolua, Pochote Cedro Tolua, Ceiba Tolua, Cedro Macho Saqui Saqui, Cedro Dulce, Murea
Satin Ceylan	*Chloroxylon swietenia* DC.	Asia	Buruta, Ceylon Satinwood, East Indian Satinwood
Sepetir	*Sindora spp.* *Sindora affinis* De Wit *Sindora coriacea* (Baker) Prain *Sindora echinocalyx* Prain *Sindora siamensis* Teijsm. ex Miq. *Sindora velutina* Baker (Syn. *Sindora parvifolia* Backer)	Cambodia Indonesia Malaysia	Krakas Sindur Sepetir, Meketil, Saputi, Sepeteh, Petir,

Pilot-name	Scientific names	Local names	
	Pseudosindora palustris Sym. (Syn. *Copaifera palustris* (Sym.) De Wit)	Philippines Thailand	Petir-Sepetir Pay or Swamp-Sepetir, Sepetir Nin-Yaki Supa Krathon, Maka-Tea

Pilot-name	Scientific names	Local names	
Seraya, white (White Lauan)	*Parashorea malaanonan* Merr. *Parashorea plicata* Brandis *Parashorea macrophylla* Wyatt-Smith ex Ashton *Parashorea tomentella* Sym. Meijer	Indonesia Malaysia Myanmar Philippines Vietnam	Pendan, Urat Mata, Belutu, White Seraya Urat Mata Thingadu Bagtikan, White Lauan Cho-Chi
Sesendok	*Endospermum spp.*	Fiji Indonesia Malaysia	Kauvula Bakota, Sendok-Sendok Ekor,

Pilot-name	Scientific names	Local names	
		Philippines Papua New Guinea	Sendok-Sendok, Terbulan Gubas Basswood, Endospermum
Simpoh	*Dillenia spp.* *Dillenia aurea* Sm. *Dillenia eximia* Miq.	Indonesia Malaysia Myanmar Philippines Thailand	Sempur, Simpur Simpor Mai-Masan, Zinbyum Katmon, Masan San,
Sipo	*Entandrophragma utile* Sprague	Angola Cameroon Côte d'Ivoire Equatorial Guinea Gabon Ghana Nigeria	Kalungi Asseng-Assié Sipo Abebay Assi Utile Utile

Pilot-name	Scientific names	Local names	
		Uganda Dem. Rep. of the Congo *Germany* *UK*	Mufumbi Liboyo *Sipo-Mahagoni* *Utile*
Slangehout	*Loxopterygium sagotii* Hook f.	Suriname	Hububalli
Sobu	*Cleistopholis patens* Engl. & Diels. *Cleistopholis glauca* Pierre ex Engl.& Diels.		
Sougué	*Parinari excelsa* A.Chev, ssp. *holsti* Engl. (Syn. *Parinari tenuifolia* A. Chev.)	Liberia Nigeria Senegal Tanzania Uganda	Kpar Esagko, Inyi Mampata Mubura Mubura
Pilot-name	**Scientific names**	**Local names**	
Sucupira	*Bowdichia nitida* Benth.	Brazil	Sucupira, Sapurira

Pilot-name	Scientific names	Local names	
	Diplotropis martiusii Benth. *Diplotropis purpurea* (Rich.) Amsh.	Colombia French Guiana Guyana Peru Suriname Venezuela	Arenillo, Zapan Negro Coeur dehors, Baaka Tatabu Chontaquiro, Huasai-Caspi Zwarte Kabbes Congrio, Alcornoque
Sumauma	*Ceiba pentandra* (L.) Gaertn. *Ceiba samauma* (Mart. & Zucc.) K.Schum.	Bolivia Brazil Central America	Ceiba, Mapajo Toborochi, Sumauma Paneira Ceiba, Ceibon, Inup, Piton, Panya

Pilot-name	Scientific names	Local names	
		Colombia Ecuador French Guiana Guyana Peru Suriname Venezuela	Ceiba, Bonga Ceiba Uchuputu, Guambush Mahot coton, Fromager, Bois coton Kumaka, Silk Cotton Ceiba, Huimba Kankantrie, Koemaka Ceiba Yucca, Ceiba
Suren	*Toona sureni* (Bl.) Merr. (Syn. Toona febrifuga Roem.) *Toona ciliata* M. Roem. (Syn. *Cedrela toona* (Roxb. ex Rottler)	Cambodia India Indonesia Malaysia	Chomcha Toon Surian, Limpagna Surea-Bawang

Pilot-name	Scientific names	Local names	
	Toona calantas Merr. & Rolfe *Toona australis* (F. Muell.) Harms	Myanmar Papua New Guinea Philippines Thailand Vietnam *Australia* *UK* *USA*	Thitkado Red Cedar Calantas, Toon, Yomham Xoan-Moc *Red Cedar,* *Moulmein Cedar,* *Burma Cedar* *Moulmein Cedar,* *Burma Cedar*

Pilot-name	Scientific names	Local names	
Suya	*Pouteria speciosa* (Ducke) Baehni	Brazil Guyana	Pajura, Pajura de Obidos Chuya, Durban Pine, Por, Suya

Pilot-name	Scientific names	Local names	
Tali	*Erythrophleum spp.* *Erythrophleum suaveolens* Brenan (Syn. *Erythrophleum guineense* G. Don.) *Erythrophleum ivorense* A. Chev.	Cameroon Congo Côte d'Ivoire Dem. Rep. of the Congo Equatorial Guinea Gabon Ghana Guinea-Bissau Mozambique Nigeria Senegal Sierra Leone Tanzania Zambia *UK*	Elone N'Kassa Alui, Tali Eloun Elondo Eloun Potrodom Mancone Missanda Sasswood Tali Gogbei Mwavi Muave *Missandra*
Tamboti	*Spirostachys africana* Sond.		
Tani	*Cryptosepalum staudtii* Harms		

Pilot-name	Scientific names	Local names	
Tanimbuca	*Buchenavia spp.*		
Tapiá	*Alchornea triplinervia* (Spreng.) Müll.Arg.	Brazil	Kanakudiballi
Tasua	*Aglaia spp.* *(*Syn. *Amoora spp.)*		
Tatajuba	*Bagassa guianensis* Aubl.	Brazil French Guiana Suriname	Amapa-Rana, Tatajuba Bagasse Jaune Gele Bagasse
Tauari	*Couratari spp.*	Brazil Guyana French Guiana Suriname Venezuela	Imbirena Wadara Couatari, Inguipipa, Maho Cigare, Tabari Ingipipa Capa de Tabaco, Tampipio
Tchitola	*Oxystigma oxyphyllum* (Harms J. Léon.)	Angola	Tola Chinfuta

Pilot-name	Scientific names	Local names	
	(Syn. *Pterygopodium oxyphyllum* Harms)	Cameroon Congo Dem. Rep. of the Congo Gabon Nigeria	Nom Sinedon Kitola, Tchitola Akwakwa, Tshibudimbu Emola, M'Babou Lolagbola
Pilot-name	**Scientific names**	**Local names**	
Teak	*Tectona grandis* L.f.	India Indonesia Laos Myanmar Thailand Vietnam *France*	Sagwan Jati, Tek May Sak Kyun May Sak Giati, Teck *Teck*

Pilot-name	Scientific names	Local names	
		Germany	*Burma-Rangoon-Java Teak*
Tembusu	*Fagraea fragrans* Roxb.	Cambodia Fiji Malaysia Myanmar Philippines	Tatro, Trai Buabua Temasuk Anan, Ananma Urung
Tento	*Ormosia spp.* *Ormosia coutinhoi* Ducke	Brazil Colombia French Guiana Guyana Peru Puerto Rico Suriname	Buiucu, Tento Chocho, Choco Agui, Caconnier Rouge, Neko-Oudou Barakaro Huaryoro Palo de Matos Kokriki

Pilot-name	Scientific names	Local names	
		Venezuela	Peonia
Terminalia, brown	*Terminalia catappa L.*		
Terminalia, yellow	*Terminalia complanata* Schum. *Terminalia longispicata* V. Sl. *Terminalia sogerensis* Baker f.		
Thinwin	*Phaseolodes pendulum* (Benth.) Kuntze (Syn. *Millettia pendula* Benth.)		

Pilot-name	Scientific names	Local names	
Tiama	*Entandrophragma angolense* C. DC. *Entandrophragma congoense* A. Chev.	Angola Congo Côte d'Ivoire Equatorial Guinea Gabon Ghana Nigeria Uganda	Acuminata, Livuité Kiluka Tiama Dongomanguila Abeubêgne Edinam Gêdu-Nohor Mukusu Lifaki,

Pilot-name	Scientific names	Local names	
		Dem. Rep. of the Congo *Germany* *UK*	Vovo *Tiama-Mahagoni* *Gêdu-Nohor*
Timbo	*Enterolobium contortisiliquum* (Vell.) Morong	South America	Caro-Caro, Orejero, Pacara Earpod Tree, Tamboril, Timbo-Colorado, Timbo
Tipa	*Tipuana tipu* O. Ktze		
Tola (Oduma)	*Gossweilerodendron balsamiferum* Harms *Gossweilerodendron joveri* Normand ex Aubrev.	Angola Cameroon Congo Gabon	Tola branca Sinedon Tola, Tola blanc Emolo

Pilot-name	Scientific names	Local names	
		Nigeria Dem. Rep. of the Congo *Germany* *UK*	Agba Ntola *Agba,* *Tola branca* *Agba*
Toubaouaté	*Didelotia brevipaniculata* J. Léon.		
Trebol	*Platymiscium spp.* *Platycyamus regnellii* Benth. *Platymiscium pinnatum* (Jacq.) Dugand *Platymiscium trinitatis* Benth. (Syn. *Platymiscium duckei* Hub.) *Platymiscium ulei* Harms.	Belize Brazil Colombia Costa Rica El Salvador Honduras Mexico Peru	Granadillo Jacaranda do Brejo, Macacauba Guayacan trebol, Trebol Coyote, Cristobal Granadillo Granadillo Granadillo

Pilot-name	Scientific names	Local names	
		Venezuela	Cumaseba Roble
Tsanya	*Pausinystalia macroceras* Pierre ex Beille (Syn. *Corynanthe bequaertii* De Wild.) *Corynanthe paniculata* Welw.		
Tualang	*Koompassia excelsa* (Becc.) Taub.	Southeast Asia	Honey Bee Tree, Mangaris, Mengaris, Toale
Pilot-name	**Scientific names**	**Local names**	
Umgusi	*Baikiaea plurijuga* Harms	East Africa	Mukusi, Rhodesian Teak, Zambian Teak, Zambesi Redwood
Umiri	*Humiria balsamifera* var. *floribunda* (Mart.) Cuatrec. (Syn. *Humiria floribunda* Mart.)	Brazil Colombia	Umiri Oloroso

Pilot-name	Scientific names	Local names	
		Ecuador French Guiana Guyana Peru Suriname Venezuela	Chanul Bois Rouge, Houmiri Bastard Bulletwood, Meri, Tauaranru, Tauroniro Quinilla Colorado Basra Bolletrie, Blakaberi, Tawanonero Nina
Urunday	*Astronium balansae* Engl. *Astronium concinnum* Schott *Astronium graveolens* Jacq. *Astronium urundeuva* Engl.	Argentina Bolivia Brazil	Urunday del Noroeste, Urunday-Mi, Urundel Cuchi Arindeúva, Aroeira-do-Sertão,

Pilot-name	Scientific names	Local names	
		Paraguay Central and South America	Aroeira Preta, Urindeúva Urunde'y Mi Bois de Zèbre, Bossona Mura, Tigerwood, Urunday-Para, Zebrano Zebrawood, Zorrowood
Vene	*Pterocarpus erinaceus* Poir. (Syn. *Pterocarpus africanus* Hook.)	Burkina-Faso Equatorial Guinea Guinea Guinea-Bissau Mali	Goni, Guenin Pau Sangue Ven Pau Sangue Goni, Ven,

Pilot-name	Scientific names	Local names	
		Nigeria Senegal	Vene Vene Ven, Vene
Vésàmbata	*Oldfieldia africana* Benth. & Hook.f.		

Pilot-name	Scientific names	Local names	
Virola	*Virola spp.*	Central America Colombia Ecuador French Guiana	Banak, Sangre, Palo de Sangre, Bogamani, Cebo, Sangre Colorado Sebo, Nuanamo Chaliviande, Shempo Yayamadou, Moulomba

Pilot-name	Scientific names	Local names	
		Guyana Honduras Peru Suriname Trinidad and Tobago Venezuela *UK*	Dalli Banak Cumala Baboen, Pintri Cajuea Virola Cuajo, Sangrino, Camaticaro, Otivo *Dalli*
Wacapou	*Vouacapoua spp.*	Brazil French Guinea Guyana	Acapu, Ritangueira Bois Perdrix, Bounaati, Epi de Blé Sara, Sarabebeballi, Tatbu

Pilot-name	Scientific names	Local names	
		Suriname *UK* *USA*	Bruinhart, Wacapoe *Tatbu* *Partridgewood*
Walaba	*Eperua spp.*	Brazil French Guiana Guyana Suriname Venezuela	Apa, Apazeiro, Copaibarana, Espadeira Bioudou, Wapa Ituri Wallaba, Wallaba Walaba Uapa, Palo Machete
Wamara	*Bocoa prouacensis* Aubl.		
Wamba	*Tessmannia africana* Harms (Syn. *Tessmannia claessensii* De Wild.)		

Pilot-name	Scientific names	Local names	
	Tessmannia lescrauwaetii (De Wild.) Harms		
Pilot-name	**Scientific names**	**Local names**	
Wengé	*Millettia laurentii* De Wild. *Millettia stuhlmannii* Taub.	Cameroon Congo Gabon Dem. Rep. of the Congo Mozambique Tanzania *Germany* *France* *UK*	Awoung Wenge Awong Wenge Jambire Mpande *Panga-Panga*, *Panga-Panga*, *Panga-Panga*
Xoan	*Melia azedarach* L.	Bangladesh Cambodia China	Bakarjan, Ghora Nim, Mahanim, Mahnim Dak hien Mindi Kechil

Pilot-name	Scientific names	Local names	
		India	Bakain, Bakarja, Betain, Deikna, Dek, Drek, Mallan Nim
		Indonesia	Gringging, Marambung, Mindi
		Nepal	Bakaina, Bakaino, Bakena
		Philippines	Balalunga, Balagango, Paraiso
		Thailand	Khian, Lian, Lian-Baiyai
		Vietnam	Xaon

Pilot-name	Scientific names	Local names	
Yemane	*Gmelina arborea* Roxb.	Bangladesh	Gamar, Gamari, Gomari, Gumbar, Gumhar
		India	Gambhar, Gomari, Gumhar, Kambhari, Sewan
		Myanmar	Mai Saw, Yemane, Yemani, Yemari
		Nepal	Gamari, Gambari, Gumhari, Khamari
		Thailand	Gumari, Saw,

Pilot-name	Scientific names	Local names	
			So, So-maeo
		France	*Gmelina,* *Melina,* *Peuplier d Afrique*
		Germany	*Gumar-Teak*
		Spain	*Gmelina,* *Melina*
		UK	*Beechwood,* *Gmelina,* *Goomar Teak,* *Kashmir Tree,* *Malay Beechwood,* *White Teak,* *Yemane*
Yungu	*Drypetes gossweileri* S. Moore		
Zingana	*Microberlinia spp.* *Microberlinia bisulcata* A. Chev.	Cameroon Gabon	Allen Ele Zingana *Zebrano*

Pilot-name	Scientific names	Local names	
	Microberlinia brazzavillensis A. Chev.	*Germany* *UK*	*Zebrano,* *Zebrawood*

4421.10

- Clothes hangers

4421.20

- Coffins

4421.9

- Other :

4421.91

-- Of bamboo

4421.99

-- Other

CLASSIFICATION OPINIONS

1. Small wooden wedges, cubes, blocks and the like, of beech or birch, for polishing articles of plastics in a drum.
Adoption : 1967

2. Rectangular panels of pine, approximately 122 cm x 244 cm x 1.8 cm, sanded, obtained by gluing edge-to-edge a number of strips of wood, each having a width of approximately 3.8 cm.
Application of GIRs 1 and 6.
Adoption : 2003

3. Pointed wooden poles, sawn lengthwise to give a square or rectangular horizontal profile, intended for driving into the ground for various uses (such as forming fences, support plants, tethering animals, marking boundaries, etc.).
They have a length of 1 to 2 metres and a cross-section profile of 22 x 22 mm to 25 x 25 mm.
Application of GIRs 1 and 6.
Adoption : 2022



Annexes

APPELLATION OF CERTAIN TROPICAL WOODS

EXPLANATORY NOTES

ANNEX

APPELLATION OF CERTAIN TROPICAL WOODS [1]

Pilot-name	Scientific names	Local names	
Abarco	*Cariniana pyriformis* Miers.	Venezuela	Bacu
Abura	*Hallea ciliata* Leroy (Syn. *Mitragyna ciliata* Aubr. & Pellegr.) *Hallea rubrostipulata* F. Leroy (Syn. *Mitragyna rubrostipulata* Harv.)	Angola Cameroon Congo Côte d'Ivoire Equatorial Guinea Gabon Ghana	Mivuku Elolom Vuku Bahia Elelon Elelom Nzam Subaha

	Hallea stipulosa O. Kuntze (Syn. *Mitragyna stipulosa* O. Ktze)	Nigeria Sierra Leone Uganda Dem. Rep. of the Congo Zambia *France*	Abura Mboi Nzingu Mvuku Nzingu *Bahia*
Acacia	*Acacia auriculiformis* A.Cunn. ex Benth. *Acacia mangium* Willd.	Australia Indonesia Malaysia Papua New Guinea Thailand *UK* *USA*	Black Wattle, Brown Salwood Mangge Hutan, Tongke Hutan Kayu Safoda Arr Kra Thin Tepa *Brown Salwood,* *Black Wattle* *Brown Salwood,* *Black Wattle*

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[1] **Note :**

The third column shows the commercial names used in the *exporting* countries, together with the name of the exporting country. The commercial names in use in the *importing* countries, when they differ from the pilot-names, are given in italics.

Pilot-name	Scientific names	Local names	
Acajou d'Afrique	*Khaya spp.* *Khaya ivorensis* A. Chev. (Syn. *Khaya klainei* Pierre ex A.Chev.)	Angola Cameroon Côte d'Ivoire Equatorial Guinea Gabon Ghana Nigeria *France* *Germany* *UK*	Undia Nunu N'Gollon Acajou Bassam Caoba del Galón Zaminguila Takoradi Mahogany Ogwango *Acajou Bassam* *Khaya Mahagoni* *African Mahogany*
	Khaya anthotheca C. DC.	Angola Cameroon Congo Côte d'Ivoire Ghana Uganda	N'Dola Mangona N'Dola Acajou Blanc, Acajou Krala Ahafo Munyama

Pilot-name	Scientific names	Local names	
		France *Germany*	*Acajou Blanc* *Khaya Mahagoni*
	Khaya grandifoliola C. DC.	Côte d'Ivoire Nigeria Uganda *France* *UK*	Acajou à Grandes Feuilles Akuk, Benin Mahogany, Eri Kire *Acajou à Grandes Feuilles* *Heavy African Mahogany*
Adjouaba	*Dacryodes klaineana* (Pierre) H. J. Lam (Syn. *Pahylobus deliciosa* Pellegr.)	Dem. Rep. of the Congo Congo Gabon	Mouguengueri Safukala Assia, Igaganga, Ossabel
Afina	*Strombosia glaucescens* Engl.	Côte d'Ivoire	Poe

Pilot-name	Scientific names	Local names	
	Strombosia pustulata Oliv.	Nigeria	Itako, Otingbo
Afrormosia	*Pericopsis elata* Van Meeuwen (Syn. *Afrormosia elata* Harms)	Cameroon Central African Republic Côte d'Ivoire Ghana Dem. Rep. of the Congo *France*	Obang Obang Assamela Kokrodua Ole, Bohala, Mohole *Assamela*, *Oleo Pardo*
Pilot-name	**Scientific names**	**Local names**	
Aielé	*Canarium schweinfurtii* Engl.	Angola Cameroon Central African Republic Congo Gabon	M'bili Abel Gberi M'bili Abeul, Ovili

Pilot-name	Scientific names	Local names	
		Ghana Equatorial Guinea Nigeria Uganda Dem. Rep. of the Congo Sierra Leone *UK*	Bediwunua, Eyere Abe Elemi Mwafu Bidikala, M'bidikala Billi *Canarium*
Aiéouéko	*Dimorphandra spp.*		
Akak	*Duboscia viridiflora* (K.Schum.) Mildbr.		
Ako	*Antiaris toxicaria* subsp. *africana* (Engl.) C.C.Berg (Syn. *Antiaris africana* Engl.) *Antiaris toxicaria* subsp. *welwitschii* (Engl.) C.C.Berg. (Syn. *Antiaris welwitschii* Engl.)	Angola Côte d'Ivoire Ghana Nigeria Tanzania	Sansama Ako, Akede Chenchen, Kyenkyen Oro, Ogiovu Mlulu,

Pilot-name	Scientific names	Local names	
		Uganda Dem. Rep. of the Congo *Germany* *UK*	Mkuzu Kirundu, Mumaka Bonkonko, Bonkongo *Antiaris* *Antiaris*
Akossika	*Scottellia spp.* *Scottellia coriacea* A. Chev.	Cameroon Central African Republic Gabon Ghana Liberia Nigeria *Germany* *Italy* *UK*	Ngobisolo Kelembicho Bilogh-Bi-Nkele Koroko, Kruku Korokon Odoko *Odoko* *Odoko* *Odoko*
Alan	*Shorea albida* Sym.	Malaysia	Alan-Batu,

Pilot-name	Scientific names	Local names	
			Red Selangan, Meraka, Selangan Merah, Alan-Paya
Alep	*Desbordesia glaucescens* A. Chev. ex Hutch. & Dalziel	Cameroon Congo Gabon Nigeria Dem. Rep of the Congo	Omang Benga Alep Kowo Benga

Pilot-name	Scientific names	Local names	
Almácigo	*Bursera simaruba (L.) Sarg.*	South America	Almácigo, Almácigo Blanco, Chacaj Chaca-Jiote, Desnudo, Gumo-Limbo, Indio Desnudo, Indo Desnudo, Jiñocuave

Pilot-name	Scientific names	Local names	
		France *UK*	*Bois d'encens,* *Chiboue,* *Chique,* *Gommier blanc* *Gum tree,* *Mexican White Beach,* *Turpentine Tree,* *West Indian Birch*
Almendrillo	*Taralea oppositifolia* Aubl. (Syn. *Coumarouna oppositifolia* (Willd.)Taub.)	South America	Cumaru Rana, Shihuahuaco, Tarala
Alumbi	*Julbernardia seretii* Troupin (Syn. *Berlinia seretii* De Wild.)		
Amapa	*Brosimum parinarioides* Ducke	Brazil	Amapá Doce
Amapola	*Pseudobombax ellipticum* (Kunth) Dugand		
Amberoi	*Pterocymbium beccarii* K. Schum.	Indonesia	Kelumbuk, Papita

Pilot-name	Scientific names	Local names	
		Malaysia Myanmar Philippines Thailand	Melembu, Teluto, Keluak Sawbya Taluto Oi-chang, Po-ikeng, Po-kradang
Amourette	*Brosimum guianense* (Aubl.) Huber	French Guiana Peru Suriname Venezuela *UK*	Lettre Mouchete, Mourette Cashiba Playa, Waira Caspi Belokoro, Peni-Paia, Poevinga Palo de Oro *Snakewood*
Andira	*Andira spp.*	Brazil	Acapurana, Almendo de Rio,

Pilot-name	Scientific names	Local names	
		Colombia Ecuador French Guiana Guyana Mexico Peru Suriname Trinidad and Tobago Venezuela	Andira Uchi, Angelim Congo Moton Saint Martin Rouge Bat Seed, Koraro Maquilla Quinillo Colorado Rode Kabbes Angelin Sarrapio Montanero
Pilot-name	**Scientific names**	**Local names**	
Andiroba	*Carapa guianensis* Aubl. *Carapa procera* DC.	Brazil Colombia	Andiroba, Carapa, Andirobeira, Andiroba Branca, Andiroba Vermelha Masabalo, Mazabalo

Pilot-name	Scientific names	Local names	
		Costa Rica Ecuador Guyana French Guiana Honduras Panama Surinam Trinidad and Tobago Venezuela	Cedro Bateo, Cedro Macho Tangare, Figueroa Crabwood Carapa Bastard Mahogany, Cedro Macho Cedro Bateo, Cedro Macho Krappa Crappo Carapa, Masabalo
Andoung	*Monopetalanthus spp.* *Monopetalanthus coriaceus* Morel *Monopetalanthus durandii* Hallé & Normand *Monopetalanthus hedinii* (A.Chev.) Aubrev. *Monopetalanthus heitzii* Pellegr.	Gabon	Andjung, Andoung de heitz, Ekop, Ekop-mayo, N'Douma, Zoele

Pilot-name	Scientific names	Local names	
	Monopetalanthus letestui Pellegr.		
Angelim	*Hymenolobium spp.*	Brazil French Guiana Suriname	Angelim Amarelo, Angelim da Mata, Angelim Pedra, Angelim Rosa, Mirarena, Sapupira Amarella Saint Martin Gris, Saint Martin Jaune Makkakabes, Saandoe
Angelim rajado	*Marmaroxylon racemosum* (Ducke) Killip.	Brazil French Guiana Guyana Suriname	Angelim Rajado, Ingarana da Terra Firma, Ingarana, Bois Serpent Snakewood Bostamarinde Sneki Oedoe

Pilot-name	Scientific names	Local names	
Angelim vermelho	*Dinizia excelsa* Ducke	Brazil Guyana	Angelim Falso, Angelim Ferro, Angelim Pedra, Faveira Grande, Faveira Preta, Gurupa Parakwa

Pilot-name	Scientific names	Local names	
Angueuk	*Ongokea gore* Pierre	Cameroon Côte d'Ivoire Gabon Dem. Rep. of the Congo	Andjek, Angueuk Kouero Andjek, Angueuk Boleko
Aniégré (Aningré)	*Aningeria spp.* *Aningeria robusta* Aubr. & Pellegr.	Angola Central African Republic Congo	Mukali, Kali M'Boul

Pilot-name	Scientific names	Local names	
	Aningeria altissima Aubr. & Pellegr. (Syn. *Sideroxylon altissimum* Hutch. & Dalz.) *Pouteria superba* A.Chev. (Syn. *Aningeria superba* A. Chev. Syn. *Malacantha superba* Verm.) *Chrysophyllum giganteum* A.Chev (Syn. *Gambeyobotrys gigantea* (A.Chev.) Aubrev.)	Côte d'Ivoire Ethiopia Kenya Nigeria Uganda Dem. Rep. of the Congo *Germany* *Italy* *UK*	Mukali, N'Kali Aningueri blanc, Aniegre Kararo Muna, Mukangu Landojan Osan Tutu *Aningré-Tanganyika Nuss* *Tanganyika Nuss* *Aningeria*
Apobeaou	*Breviea leptosperma* (Baehni) Heine		
Araribà	*Centrolobium spp.*	Brazil Colombia	Ararauba, Ararauva Guayacan Hobo,

Pilot-name	Scientific names	Local names	
		Ecuador Panama Paraguay Venezuela	Balaustre Amarillo Guayaquil Amarillo Guayaquil Morosimo Balaustre, Guayacan Hobo
Arisauro	*Vatairea guianensis* Aubl.	Brazil	Amargoso, Gele Kabbes, Inkassa, Yonko
Aromata	*Clathrotropis macrocarpa* Ducke	South America	Alma negra, Cabari, Sapan, Timbo Pau, Timbo Rana
Assacù	*Hura crepitans* L.	Bolivia Brazil Colombia Ecuador	Ochoco Assacu Ceiba Lechosa Habillo

Pilot-name	Scientific names	Local names	
		Guyana French Guiana Peru Suriname Venezuela *USA*	Sandbox Bois du Diable, Sablier Catahua Possentrie, Possum, Ura Wood Ceiba Habillo, Jabillo *Possumwood*

Pilot-name	Scientific names	Local names	
Assas	*Bridelia aubrevillei* Pellegr.		
Avodiré	*Turraeanthus africana* Pellegr.	Côte d'Ivoire Ghana Liberia Nigeria Dem. Rep. of the Congo	Avodiré Apapaye Blimah-Pu Apaya M'Fube, Lusamba

Pilot-name	Scientific names	Local names	
		Belgium	*Lusamba*
Awoura	*Julbernardia pellegriniana* Troupin (Syn. *Paraberlinia bifoliolata* Pellegr.)	Cameroon Gabon *France* *Germany*	Ekop-Beli Awoura, Beli *Zebrali* *Zebrali*
Ayous (Obéché)	*Triplochiton scleroxylon* K. Schum.	Cameroon Central African Republic Côte d'Ivoire Equatorial Guinea Ghana Nigeria *France* *Germany*	Ayous M'Bado Samba Ayus Wawa Arere, Obeche *Samba*, *Abachi*

Pilot-name	Scientific names	Local names	
		UK *USA*	*Wawa* *Obeche* or *Samba*
Azobé	*Lophira alata* Banks ex Gaertn. (Syn. *Lophira procera* A. Chev.)	Cameroon Congo Côte d'Ivoire Equatorial Guinea Gabon Ghana Nigeria Sierra Leone *Germany* *UK*	Bongossi Bonkolé Azobé Akoga Akoga Kaku Ekki, Eba Hendui *Bonkole,* *Bongossi* *Ekki*
Balata pomme	*Chrysophyllum sanguinolentum* (Pierre) Baehni	South America	Assopokballi, Balata Pommier, Balata Saignant, Barataballi, Bois Cochon,

Pilot-name	Scientific names	Local names	
			Suitiamini

Pilot-name	Scientific names	Local names	
Balau red	*Shorea spp.* *Shorea balangeran* (Korth.) Burck *Shorea collina* Ridl. *Shorea guiso* Blume *Shorea inaequilateralis* Sym. *Shorea kunstleri* King *Shorea ochrophloia* Strugnell ex Desch.	Indonesia Malaysia Philippines Thailand	Belangeran, Balau Merah Balau Laut Merah, Damar Laut Merah, Balau Membatu, Balau Merah, Red Selangan Batu, Membatu, Seri, Selangan Batu Merah, Seraya Sirup, Selangan Batu No. 1, Sengawan, Semayur, Empenit-Meraka Guijo, Gisok Makata,

Pilot-name	Scientific names	Local names	
			Chankhau
		Germany	*Red Balau*
		UK	*Red Balau*
Pilot-name	**Scientific names**	**Local names**	
Balau yellow	*Shorea spp.* *Shorea argentea* C.F.C. Fisher *Shorea atrinervosa* Sym. *Shorea balangeran* (Korth.) Burck *Shorea barbata* Brandis *Shorea ciliata* King *Shorea exelliptica* W. Meijer *Shorea foxworthyi* Sym. *Shorea gisok* Foxw. *Shorea glauca* King *Shorea laevis* Ridl. *Shorea laevifolia* (Parijs.) Endert *Shorea materialis* Ridl. *Shorea maxwelliana* King *Shorea obtusa* Wall. ex Blume	India Indonesia Malaysia	Sal Bangkirai, Agelam, Benuas, Brunas, Selangan batu, Kumus, Kedawang, Pooti Damar laut Kumus, Sengkawan Darat, Balau Kumus, Balau Simantok, Selangan Batu No.1,

Pilot-name	Scientific names	Local names	
	Shorea roxburghii G. Don *Shorea seminis* V. Sl. *Shorea submontana* Sym. *Shorea sumatrana* Sym. *Shorea scrobiculata* Burck *Shorea superba* Sym.	 Myanmar Philippines Thailand *Germany* *UK*	Selangan Batu No.2 Thitya Yakal, Gisok, Malaykal Chan, Ak or Aek, Pa-Yom Dong *Balau* *Balau,* *Selangan Batu*

Pilot-name	Scientific names	Local names	
Balsa	*Ochroma lagopus* Sw. *Ochroma pyramidale* (Cav. ex Lam.) Urb.	Bolivia Brazil Colombia Central America Ecuador El Salvador Guatemala	Tami Pau de Balsa Lanu Balsa Balsa Algodon Lanilla

Pilot-name	Scientific names	Local names	
		Honduras Nicaragua Peru Trinidad and Tobago Venezuela	Guano, Balsa Gatillo Balsa, Topa, Palo de Balsa Bois flot Balso
Balsamo	*Myroxylon balsamum* Harms.	Mexico Peru *France*	Arbol del Bálsamo, Bálsamo, Bálsamo de Perú o de Tolu Myroxylon *Baumier du Pérou*
Banga-wanga	*Amblygonocarpus andongensis* Exell & Torre (Syn. *Amblygonocarpus obtusangulus* (Oliv.) Harms)		
Baromalli	*Catostemma fragrans* Benth.	South America	Arenillo,

Pilot-name	Scientific names	Local names	
			Baramalli, Baraman, Baramanni, Flambeau Rouge, Kajoewaballi
Basralocus	*Dicorynia guianensis* Amshoff & Vouacapoua	Brazil French Guiana Suriname	Angelica do Para, Tapainuna Angelique Basralokus, Barakaroeballi
Batai	*Paraserianthes falcataria* (L.) I.C.Nielsen (Syn. *Albizia falcataria* (L.) Fosberg)	Philippines Indonesia Malaysia *UK*	Falcata, Moluccan sau Jeungjing, Sengon laut, Sikat Batai, Kayu machis, Puah *Indonesian albizia*

Pilot-name	Scientific names	Local names	
Batibatra	*Enterolobium schomburgkii* Benth.	Brazil French Guiana Suriname	Batibatra, Fava de Rosca, Fava Orelha de Macaco, Fava Orelha de Negro, Timbauba, Timborana Acacia Franc, Bougou Bati Batra Tamaren Prokoni
Pilot-name	**Scientific names**	**Local names**	
Benuang	*Octomeles sumatrana* Miq.	Indonesia Papua New Guinea Philippines	Benuang, Binuang Bini, Winuang Erima, Irima, Ilimo Binuang
Bété (Mansonia)	*Mansonia altissima* A. Chev.	Cameroon Côte d'Ivoire	Koul Bété

Pilot-name	Scientific names	Local names	
		Ghana Nigeria	Aprono Ofun
Bilinga	*Nauclea diderrichii* Merr. (Syn. *Sarcocephalus diderrichii* De Wild. Syn. *Nauclea trillesii* Merr.) *Nauclea xanthoxylon* (A.Chev.) Aubrév. (Syn. *Sarcocephalus xanthoxylon* A. Chev.) *Nauclea gilletii* De Wild. Merr.	Angola Benin Cameroon Central African Republic Congo Côte d'Ivoire Dem. Rep. of the Congo Equatorial Guinea Ghana Gabon Nigeria Sierra Leone Uganda	Engolo Opepe Akondoc Kilu Linzi, Mokesse, N'Gulu-Maza Badi Bonkingu, N'Gulu-Maza Aloma Kusia Bilinga Opepe Bundui Kilingi

Pilot-name	Scientific names	Local names	
		Germany *UK*	*Aloma* *Opepe*
Billian	*Eusideroxylon zwageri* Teijsm. & Binn.	Indonesia Philippines	Onglen, Un Tambulian
Bintangor	*Calophyllum spp.*	Indonesia Madagascar Malaysia Myanmar New Caledonia Papua New Guinea Philippines Solomon Islands Sri-Lanka Thailand Vietnam	Bintangur Vintanina Bintangor, Penaga Sultan Champa Tamanou Calophyllum Bansanghal, Vutalau Koila Domba-Gass Poon Cong,

Pilot-name	Scientific names	Local names	
		Vanuatu	Mu-u Tamanou
Bitis	*Madhuca spp.*	Southeast Asia	Belian, Betis
Bodioa	*Anopyxis klaineana* Pierre ex Engl. (Syn. *Anopyxis ealaensis* (De Wild) Sprague)		

Pilot-name	Scientific names	Local names	
Bois rose femelle	*Aniba rosaeodora* Ducke (Syn. *Aniba duckei* Kosterm.)	Brazil	Pau-Rosa
Bomanga	*Brachystegia laurentii* Louis. *Brachystegia mildbraedii* Harms (Syn. *Brachystegia nzang* Pellegr.) *Brachystegia zenkeri* Harms	Cameroon Congo Dem. Rep. of the Congo Gabon *France* *UK*	Ekop-Evene, Ekop-Leke Bomanga Bomanga, Nzang Yegna *Ariella* *Ariella*

Pilot-name	Scientific names	Local names	
Bossé clair	*Guarea cedrata* Pellegr. *Guarea laurentii* De Wild.	Côte d'Ivoire Ghana Nigeria Dem. Rep. of the Congo *Germany* *UK*	Bossé Kwabohoro Obobo Nofua Bosasa *Bossé* *Scented Guarea*
Bossé foncé	*Guarea thompsonii* Sprague & Hutch.	Côte d'Ivoire Kenya Nigeria Dem. Rep. of the Congo *Germany* *UK*	Mutigbanaye Bolon Obobo Nekwi Diampi *Diampi* *Black Guarea*
Botong	*Barringtonia asiatica* (L.) Kurz.	Southeast Asia	Fish Poison Tree, Sea Poison Tree
Breu-sucuruba	*Trattinickia spp.*	Brazil	Amesclão,

Pilot-name	Scientific names	Local names	
			Breu Preto, Mangue, Morcegueira, Ulu
Bubinga	*Guibourtia spp.* *Guibourtia demeusei* (Harms) J. Léon. *Guibourtia pellegriniana* J. Léon. *Guibourtia tessmannii* (Harms) J. Léon.	Cameroon Gabon *UK*	Essingang Buvenga *Kevasingo*
Pilot-name	**Scientific names**	**Local names**	
Burada	*Parinari campestris* Aubl.	Brazil French Guiana Guyana	Parinari Fongouti Koko, Gaulette Blanc, Gris-Gris Blanc Broad-Leaved Burada, Burada, Candlewood, Kupisini, Mahaicaballi,

Pilot-name	Scientific names	Local names	
		Suriname Venezuela	Makarai, Wamuk, Wamuku Behoerada, Foengoe, Koebesini Guaray, Merecurillo
Burmese Ebony	*Diospyros burmanica* Kurz.	Myanmar	Burmese Ebony, Hpunmang, Maimakho-Ling, Mia-Mate-Si, Te
Burmese Rosewood	*Dalbergia oliveri* Gamble ex Prain	Myanmar	Ching-Chan, Ket-Daeng
Busehi	*Lebrunia bushaie* Staner		
Cabreùva	*Myrocarpus frondosus* Allem.	South America	Cabreùva Parda, Ibirà,

Pilot-name	Scientific names	Local names	
			Incienso, Oleo de Caboreiba, Oleo de Macaco, Oleo Pardo, Pagé, Payò
Cachimbo	*Cariniana decandra* Ducke		
Cambara (Jaboty)	*Erisma spp.* *Erisma uncinatum Warm.*	Brazil French Guiana Peru Suriname Venezuela	Quarubarana, Jaboty, Cedrinho, Cambara, Quarubatinga, Quaruba, Vermelha Jaboty, Manonti Kouali, Felli Kouali Cambara Singri-Kwari Mureillo

Pilot-name	Scientific names	Local names	
		Germany	Cambara
Canalete	*Cordia spp.*	Argentina Brazil Colombia Cuba Mexico Venezuela	Loro Negro Louro Pardo Canalete Anacahuite, Baria Amapa Asta, Bocote, Cupane, Siricote Canalete

Pilot-name	Scientific names	Local names	
Canelo	*Nectandra spp.* *Ocotea spp.*	Brazil Central America	Louro Louro Branco, Louro Inhamui Aguacatillo Laurel

Pilot-name	Scientific names	Local names	
		Colombia Ecuador French Guiana Guyana Peru Suriname Trinidad and Tobago Venezuela	Amarillo Laurel, Canelo Amarillo, Jigua Amarillo Tinchi Cedre Apici Kereti-Silverballi Moena Amarilla Pisi Laurier Laurel
Canelón	*Aniba guianensis* Aubl.		
Capomo	*Brosimum alicastrum* Sw.	South America	Charo, Ramón
Caracoli	*Anacardium excelsum* Skeels	Brazil Colombia Ecuador Nicaragua	Caju Assu, Caju da Matta Caracoli Maranon Espavel

Pilot-name	Scientific names	Local names	
		Venezuela	Caracoli
Castanheiro Para	*Bertholletia excelsa* Humb. & Bonpl.	Brazil Colombia *France* *UK*	Castanha-do-Brasil, Castanha-do Pará, Castanheira Canstana do Brasil, Canstana do Pará, Castaña, Castanha-do-Maranhao, Nuez del Brasil *Châtaigne du brésil,* *Noix du brésil* *Noix du pará* *Brazil nut,* *Butter nut,* *Cream nut,* *Para nut*
Castanopsis	*Castanopsis spp.*		
Catiguà	*Trichilia catigua A. Juss.*		

Pilot-name	Scientific names	Local names	
Cativo	*Prioria copaifera* Griseb.	Colombia Costa-Rica Panama Venezuela	Cativo, Trementino Amasamujer Copachu Cativo, Camibar Cativo Muramo, Curucai
Pilot-name	**Scientific names**	**Local names**	
Cedro	*Cedrela spp.* *Cedrela angustifolia* DC. (Syn. *Cedrela lilloi* C. de Candolle) *Cedrela fissilis* Vell. *Cedrela odorata* L.	Brazil French Guiana Guyana Honduras Suriname	Cedro Cedrat, Cedro Red Cedar Cedro, Cigarbox Ceder
Cedroi	*Tapirira spp.* *Tapirira guianensis* Aubl.	Guyana	Warimia

Pilot-name	Scientific names	Local names	
Celtis d'Afrique (Diania, Ohia)	*Celtis spp.* *Celtis adolfi-friderici* Engl. *Celtis brieyi* De Wild. *Celtis gomphophylla* Baker (Syn. *Celtis durandii* Engl.) *Celtis mildbraedii* Engl. *Celtis tessmannii* Rendle *Celtis zenkeri* Engl.	Benin Cameroon Central African Republic Dem. Rep. of the Congo Congo Côte d'Ivoire Gabon Ghana Kenya Liberia Nigeria	Bawe Odou, Odou Vrai Balze Bolunde, Diania, Kayombo Edou, Kiliakamba Asan, Ba, Lohonfe Engo, Celtis, Esa-Kokoo, Esa-Kosua Shiunza Lokonfi Dunki, Ita,

Pilot-name	Scientific names	Local names	
		Uganda *Germany* *UK*	Zuwo Ekembe-Bakaswa, Namanuka *Celtis* *Red-Fruited White-Stinkwood*
Cerejeira	*Amburana cearensis* (Allemão) A. C. Sm.	Argentina Bolivia Brazil Paraguay Peru	Roble Criollo, Roble del País, Roble, Palo Trébol, Trébol Roble Americano Amburana, Cerejeira, Cumarú de Cheiro, Umburana Trébol Ishipingo, Sorioco

Pilot-name	Scientific names	Local names	
Champak	*Michelia spp.* (Syn. *Magnolia spp.*)	Myanmar Philippines	Saga, Sagawa, Sanga Hangilo, Sandit
Checham	*Metopium brownei* Roxb.	Central and South America	Caribbean Rosewood Black Poisonwood
Chengal	*Balanocarpus heimii* King.	Indonesia Malaysia Thailand	Penak-Bunga, Penak-Sabut, Penak-Tembaga Chengal Takian Chan
Chicha / Xixa	*Sterculia spp.* *Sterculia apetala* (Jacq.) Karst.	Bolivia Brazil Colombia Cuba	Mani Achicha, Chicha, Tacacazeiro Camajura Anacaguita Cacao de Mote,

Pilot-name	Scientific names	Local names	
		Ecuador French Guiana Guyana Mexico Peru Puerto Rico Suriname Trinidad and Tobago Venezuela	Sapote, Saput, Zapote Kobe Maho Bellota, Chiapas Huarmi-Caspi, Zapote Silvestre Anacaguita Jahoballi, Kobehe, Okro-Oedoe Mahoe Camoruco, Mayagua, Sunsun
Cocobolo	*Dalbergia retusa* Hemsl.		
Comino Crespo	*Aniba perutilis* Hemsl.	Bolivia	Coto, Coto Piquiante

Pilot-name	Scientific names	Local names	
		Brazil Colombia Peru *UK*	Laurel Amarelo, Pau Rosa Aceite de Palo, Caparrapi, Chachajo, Comino, Comino Canelo, Comino Real, Laurel Comino, Punte Comino, Ishpingo Chico, Moena Amarilla, Muena Negro *Keriti*
Pilot-name	**Scientific names**	**Local names**	
Congotali	*Letestua durissima* Lecomte	Congo Gabon	Congotali Kong-Afane

Pilot-name	Scientific names	Local names	
Copaiba	*Copaifera spp.*	Argentina Brazil Colombia Panama Venezuela	Timbo-y-Ata Copaibarana, Copahyba Canime, Copaiba Cabino Blanco, Camiba Cabimo, Palo de Aceite
Cordia d'Afrique	*Cordia spp.* *Cordia africana* Lam. (Syn. *Cordia abyssinica* R. Br. Syn. *Cordia holstii* Gürke ex Engl.) *Cordia millenii* Baker *Cordia platythyrsa* Baker	Cameroon Central African Republic Congo Ethiopia Gabon	Ebais, Ebe Sumba Makobokobo, Mringamringa, Mringaringa, Mukumari Auhi, Awhi, Ekhi Ebais,

Pilot-name	Scientific names	Local names	
		Nigeria Uganda *UK*	Ebe Omo Mukebu *African Cordia,* *East African cordia,* *Large-leafed cordia,* *Sudan teak*
Coula	*Coula edulis* Baill.		
Crabwood d'Afrique	*Carapa spp.* *Carapa grandiflora* Sprague	Côte d'Ivoire Ghana Liberia Nigeria Sierra Leone Uganda	Alla, Dona Bete, Krupi Toon-kor-dah Agogo Gobi, Kowi Mujogo, Mutongana

Pilot-name	Scientific names	Local names	
		USA *UK*	*African Crabwood* *African Crabwood*
Cristobal granadillo	*Platymiscium pleiostachyum* Donn. Sm	South America	Jacaranda do brejo

Pilot-name	Scientific names	Local names	
Cumaru	*Dipteryx spp.*	Bolivia Brazil Colombia Guyana French Guiana Honduras Peru Suriname	Almendrillo Cumaru, Cumaru Ferro, Cumarurana Sarrapia Kumaru, Tonka Bean Gaiac de Cayenne, Tonka Ebo Charapilla, Shihuahuaco Amarillo Koemaroe, Tonka

Pilot-name	Scientific names	Local names	
		Venezuela	Sarrapia
Cupiuba	*Goupia glabra* Aubl.	Brazil Colombia French Guiana Guyana Peru Suriname Venezuela *UK*	Cachaceiro, Copiuva, Cupiuba Chaquiro, Saino, Sapino Goupi Copi, Kabukalli Capricornia Koepi Congrio Blanco *Kabulalli*
Curupay	*Anadenanthera colubrina* (Vell.) Brenan	South America	Angico, Cebil, Huilco, Vilca, Wilco

Pilot-name	Scientific names	Local names	
Dabéma	*Piptadeniastrum africanum* Brenan (Syn. *Piptadenia africana* Hook. f.)	Cameroon Congo Côte d'Ivoire Equatorial Guinea Gabon Ghana Liberia Nigeria Uganda Sierra Leone Dem. Rep. of the Congo *UK*	 Atui N'Singa Dabema Tom Toum Dahoma Mbeli Agboin, Ekhimi Mpewere Mbele, Guli Bokungu, Likundu *Dahoma,* *Ekhimi*
Pilot-name	**Scientific names**	**Local names**	

Pilot-name	Scientific names	Local names	
Dibétou	*Lovoa spp.* *Lovoa brownii* Sprague *Lovoa swynnertonii* Baker f. *Lovoa trichilioides* Harms (Syn. *Lovoa klaineana* Pierre)	Cameroon Côte d'Ivoire Equatorial Guinea Gabon Ghana Kenya Nigeria Sierra Leone Dem. Rep. of the Congo Uganda *France*	Bibolo Dibétou Nivero, Embero Eyan Dubini-Biri, Mpengwa Mukongoro Mukusu Apopo, Sida, Anamenila Wnaimei Lifaki-Maindu, Bombulu Nkoba *Noyer d'Afrique,* *Noyer du Gabon*

Pilot-name	Scientific names	Local names	
		UK *USA*	*African Walnut, Tigerwood* *Tigerwood, Uganda Walnut* *Congowood*
Difou	*Morus lactea* Mildbr. *Morus mesozygia* Stapf	*Portugal* *France* *UK*	*Chocobondo* *Mûrier du Sénégal* *East African mulberry,* *African mulberry,* *Uganda mulberry*
Divida	*Scorodophloeus zenkeri* Harms		
Djohar	*Senna siamea* (Lam.) H.S.Irwin & Barneby. (Syn. *Cassia siamea* (Lam.) H.S.Irwin & Barneby)	Southeast Asia *France*	Bombay Blackwood, Iron Wood, Kassod Tree, Siamese Senna, Thailand Shower, Yellow Cassia *Casse de Siam*

Pilot-name	Scientific names	Local names	
Douka (Makoré)	*Tieghemella spp.* *Tieghemella africana* Pierre (Syn. *Dumoria africana* Dubard) *Tieghemella heckelii* Pierre ex Dubard (Syn. *Mimusops heckelii* Hutch. & Dalz.)	Côte d'Ivoire Ghana Equatorial Guinea Gabon	Makoré Baku, Abacu Okola Douka

Pilot-name	Scientific names	Local names	
Doussié	*Afzelia africana* Smith *Afzelia pachyloba* Eggeling & Dale *Afzelia bipindensis* Harms (Syn. *Afzelia bella* Harms) *Afzelia cuanzensis* Oliv.	Angola Cameroon Congo Côte d'Ivoire Ghana Mozambique Nigeria	N'kokongo Uvala M'Banga, Doussié N'Kokongo Lingue, Azodau Papao Mussacossa, Chanfuta Apa, Aligna

Pilot-name	Scientific names	Local names	
		Senegal Sierra Leone Tanzania Dem. Rep. of the Congo *Germany* *Portugal* *UK* *USA*	Lingue Kpendei Mkora, Mbembakofi Bolengu *Afzelia* *Chafuta* *Afzelia* *Afzelia*
Drago	*Pterocarpus officinalis* Jacq.	South America *France*	Lagunero, Pallo de Poyo, Sangre, Sangre de Drago, Sangrillo *Mangle-médaille,* *Mangle-rivière Palétuvier*,

Pilot-name	Scientific names	Local names	
		UK	*Sang-dragon* *Blood-wood,* *Dragon's-blood*
Duabanga	*Duabanga grandiflora* (Roxb. ex DC.) Walpers	India Indonesia Malaysia Myanmar Papua New Guinea Philippines Thailand Vietnam	Lampati Ramdala Kalam Magas, Magaswith, Phay-Sung, Tagahas Myaukngo Duabanga Loktob Linkwai Phay
Dukali	*Parahancornia fasciculata* (Poir.) Benoist		
Durian	*Durio spp.*	Indonesia Malaysia	Durian Apa-Apa,

Pilot-name	Scientific names	Local names	
			Bengang, Durian, Durian Isa, Punggai
		France *UK*	*Durion* *Durian*
Pilot-name	**Scientific names**	**Local names**	
Ebène d'Afrique (Ebène Madagascar)	*Diospyros spp.* *Diospyros crassiflora* Hiern. (Syn. *Diospyros evila* Pierre ex A.Chev.) *Diospyros perrieri* Jum.	Benin Cameroon Central African Republic Congo Equatorial Guinea Gabon	Cubaga, Ebène Epinde-pinde, Mavini, Mevini, Ndou Bingo, Ngoubou Mopini Ébano Evila Abokpo,

Pilot-name	Scientific names	Local names	
		Nigeria *Germany* *UK*	Kanran, Nyareti Osibin *Afrikanishes Ebenholz* *African ebony, Madagascar ebony*
Ebène noire d'Asie	*Diospyros ebenum* J. Koen. *Diosyros vera* (Lour.) A.Chev. (Syn. *Diospyros ferrea* Willd.) *Diospyros melanoxylon* Roxb. *Diospyros mollis* Griff. *Diospyros mun* A.Chev. & Lecomte		
Ebène veinée d'Asie	*Diospyros celebica* Bakh. *Diospyros marmorata* R.Park. *Diospyros rumphii* Bakh.		
Ebiara	*Berlinia bracteosa* Benth.	Angola Benin	M'possa Bagbe

Pilot-name	Scientific names	Local names	
	Berlinia confusa Hoyle. *Berlinia grandiflora* Hutch. & Delz.	Cameroon Congo Dem. Rep. of the Congo Côte d'Ivoire Gabon Ghana Nigeria Sierra Leone *Germany* *UK*	Abem, Essabem M'Possa M'Possa Melegba, Pocouli Ebiara Berlinia Ekpogoi Sarkpei *Berlinia* *Berlinia*

Pilot-name	Scientific names	Local names	
Ekaba	*Tetraberlinia spp.* *Tetraberlinia bifoliolata* (Harms) Hauman (Syn. *Berlinia bifoliolata* Harms)	Cameroon Congo Equatorial Guinea Gabon Liberia	Ekop-Ribi Eko-Andoung Ekop Ekop-Andoung Hoh,

Pilot-name	Scientific names	Local names	
	Tetraberlinia tubmaniana J. León.	*Germany* *Netherlands* *Spain* *UK*	Sikon *Ekop* *Ekop* *Ekaban* *Tetraberlinia*
Ekoune	*Coelocaryon preussii* Warb.	Cameroon Central African Republic Congo Dem. Rep. of the Congo Equatorial Guinea Gabon Nigeria	Nom Eteng Kolomeko Kikubi-Lomba Lomba-Kumbi Ekoune, Ekun Ekoune, Ekun Egbenrin
Emien	*Alstonia boonei* De Wild. *Alstonia congensis* Engl. (Syn. *Alstonia gilletii* De Wild.)	Nigeria Uganda	Awun, Egbu Mubajangalabi, Mujua, Mukoge,

Pilot-name	Scientific names	Local names	
		UK	Musoga *Alstonia,* *Pattern wood,* *Stool wood*
Essessang	*Ricinodendron spp.* *Ricinodendron africanum* Müll. Arg. *Ricinodendron heudelotii* Pierre ex Henckel *Ricinodendron rautanenii* Schinz.	Benin Congo Côte d'Ivoire Ghana Mozambique Togo *UK*	Muawa Erimado Erimado Erimado Muawa Erimado *African Nut Tree,* *African Wood,* *African Wood-Oil Nut Tree,* *Cork Wood*
Essia	*Petersianthus macrocarpus* Liben (Syn. *Petersia africana* Welw.)	*UK*	*Esia*

Pilot-name	Scientific names	Local names	
Essoula	*Plagiostyles africana* Prain ex De Wild.		
Etimoé	*Copaifera mildbraedii* Harms *Copaifera salikounda* Heckel	Benin Cameroon Central African Republic Congo Côte d'Ivoire Dem. Rep. of the Congo Gabon Ghana Nigeria	Akpaflo Essak Bilombi Yama Etimoé Bofelele Andem-Evine Entedua Ovbialeke
Pilot-name	**Scientific names**	**Local names**	
Eveuss	*Klainedoxa buesgenii* Engl. *Klainedoxa gabonensis* Pierre ex Engl.	Cameroon Central African Republic Congo Côte d'Ivoire Dem. Rep. of the Congo Equatorial Guinea Gabon	Ngon Oboro Kuma-kuma Kroma Ikele, Kuma-kuma Eves Eveuss

Pilot-name	Scientific names	Local names	
		Ghana Nigeria	Kruma Odudu
Evino	*Vitex ciliata* Pellegr. *Vitex pachyphylla* Baker		
Eyek	*Pachyelasma tessmannii* Harms		
Eyong	*Eribroma oblongum* Pierre ex A.Chev. (Syn. *Sterculia oblonga* Masters)	Cameroon Central African Republic Côte d'Ivoire Equatorial Guinea Gabon Ghana Nigeria *UK*	Bongele, Eyong Bongo Bi N'Chong, N'Zong N'Chong, N'Zong Ohaa Okoko *White Sterculia,* *Yellow Sterculia*

Pilot-name	Scientific names	Local names	
Eyoum	*Dialium spp.* *Dialium bipindense* Harms. *Dialium dinklagei* Harms. *Dialium aubrevillei* Pellegr. *Dialium pachyphyllum* Harms.	Cameroon Congo Côte d'Ivoire Gabon Guinea-Bissau Liberia Mozambique Dem. Rep. of the Congo	Mfang, M'Fan Penzi Afambeou, Kofina Eyoum, Omvong Pau Veludo Ciania, Gbelle-Flu, Gia Kaba Ziba Bongola, Kasudu
Faro	*Daniellia spp.* *Daniellia klainei* Pierre *Daniellia ogea* Rolfe	Benin Cameroon Congo Côte d'Ivoire Dem. Rep. of the Congo Equatorial Guinea	Jatin Nsou Singa N'Dola Faro Bolengu N'Su

Pilot-name	Scientific names	Local names	
	Daniellia thurifera Bennet	Gabon Ghana Nigeria Sierra Leone *Germany* *UK*	Lonlaviol Ogea Oziya Gnessi *Daniellia* *Ogea*

Pilot-name	Scientific names	Local names	
Faveira	*Parkia multijuga* Benth.	Brazil Colombia Ecuador French Guiana Guyana	Fava Araba Tucupi, Fava Bolota, Faveira, Parica, Visgueiro Huarango, Rayo Tangama Dodomissinga, Kouatakaman Black Manariballi, Ipanai,

Pilot-name	Scientific names	Local names	
		Peru Suriname Venezuela	Uya Goma Pashaco Kwatakama Cascaron
Faveira Amargosa	*Vatairea paraensis* Ducke	Brazil Colombia Guyana French Guiana Honduras Panama	Angelim Amargoso, Aracuy, Fava Amarela, Fava Amargosa, Faveria Amarela, Faveira Amargosa, Faveria Bolacha Guerra, Maqui Arisauro, Bastard Purpleheart, Bauwau Inkassa, Yongo Amargo Amargo

Pilot-name	Scientific names	Local names	
		Peru Suriname	Mari-Mari, Marupa del Bajo Arisoeroe, Gele Kabbes, Geli-Kabissi
Fijian Sterculia	*Sterculia vitiensis* Seem.	Oceania	Waciwaci
Framiré	*Terminalia ivorensis* A. Chev.	Cameroon Côte d'Ivoire Ghana Liberia Nigeria Sierra Leone *UK*	Lidia Framiré Emeri Baji Idigbo, Black Afara Baji *Idigbo*
Formigueiro	*Triplaris cumingiana* Fisch. & C.A.Mey. (Syn. *Triplaris guayaquilensis* Wedd.)	Ecuador	Fernansanchez
Freijo	*Cordia goeldiana* Hub.	Brazil	Freijo

Pilot-name	Scientific names	Local names	
			Frei-Jorge

Pilot-name	Scientific names	Local names	
Fuma (Fromager)	*Ceiba pentandra* (L.) Gaertn. (Syn. *Ceiba thonningii* A. Chev. Syn. *Bombax pentandrum* L.)	Cameroon Congo Côte d'Ivoire Ghana Liberia Nigeria Sierra Leone Dem. Rep. of the Congo *France* *Germany* *UK*	Doum Fuma Enia, Fromager Onyina Ghe Okha, Araba Ngwe, Banda Fuma *Fromager* *Ceiba* *Ceiba*
Gaiac	*Guaiacum spp.*	Mexico	Palo Santo, Guayacancillo

Pilot-name	Scientific names	Local names	
		Venezuela *France* *Germany* *Netherlands* *Spain* *UK*	Guayacán *Gaiac* *Mexiko-Pockholz* *Pockhout* *Guayacán* *Guaiacum Wood*
Galacwood	*Bulnesia sarmientoi* Lorentz ex Griseb.		
Gale Silverballi	*Aniba hypoglauca* Sandwith (Syn. *Aniba ovalifolia* Mez.)	South America	Gale Silverballi, Garl, Kawioi, Kurero Shiruaballi, Kurero Silverballi, Moena Puchiri, Silverballi, Yellow Silverballi, Yellow Sweetwood
Gavilan	*Schizolobium amazonicum* Huber ex Ducke		Pashaco, Pino Chuncho

Pilot-name	Scientific names	Local names	
Gavilán Blanco	*Oreomunnea pterocarpa* Oerst.		
Geronggang	*Cratoxylum arborescens* (Vahl) Bl. *Cratoxylum arborescens* var. *miquelli* King *Cratoxylum glaucum* Korth. *Cratoxylum lingustrinum* Bl. *Cratoxylum polyanthum* Korth.	Indonesia Malaysia	Gerunggang Mapat Mulu Selunus Gonggang Serungan

Pilot-name	Scientific names	Local names	
Gerutu	*Parashorea densiflora* Slooten & Sym. *Parashorea lucida* (Miq.) Kurz *Parashorea parvifolia* Wyatt-Smith ex P.S.Ashton *Parashorea smythiesii* Wyatt-Smith ex P.S.Ashton	India Indonesia Laos Malaysia	Tavoy Wood White Meranti Mai Hao Gerutu, Gerutu Pasir, Heavy White Seraya, Meranti Gerutu, Meruyun, Urat Mata Batu, Urat Mata Bukit, Urat Mata Daun Kechil,

Pilot-name	Scientific names	Local names	
		Thailand	Khai Khieo
Gheombi	*Sindoropsis letestui* (Pellegr.) J. Léon. (Syn. *Copaifera letestui* Pellegr.)	Cameroon Gabon	Lumbandjii Gheombi, Ngom
Goiabao	*Chrysophyllum lucentifolium* Cronquist (Syn. *Planchonella pachycarpa* Pires Syn. *Pouteria pachycarpa* Pires Syn. *Syzygiopsis pachycarpa* Ducke)	Brazil	Abiu Casca, Abiurana, Abiurana Amarela, Abiurana Goiaba, Goiabao, Goyabao
Gombé	*Didelotia africana* Baill. *Didelotia idae* Oldem., de Wit & Léon. *Didelotia letouzeyi* Pellegr.	Cameroon Côte d'Ivoire Gabon Liberia Sierra Leone	Ekop-Gombe, Gombe Broutou Angok Bondu Timba
Greenheart	*Chlorocardium rodiei* (Schomb.) Rohwer, H.G.Richt. & van der Werff	Brazil Guyana	Bibiru, Itauba Branca Bibiru,

Pilot-name	Scientific names	Local names	
		Surinam Venezuela	Demerara, Greenheart Beeberoe Groenhart Sipiroe Viruviru
Pilot-name	**Scientific names**	**Local names**	
Grenadille d'Afrique	*Dalbergia melanoxylon* Gutif. & Perr.	Chad Dem. Rep. of the Congo Ethiopia Kenya Namibia and South Africa Uganda Zambia	Tabum Kafundula Zobbi, Zebe Kikwaju, Mpingo, Poyi Driedoring Ebbehout, Mokelete, Sebrahout, Swartdriedoring, Umbambangwe Motangu

Pilot-name	Scientific names	Local names	
		Zimbabwe *UK*	Chinsale, Kasalusalu, Mfwankomo, Mkelete, Mkumudwe, Msalu, Mukelete, Musonkomo Murwiti, Pulupulu *African blackwood*, *African ebony*, *Mugembe*, *Poyi*
Grigri	*Licania spp.*	Brazil Colombia Costa Rica	Anauerá, Caraipé, Turiuva Carbonero Zapote

Pilot-name	Scientific names	Local names	
		Guyana Mexico Peru Venezuela	Kautaballi, Konoko, Zapote Carbonero, Zapote Carbonero
Guágara	*Sabal mauritiiformis* Griseb. & H.Wendl.	South America	Catarata, Palma Amarga, Palma de Guagara, Palma de Vaca, Palmiche

Pilot-name	Scientific names	Local names	
Guariuba	*Clarisia racemosa* Ruiz. & Pav.	Bolivia Brazil Colombia Ecuador	Murure Guariuba, Oiticica Amarela, Oiticica da Mata Aji, Guariuba Mata Palo,

Pilot-name	Scientific names	Local names	
		Peru	Moral Bobo, Pituca Capinuri, Guariuba, Murere, Turupay Amarillo
Haiari	*Alexa spp.*	Brazil Guyana Suriname	Melancieira Haiariballi Nekoe-Oedoe
Haldu	*Haldina cordifolia* (Roxb.) Ridsdale (Syn. *Adina cordifolia* (Roxb.) Hook. f.)	Cambodia India Indonesia Laos Malaysia Myanmar Philippines Sri Lanka Thailand	Khvao, Kwao Haldu Lasi Thom Meraga Hnaw Adina, Haldu Kolon Kwao,

Pilot-name	Scientific names	Local names	
		Vietnam	Tong Lueang Gao-Vang
Hard Alstonia (Pulaï)	*Alstonia angustiloba* Miq. *Alstonia macrophylla* Wall. ex G.Don. *Alstonia spatulata* Bl. *Alstonia scholaris* (L.) R. Br. *Alstonia pneumatophora* Back. ex Den Berger	Indonesia Malaysia Myanmar Papua New Guinea Philippines Thailand Vietnam *Australia* *India* *UK*	Pulai, Sepati Pulai Letok, Sega White Cheese Wood, Mike Wood Dita Thia Mo-Cua *White Cheese Wood,* *Mike Wood* *Chaitanwood,* *Chatian* *Pagoda Tree,* *Patternwood*
Pilot-name	**Scientific names**	**Local names**	

Pilot-name	Scientific names	Local names	
Hevea	*Hevea brasiliensis* (Willd. ex A.Juss.) Müll.Arg.	Brazil Guyana Malaysia Peru Thailand Venezuela *UK* *USA*	Mapalapa, Seringa, Seringueira Hatti Hevea Wood Jeve, Shirenga Rubber Tree Arbol de Caucho *Para Rubber Tree* *Rubber Wood*
Higuerilla	*Micandra spruceana* (Baill.) R. Shultes	Colombia Peru Venezuela	Reventillo, Yetcha Carapacho, Higuerilla Negra, Shiringa Masha Cunuri

Pilot-name	Scientific names	Local names	
Huruasa	*Abarema jupunba* (Willd.) Britton & Killip	Guyana	Ingarana, Tento Azul
Iatandza	*Albizia angolensis* Welw. *Albizia ferruginea* Benth.	Angola Benin Cameroon Congo Côte d'Ivoire Gabon Ghana Liberia Nigeria Uganda Dem. Rep. of the Congo *UK*	Zanzangue Agla Nyinfun Evouvous Sifou-Sifou Yatanza Iatandza Awiemfo-Samina, Okuro Musase Ayinre-Ogo Mugavu, Nongo Elongwamba, Okuru *West African Albizia*
Ibirà Pytâ	*Peltophorum dubium* (Spreng.) Taub	Argentina Brazil	Canafístula Guarucaia

Pilot-name	Scientific names	Local names	
	(Syn. *Peltophorum vogelianum* Benth.)	Paraguay	Yvyrapyta
Idewa	*Haplormosia monophylla* Harms	Liberia	Black Gum, Liberian Black Gum
Igaganga	*Dacryodes igaganga* Aubr. & Pell.		
Ilomba	*Pycnanthus angolensis* (Welw.) Warb. (Syn. *Pycnanthus kombo* Baill.) Warb.	Angola Cameroon Congo Côte d'Ivoire Equatorial Guinea Gabon Ghana Nigeria Sierra Leone Dem. Rep. of the Congo	Ilomba Eteng Ilomba Walélé Calabo Eteng Otié Akomu Kpoyéi Lolako, Lejonclo
Pilot-name	**Scientific names**	**Local names**	
Imbuia	*Ocotea porosa* Barosso	Brazil	Canela, Imbuia,

Pilot-name	Scientific names	Local names	
	(Syn. *Phoebe porosa* (Nees & Mart.) Mez.)	South America	Embuia Laurel
			Brazilian Walnut
		UK	*Imbuya,*
		USA	*Brazilian Walnut*
Inga	*Inga spp.*	Argentina	Inga
		Brazil	Inga, Ingazeira, Inga-Chi-Chi, Inga-Chi-Chica
		French Guiana	Bois Pagode, Bougouni, Lebi Oueko, Oueko
		Guyana	Kurang, Kwari, Kwarye, Maporokon, Yokar

Pilot-name	Scientific names	Local names	
		Honduras Peru Suriname	Guama Shimbillo Abonkini, Prokonie
Ingyin	*Pentacme siamensis* (Miq.) Kurz		
Inyak	*Antonia ovata* Pohl		
Ipé	*Handroanthus heptaphyllus* (Vell.) Mattos (Syn. *Tabebuia ipe* (Mart.) Standl.) *Handroanthus capitatus* (Bur & K.Schum) Sanwith (Syn. *Tabebuia capitata* Sandw.) *Handroanthus serratifolius* (Vahl) S.O.Grose (Syn. *Tabebuia serratifolia* Nichols)	Argentina Bolivia Brazil Central America Colombia	Lapacho Ipé, Lapacho, Tajibo Ipé, Ipé Roxo, Pau d'Arco Amapa, Prieta, Cortez, Guayacan, Cortés Canaguate,

Pilot-name	Scientific names	Local names	
	Handroanthus impetiginosus (Mart. ex DC.) Mattos (Syn. *Tabebuia impetiginosa* (Mart.) Standl.)	French Guiana Guyana Paraguay Peru Suriname Trinidad and Tobago Venezuela	Polvillo, Roble Morado Ebene verte Hakia, Ironwood Lapacho Negro Tahuari Negro, Ebano Verde Groenhart Poui, Yellow Poui Acapro, Araguaney
Pilot-name	**Scientific names**	**Local names**	
Iroko	*Milicia spp.* *Milicia excelsa* C.C. Berg (Syn. *Chlorophora excelsa* (Welw.) Benth.)	Angola Cameroon Congo Côte d'Ivoire East Africa	Moreira Abang Kambala Iroko Mvuli, Mvule

Pilot-name	Scientific names	Local names	
	Milicia regia C.C. Berg (Syn. *Chlorophora regia* A. Chev.)	Equatorial Guinea Gabon Ghana Liberia Mozambique Nigeria Sierra Leone Dem. Rep. of the Congo *Belgium*	Abang Abang, Mandji Odum Semli Tule Mufula Iroko Semli Lusanga, Molundu, Mokongo *Kambala*
Itaùba	*Mezilaurus spp.*	Brazil French Guiana Suriname	Louro Itauba Taoub Jaune Kaneelhout
Izombé	*Testulea gabonensis* Pellegr.	Cameroon Congo Gabon	Rone N'Gwaki Ake, Akewe,

Pilot-name	Scientific names	Local names	
			Izombe, N'Komi
Jacareuba	*Calophyllum brasiliense* Cambess.	Brazil	Árbol de santa María, Calophylle du Brésil, Guanandi, Maria, Santa Maria

Pilot-name	Scientific names	Local names	
Jatoba	*Hymenaea courbaril* L.	Brazil French Guiana Central and South America, Caribbean	Jatobá Gomme Animée, Pois Confiture Algarrobo, Algarrobo de la Antillas, Algarrobo das Antilhas, Azucar, Cuapinol, Curbaril, Guapinol, Huayo,

Pilot-name	Scientific names	Local names	
		Suriname *UK*	Jataí, Jutaby Rode Lokus *Brazilian Cherry,* *Brazilian Copal,* *Cayenne Copal,* *Copal,* *Demarara Copal,* *Kerosene Tree,* *Stinking Toe,* *Latin American Locust,* *West Indian Locust*
Jelutong	*Dyera costulata* Hook. f. *Dyera polyphylla* (Miq.) Steenis (Syn. *Dyera lowii* Hook. f.)	Indonesia Malaysia	Jelutong, Djelutong, Melabuwai Jelutong, Andjaroetoeng, Letoeng, Pantoeng,

Pilot-name	Scientific names	Local names	
		Singapore	Jelutong Bukit, Jelutong Paya Red and/or White Jelutong
Jequitiba	*Cariniana legalis* O. Ktze (Syn. *Cariniana brasiliensis* Casar.) *Allantoma integrifolia* (Ducke) S.A.Mori (Syn. *Cariniana integrifolia* Ducke)	Bolivia Brazil	Yesquero Jequitiba, Jequitiba Branco, Jequitiba Rosa, Jequitiba Vermelho, Estopeiro
Jito	*Guarea guidonia* (L.) Sleumer (Syn. *Guarea guara* (Jacq.) P. Wils. Syn. *Guarea trichilioides* L.)		
Jongkong	*Dactylocladus stenostachys* Oliv.	Indonesia Malaysia	Mentibu, Sampinur Medang-Tabak, Jongkong, Medang,

Pilot-name	Scientific names	Local names	
			Merubong
Pilot-name	**Scientific names**	**Local names**	
Jorori	*Swartzia jorori* Harms		
Jùraco	*Bucida buceras* L.	Mexico, Central and South America	Black Olive, Bois Gris-Gris, Bois Margot, Gregre, Júcaro, Oxhorn Bucida, Ucar
Kabok	*Irvingia malayana* Oliv. ex A. Benn.	Malaysia Thailand *UK*	Pau Kijang Kabok *Wild Almond*
Kadam	*Neolamarckia spp.* *Neolamarckia cadamba* (Roxb.) Bosser (Syn. *Anthocephalus cadamba* (Roxb.) Miq.)	Indonesia Malaysia	Jabon, Kelempajan Kalempayn Kelampo, Kelepayan,

Pilot-name	Scientific names	Local names	
	Neolamarckia macrophylla (Roxb.) Bosser (Syn. *Anthocephalus macrophyllus* (Kuntze) Havil.)	Myanmar Philippines	Ludai, Kelempayan Mau, Yemau, Maukadon, Mau-Lettan-She Kaatoan Bangkal
Kanda (Kanda brun, Kanda rose)	*Beilschmiedia spp.* *Beilschmiedia congolana* Robyns & Wilczek *Beilschmiedia gaboonensis* Benth. & Hook. *Beilschmiedia hutchinsoniana* Robyns & Wilczek *Beilschmiedia letouzeyi* Robyns & Wilczek *Beilschmiedia mannii* Robyns & Wilczek *Beilschmiedia oblongifolia* Robyns & Wilczek	Cameroon Central African Republic Côte d'Ivoire Gabon Tanzania	Kanda Bonzale Bitehi Nkonengu Mfimbo
Kapokier	*Bombax buonopozense* P. Beauv.		

Pilot-name	Scientific names	Local names	
	(Syn. *Bombax flammeum* Ulbr.)		

Pilot-name	Scientific names	Local names	
Kapur	*Dryobalanops spp.* *Dryobalanops sumatrensis* (J.F.Gmel.) Kosterm. (Syn. *Dryobalanops aromatica* C.F. Gaertn.) *Dryobalanops beccarii* Dyer *Dryobalanops fusca* V. St. *Dryobalanops lanceolata* Burck *Dryobalanops oblongifolia* Dyer *Dryobalanops rappa* Becc.	Brunei Darussalam Indonesia Malaysia *France* *UK*	Kapur Bukit, Kapur Peringii, Kapur Anggi Kapur Singkel, Kapur Sintuk, Kapur Empedu, Kapur Tanduk, Kapur Kayatan, Petanang Kapur-Kejatan, Keladan, Swamp Kapur, Borneo Camphorwood-Paigie *Capur* *Borneo Camphor,* *Borneo Camphorwood,*

Pilot-name	Scientific names	Local names	
			Borneo Camphorwood-Paigie
Karité	*Vitellaria paradoxa* C.F.Gaertn. (Syn. *Butyrospermum paradoxum* (C.F. Gaertn.) Hepper Syn. *Butyrospermum parkii* (G. Don) Kotschy)	Africa	Shea Butter Tree, Shea Tree, Shi Tree
Kasai	*Pometia spp.*	Papua New Guinea Myanmar Philippines Vietnam *France* *Spain* *UK*	Taun Sibu Malugai Truong *Bois de Pieux* *Longán de Fiji* *Fiji Longan,* *Island Lychee*
Kaudamu	*Myristica castaneifolia* A. Gray	Southeast Asia	Fiji Nutmeg
Kedondong	*Canarium spp.*	India	Dhuwhite,

Pilot-name	Scientific names	Local names	
	Dacryodes spp. *Santiria spp.*	Indonesia Malaysia Philippines Thailand Vietnam	White Dhup Kenari, Kiharpan Kedondong, Upi Dulit, Pili Ma-Kerm Cham
Pilot-name	**Scientific names**	**Local names**	
Kekatong	*Cynometra spp.*	Fiji Malaysia Myanmar Philippines Thailand	Moivi Belangkan, Kekatong Myinga Oringen Mang-kha
Kékélé	*Holoptelea grandis* Mildbr.	Benin Cameroon Central African Republic	Sayo Avep-Ele Gomboul

Pilot-name	Scientific names	Local names	
		Congo Côte d'Ivoire Dem. Rep. of the Congo Ghana Nigeria Uganda	Mbosso Kékélé Nemba-Mbobolo Onakwa Olazo Mumuli
Kelat	*Eugenia spp.*	India Indonesia Malaysia Myanmar Papua New Guinea Philippines Thailand	Jaman Jaman, Jambu, Jamun, Meralu, Nir-Naval Black Kelat, Common Kelat, Kelat Tabye Water Gum Makasin Chomphu Plong,

Pilot-name	Scientific names	Local names	
		Vietnam	Tram
Keledang (Terap)	*Artocarpus spp.*	Indonesia Malaysia Philippines Thailand	Teureup Pudau, Terap Antipolo Ka-ok
Kembang semangkok	*Scaphium spp.*	Malaysia Myanmar Thailand	Kembang semangkok, Selayar Thitlaung Samrong
Kempas	*Koompassia malaccensis* Maing. ex Benth.	Indonesia Malaysia Papua New Guinea Thailand	Menggeris, Toemaling Kempas, Mengris, Impas Kempas Yuan

Pilot-name	Scientific names	Local names	
Keranji	*Dialium spp.*	Cambodia Indonesia Myanmar Thailand Vietnam *UK*	Xoay, Kralanh Kerandji Taung-Kaye Kaki-Khao, Khleng, Yi-Thongbung Xoay *Keranji,* *Kranji*
Keriti Silverballi	*Ocotea puberula* (Rich.) Nees	Argentina Brazil Peru	Canela Guaica, Guaicá Canela-de-Corvo, Guaica, Canela-Parda, Canela-Pimenta, Canela Pinho, Canela-Sebo Moraja Kaspi

Pilot-name	Scientific names	Local names	
		Paraguay Suriname	Laurel Guaika, Guaika Keretiballi
Keruing	*Dipterocarpus spp.* *Dipterocarpus acutangulus* Vesque *Dipterocarpus appendiculatus* Scheff. *Dipterocarpus alatus* A. DC. *Dipterocarpus baudii* Korth. *Diptrocarpus gracilis* Blume (Syn. *Dipterocarpus pilosus* Roxb.) *Dipterocarpus cornutus* Dyer	Cambodia India Indonesia Laos Malaysia Myanmar Philippines Sri Lanka Thailand Vietnam	Chloeuteal, Dau, Khlong, Thbeng, Gurjun Keroeing, Nhang, Keruing Gaga, Keruing Bajak, Keruing Beras Yang, Kanyin Apitong Hora Yang Dau (Yaou), Tro

Pilot-name	Scientific names	Local names	
	Dipterocarpus costulatus V. SI. *Dipterocarpus kerrii* King *Dipterocarpus verrucosus* Foxw. ex Slooten		
Kiasose	*Pentadesma butyracea* Sabine *Pentadesma lebrunii* Staner		
Kibakoko	*Anthonotha fragrans* (Baker f.) Exell & Hillc. (Syn. *Macrolobium fragrans* Baker f.)		
Pilot-name	**Scientific names**	**Local names**	
Kikenzi	*Ocotea usambarensis* Engl.		
Kokko	*Albizia lebbek* (L.) Benth.	Bangladesh Philippines	Sirish, Sirisha Aninapla, Langil

Pilot-name	Scientific names	Local names	
		India	Siris,
			Sirs
		Indonesia	Kitoke,
			Tarisi,
			Tekik
		Malaysia	Batai,
			Batai Batu,
			Kungkur,
			Oriang
		Nepal	Kalo Siris
		Thailand	Cha Kham,
			Chamchuri,
			Kampu,
			Phruek,
			Suek
		Vietnam	Lim Xanh
		France	*Bois noir*,
			Bois savane,
			Tcha Tcha

Pilot-name	Scientific names	Local names	
		Spain	*Acacia Chachá,* *Algarroba de Olor,* *Amor Plantónico,* *Aroma,* *Aroma Fracesca,* *Cabellos de Ángel,* *Faurestina,* *Florestina,* *Lengua de Mujer,* *Lengua Viperina*
		UK	*Acacia Amarilla,* *East Indian Walnut,* *English Woman's Tongue,* *Fry wood,* *Indian Siris,* *Lebbeck,* *Siris Tree,* *Woman's Tongue Tree*

Pilot-name	Scientific names	Local names	
Kondroti	*Rhodognaphalon brevicuspe* Roberty (Syn. *Bombax brevicuspe* Sprague) *Rhodognaphalon schumannianum* A. Robyns (Syn. *Bombax rhodognaphalon* K. Schum.) *Bombax chevalieri* Pellegr.	Benin Cameroon Congo Côte d'Ivoire Gabon Ghana Mozambique Nigeria Tanzania *UK*	Kpatin Dehun Ovong N'Demo Kondroti Alone, Ogumalanga Bombax Meguza, Mungusa Awori Mfume *East African Bombax*

Pilot-name	Scientific names	Local names	
Kosipo	*Entandrophragma candollei* Harms	Angola Cameroon Côte d'Ivoire Ghana Nigeria	Lifuco Atom-Assie Kosipo Penkwa-Akowaa Omu, Heavy Sapelle

Pilot-name	Scientific names	Local names	
		Dem. Rep. of the Congo *Germany* *UK*	Impompo *Kosipo-Mahagoni* *Omu*
Kotibé	*Nesogordonia spp.* *Nesogordonia kabingaensis* var. *kabingaensis* (K.Schum.) Capuron (Syn. *Nesogordonia papaverifera* R. Capuron Syn. *Cistanthera papaverifera* A. Chev.)	Angola Cameroon Central African Republic Côte d'Ivoire Gabon Ghana Nigeria Dem. Rep. of the Congo *UK*	Kissinhungo Ovoe, Ovoui Naouya Kotibé Aborbora Danta Otutu Kondofindo *Danta*
Koto	*Pterygota spp.* *Pterygota macrocarpa* K. Schum.	Central African Republic Côte d'Ivoire Gabon	Kakende Koto Ake

Pilot-name	Scientific names	Local names	
	Pterygota bequaertii De Wild.	Ghana Nigeria Dem. Rep. of the Congo *Germany* *UK*	Kyere, Awari Kefe, Poroposo Ikame *Anatolia* *African Pterygota, Pterygota*
Kulim	*Scorodocarpus borneensis* (Baillon) Becc.	Malaysia	Bawang Hutan
Kumbi	*Lannea welwitschii* (Hiern) Engl.	Côte d'Ivoire Ghana Nigeria	Baiséguma, Kakoro, Loloti Kumenini Ekika
Kungkur	*Albizia saman* (Jacq.) Merr.		
Pilot-name	**Scientific names**	**Local names**	

Pilot-name	Scientific names	Local names	
Kurokaï	*Protium spp.*	Bolivia Brazil Colombia Ecuador French Guiana Guyana Peru Suriname Venezuela	Carano Almecega, Aruru, Breu Anime, Carano, Currucay Anime Blanco Encens Blanc, Gris Rouge Haiawa, Kurokay, Porokay Copal-Caspi Tinguimoni Anime, Carano, Azucarito
Landa	*Erythroxylum mannii* Oliv.	Cameroon Congo	Landa Lukienzo

Pilot-name	Scientific names	Local names	
		Côte d'Ivoire Gabon Dem. Rep. Of the Congo Sierra Leone	Dabe Landa Nkanza Bimini
Lati	*Amphimas spp.* *Amphimas pterocarpoides* Harms	Cameroon Côte d'Ivoire Ghana Congo	Edjin, Edzil Lati Edzui Muzui, Bokanga
Laurel, Indian	*Terminalia tomentosa* (Roxb.) Wight & Arn.	Cambodia Indonesia Laos Myanmar	Chhlik Snaeng Arjun, Jaha, Jelawai, Talisai, Telinsi, Kumbuk Suak Dam Taukyan,

Pilot-name	Scientific names	Local names	
		Philippines Thailand Vietnam	Thinsein Indian Laurel Hok Fa Chieu-Lieu
Limba	*Terminalia superba* Engl. & Diels	Cameroon Central African Republic Congo Côte d'Ivoire Equatorial Guinea Ghana Nigeria Sierra Leone Dem. Rep. of the Congo *France* *USA*	Akom N'Ganga Limba Fraké Akom Ofram Afara, White Afara Kojagei Limba *Limbo,* *Fraké,* *Noyer du Mayombé* *Korina*

Pilot-name	Scientific names	Local names	
Limbali	*Gilbertiodendron spp.* *Gilbertiodendron dewevrei* (De Wild.) J. Léon (Syn. *Macrolobium dewevrei* De Wild.) *Gilbertiodendron preussii* J. Léon	Cameroon Central African Republic Congo Côte d'Ivoire Dem. Rep. of the Congo Gabon Ghana Liberia	Ekobem Molapa Epal Vaa Ditshipi, Ligudu Limbali Abeum Tetekon, Sehmeh
Limonaballi	*Chrysophyllum pomiferum* (Eyma) T.D.Penn.		
Loliondo	*Olea welwitschii* (Knobl.) Gilg. & G.Schellenb. (Syn. *Steganthus welwitschii* Knobl.)	*UK*	*Elgon olive*
Longhi	*Chrysophyllum spp.* (Syn. *Gambeya spp.*) *Chrysophyllum africanum* G.Don,	Cameroon Central African Republic Congo Côte d'Ivoire	Abam Bopambu Longhi Akatio,

Pilot-name	Scientific names	Local names	
	(Syn. *Gambeya africana* Pierre) *Chrysophyllum lacourtianum* De Wild.) (Syn. *Gambeya lacourtiana* Aubrev. & Pellegr.) *Chrysophyllum subnudum* Baker (Syn. *Gambeya subnuda* Pierre)	 Gabon Ghana Nigeria	Anandio, Aningueri Rouge M'bebame Akasa Ekpiro, Osan
Lotofa	*Sterculia rhinopetala* Schum.	Cameroon Côte d'Ivoire Ghana Nigeria *UK*	N'Kanang Lotofa Wawabima Aye *Brown Sterculia*
Louro vermelho	*Ocotea rubra* Mez.	Brazil French Guiana	Gamela, Louro Gamela, Louro Vermelho Grignon Franc

Pilot-name	Scientific names	Local names	
		Guyana Suriname *UK*	Baaka, Determa, Red Louro, Wanu Teteroma *Determa*
Lupuna	*Chorisia spp.*	South America	Árbol botella, Árbol de lana, Paina de seda, Painera, Palo Borracho, Palo Barrigudo, Palo Botella
Pilot-name	**Scientific names**	**Local names**	
Lusambya	*Markhamia lutea* (Benth.) K. Schum. (Syn. *Markhamia platycalyx* Sprague)		
Maçaranduba	*Manilkara spp.*	Brazil	Maçaranduba,

Pilot-name	Scientific names	Local names	
	Manilkara bidentata A Chev. (Syn. *Manilkara surinamensis* (Miq.) Dubard) *Manilkara huberi* (Ducke) Standl. Dubard	Colombia French Guiana Guyana Panama Peru Suriname Venezuela *UK* *USA*	Maparajuba, Paraju Balata, Nispero Balata franc, Balata rouge, Balata gomme, Balata, Bulletwood, Beefwood Nispero Pamashto, Quinilla Colorada Bolletrie Balata Massarandu *Bulletwood* *Bulletwood,* *Beefwood*

Pilot-name	Scientific names	Local names	
Machang	*Mangifera spp.*	India Indonesia Malaysia Myanmar Pakistan Papua New Guinea Philippines Solomon Islands Thailand Vietnam *France* *UK*	Mangga, Mango Membacang Asam, Machang, Sepam Mangowood, Thayet Mango Mango Ailai, Asai, Pahutan Ma-Muang-Pa Ma-Muang-Pa, Pamutan Xoai *Manguier* *Mangowood*

Pilot-name	Scientific names	Local names	
Machiche	*Lonchocarpus lanceolatus* Benth.	Central America	Black Cabbagebark, Chaprerno, Sindjaplé
Mafu	*Clausena melioides* Hiern. *Fagaropsis angolensis* H.M.Gardn	Tanzania Kenya	Mfu, Mkunguni, Mtongoti Muyinja
Mafumati	*Newtonia buchananii* Gilb. & Bout (Syn. *Piptadenia buchananii* Bak.)		

Pilot-name	Scientific names	Local names	
Mahogany	*Swietenia macrophylla* King (Syn. *Swietenia candollei* Pitt. Syn. *Swietenia tessmannii* Harms. Syn. *Swietenia krukovii* Gleason) *Swietenia mahagoni* (L.) Jacq.	Bolivia Brazil Central America	Caoba, Mara Aguano, Mogno Araputanga Caoba, Caoba del Sur, Caoba del Atlantica

Pilot-name	Scientific names	Local names	
	Swietenia humilis Zucc.	Colombia	Caoba
		Cuba	Caoba
		Dominican Republic	Mahogani
		Guatemala	Chacalte
		Haiti	Mahogani
		Mexico	Zopilote, Baywood
		Nicaragua	Mahogani
		Peru	Aguano, Caoba
		Venezuela	Caoba, Orura
		France	*Acajou d'Amérique*
		Italy	*Mogano*
		Netherlands	*Mahonie*
		Spain	*Caoba*
		UK	*Mahogany, Brazilian Mahogany*
		USA	*Mahogany,*

Pilot-name	Scientific names	Local names	
			Brazilian Mahogany
Malagangai	*Eusideroxylon melagangai* (Symington) Kosterm.		
Malas	*Homalium spp.*	Indonesia Malaysia Philippines Myanmar Laos	Dlingsem, Gia, Melmas, Momala Banisian, Padang, Selimbar, Takaliu, Aranga Myaukchaw, Myaukugo Khen Nang Kha Nang
Manbodé	*Detarium macrocarpum* Harms	West and Central Africa	Dankh, Petit Détar, Sweet Dattock

Pilot-name	Scientific names	Local names	
	Detarium senegalense J.F. Gmel.		
Mandioqueira	*Qualea spp.*	Brazil French Guiana Suriname Venezuela	Mandio, Mandioqueira, Quaruba Gronfolo Gris Grignon Fou, Kouali Gronfoeloe Florecillo
Pilot-name	**Scientific names**	**Local names**	
Manil	*Symphonia globulifera* L.f.	Bolivia Brazil Colombia Ecuador	Azufre, Bolivia Anani, Canadi, Mani Azufre, Machare Machare, Puenga,

Pilot-name	Scientific names	Local names	
		French Guiana Guyana Peru Suriname Trinidad and Tobago Venezuela *USA*	Zaputi Manil, Manil Marecage Manni Azufre, Brea-Caspi Mani, Mataki Mangue Mani, Paraman, Peramancillo *Boarwood*
Manil Montagne	*Moronobea coccinea* Aubl.	Brazil French Guiana Guyana	Anani Da Terra Firme, Bacuri de Anta Manil Montagne, Manil Peou, Parcouri-Manil Coronobo,

Pilot-name	Scientific names	Local names	
		Suriname	Morombo-Rai, Moronobo Manniballi, Matakkie
Marupa	*Simarouba amara* Aubl.	Bolivia Brazil Colombia Ecuador French Guiana Guyana Peru Suriname Venezuela	Chiriuana Marupa, Marupauba, Parahyba, Paraiba, Tamanquiera Simaruba Cedro Amargo, Cuna, Guitarro Simarouba Simarupa Marupa Soemaroeba Cedro Blanco, Simarouba

Pilot-name	Scientific names	Local names	
		UK	*Bitterwood*

Pilot-name	Scientific names	Local names	
Mata-Mata	*Eschweilera spp.* *Eschweilera amara* Mart. ex O. Berg	Brazil French Guiana Guyana Suriname	Mata-Mata, Matamata Preto Baakalaka, Baikaaki, Balibon, Kouanda, Maho, Mahot Noir, Mahou Black Kakaralli, Kakaralli Hoogland Barklak, Manbarklak
Mata Ulat	*Kokoona spp.*		
Mecrussé	*Androstachys johnsonii* Prain	Mozambique South Africa	Cimbirre Lebombo Ironwood,

Pilot-name	Scientific names	Local names	
			Nsimbitsi
Medang	*Litsea spp.*	Australia Malaysia Myanmar Philippines Vietnam Indonesia Laos Myanmar	Bollywood Medang Padang Ondon Bagaoring, Batikuling Boi loi Huru Chick Dong Kyese
Melunak	*Pentace spp.*	Malaysia Myanmar Thailand	Baru Baran, Melunak, Takalis Baru Baran Sisiat
Mempening	*Lithocarpus spp.*		
Mengkulang	*Heritiera spp.* (Syn. *Tarrietia spp.*)	Cambodia Indonesia	Don-Chem Palapi, Teraling

Pilot-name	Scientific names	Local names	
	Heritiera albiflora (Ridl.) Kosterm. *Heritiera borneensis* (Merr.) Kosterm. *Heritiera simplicifolia* (Mast.) Kosterm. *Heritiera javanica* (Bl.) Kosterm. *Heritiera kuenstleri* (King) Kosterm. *Heritiera sumatrana* (Miq.) Kosterm. *Tarrietia perakensis* King	Malaysia Myanmar Philippines Thailand Vietnam *Australia*	Mengkulang, Kembang Kanze Lumbayau Chumprag Huynh *Red* or *Brown Tulip Oak*
Pilot-name	**Scientific names**	**Local names**	
Mepepe	*Albizia adianthifolia* W.F. Wight		

Pilot-name	Scientific names	Local names	
	Albizia gummifera A.C. Sm. (Syn. *Albizia fastigiata* Oliv.) *Albizia zygia* J.F. Macbr.		
Meransi	*Carallia spp.* *Carallia borneensis* Oliv.	Southeast Asia	Karibas Kemuning Hutan Magtungod
Meranti, Dark red	*Shorea spp.* *Shorea curtisii* Dyer ex King *Shorea pauciflora* King *Shorea platyclados* Sloten ex Endert *Shorea argentifolia* Sym. *Shorea ovata* Dyer ex King *Shorea parvifolia* King *Shorea singkawang* (Miq.) Burck *Shorea pachyphylla* Ridl. ex Sym. *Shorea acuminata* Dyer *Shorea hemsleyana* King	Indonesia Malaysia	Red Meranti, Red Mertih, Meranti Ketung, Meranti Bunga, Meranti Merah-Tua Nemesu, Meranti Bukit, Meranti Daun Basar, Dark Red Seraya, Obar Suluk, Seraya Bukit, Seraya Daun, Binatoh, Engbang-Chenak,

Pilot-name	Scientific names	Local names	
	Shorea leprosula Miq. *Shorea macrantha* Brandis *Shorea hemsleyana* (King) King ex Foxw. *Shorea platycarpa* Heim. *Shorea polysperma* (Blanco) Merr.	Philippines *UK* *USA*	Meranti Bunga Sengawan Tanguile, Bataan, Red Lauan *Red Lauan,* *Dark Red Seraya* *Dark Meranti*

Pilot-name	Scientific names	Local names	
Meranti, Light red	*Shorea spp.* *Shorea acuminata* Dyer *Shorea dasyphylla* Foxw. *Shorea hemsleyana* (King) King ex Foxw. *Shorea macrantha* Brandis *Shorea johorensis* Foxw. *Shorea lepidota* (Korth.) Bl.	Indonesia Malaysia	Red Meranti, Meranti Merah-Muda, Meranti Bunga Damar Siput, Meranti-Hantu, Meranti Kepong, Meranti Langgang, Meranti Melanthi, Meranti Paya,

Pilot-name	Scientific names	Local names	
	Shorea leprosula Miq. *Shorea macroptera* Dyer *Shorea sandakanensis* Sym. *Shorea ovalis* (Korth.) Bl. *Shorea parvifolia* Dyer *Shorea palembanica* Miq. *Shorea platycarpa* Heim. *Shorea teysmanniana* Dyer ex Brandis *Shorea revoluta* Ashton *Shorea argentifolia* Sym. *Shorea leptoclados* Sym. *Shorea smithiana* Sym. *Shorea albida* Sym. *Shorea macrophylla* (de Vriese) Ashton *Shorea quadrinervis* Slooten. *Shorea gysbertsiana* Burck	Philippines Thailand	Meranti Rambai, Meranti Tembaga, Meranti Tengkawang, Meranti Sengkawang, Engkawang, Seraya Batu, Seraya Punai Seraya Bunga, Kawang Almon, Light Red Luan Saya Khao, Saya Lueang, Chan Hoi

Pilot-name	Scientific names	Local names	
	Shorea pachyphylla Ridl. ex Sym.		
Pilot-name	**Scientific names**	**Local names**	
Meranti, White	*Shorea spp.* *Shorea agami* Ashton *Shorea assamica* Dyer *Shorea bracteolata* Dyer *Shorea dealbata* Foxw. *Shorea henryana* Lanessan *Shorea lamellata* Foxw. *Shorea resinosa* Foxw. *Shorea roxburghii* G. Don *Shorea stalura* Roxb. *Shorea hypochra* Hance *Shorea hentonyensis* Foxw. *Shorea sericeiflora* C.E.C. Fischer & Hutch. *Shorea farinosa* C.E.C. Fischer	Cambodia Indonesia Malaysia Myanmar Philippines Thailand	Lumber, Koki Phnom Meranti Putih, Damar Puthi Meranti Jerit, Meranti Lapis, Meranti Pa'ang or Kebon Tang, Meranti Temak, Melapi, White Meranti Makai White Lauan, White Meranti Pendan, Pa Nong, Sual, Kabak Kau,

Pilot-name	Scientific names	Local names	
	Shorea gratissima Dyer *Shorea ochracea* Sym. *Parashorea malaanonan* (Blco.) Merr. *Shorea polita* S. Vidal	Vietnam	Xen, Chai

Pilot-name	Scientific names	Local names	
Meranti, Yellow	*Shorea spp.* *Shorea faguetiana* Heim. *Shorea dolichocarpa* Slooten. *Shorea maxima* (King) Sym. *Shorea longisperma* Roxb. *Shorea gibbosa* Brandis *Shorea multiflora* (Burck) Sym. *Shorea hopeifolia* (Heim.) Sym. *Shorea resina-nigra* Foxw. *Shorea peltata* Sym.	Indonesia Malaysia	Meranti Kuning, Kunyit, Damar Hitam Meranti Telepok, Meranti Kelim, Yellow Meranti, Meranti Damar Hitam, Yellow Seraya, Seraya Kuning, Selangan Kuning, Selangan Kacha, Seraya Kuning, Lun Kuning, Lun Gajah,

Pilot-name	Scientific names	Local names	
	Shorea acuminatissima Sym. *Shorea blumutensis* Foxw. *Shorea faguetioides* Ashton	Thailand	Lun Merat, Lun Siput Kalo
Meranti Bakau	*Shorea rugosa* F. Heim *Shorea uliginosa* Foxw.		
Merawan	*Hopea spp.* *Hopea apiculata* Sym. *Hopea griffithii* Kurz *Hopea lowii* Dyer *Hopea mengarawan* Miq. *Hopea nervosa* King *Hopea odorata* Roxb. *Hopea papuana* Diels *Hopea sangal* Korth. *Hopea sulcata* Sym.	Cambodia Indonesia Malaysia Myanmar Papua New Guinea Philippines Thailand Vietnam	Koki Merawan/Sengal Merawan/Sengal Gagil Selangan, Selangan-Kasha Thingan Light Hopea Manggachapui Takhian Sao, Sau
Pilot-name	**Scientific names**	**Local names**	

Pilot-name	Scientific names	Local names	
Merbau	*Intsia palembanica* Miq. (Syn. *Intsia bakeri* Prain.) *Intsia palembanica* (Miq.) *Intsia bijuga* (Colebr.) Kuntze (Syn. *Intsia retusa* (Kurz.) O.Kuntze.)	Fiji Indonesia Madagascar Malaysia New Caledonia Papua New Guinea Philippines Thailand Vietnam *Australia* *China* *UK*	Vesi Merbau Hintsy Merbau Komu Kwila Ipil, Ipil Laut Lum-Paw, Gonuo *Kwila* *Kalabau* *Moluccan Ironwood*
Merpauh	*Swintonia spp.* *Swintonia floribunda* Griff. *Swintonia schwenkii* Teijsm. & Binn. ex Hook. f.	Cambodia India Malaysia Myanmar	Muom Thayet-Kin Merpau Merpauh Taung Thayet

Pilot-name	Scientific names	Local names	
	Swintonia penangiana King *Swintonia pierrei* Hance *Swintonia spicifera* Hook. f.	 Pakistan Vietnam	Civit Taungthayet Civit Muom
Mersawa	*Anisoptera spp.* *Anisoptera curtisii* King *Anisoptera costata* Korth. (Syn. *Anisoptera oblonga* Dyer) *Anisoptera laevis* Ridl. *Anisoptera marginata* Korth. Anisoptera thurifera Blume	Cambodia Indonesia Laos Malaysia Myanmar Papua New Guinea Philippines Thailand *France* *UK* *USA*	Phdiek Mersawa Mai Bak Mersawa, Pengiran Kaunghmu Mersawa Palosapis Krabak, Pik *Ven-Ven* *Krabak* *Bella Rosa*

Pilot-name	Scientific names	Local names	
Messassa	*Brachystegia spiciformis* Benth.		
Metondo	*Cordyla africana* Lour.	Tanzania	Mroma, Mpachamu, Mgwata
Mirindiba-Doce	*Glycydendron amazonicum* Ducke	Brazil	Mirindiba-Doce, Pau-de-Casca-Doce
Mjombo	*Brachystegia boehmii* Taub.	Africa	Miombo

Pilot-name	Scientific names	Local names	
Moabi	*Baillonella toxisperma* Pierre (Syn. *Mimusops djave* Engl.)	Cameroon Congo Equatorial Guinea Gabon Dem. Rep. of the Congo *UK*	Adjap, Ayap Dimpampi Ayap M'Foi Muamba jaune *African Pearwood*
Moambé jaune	*Enantia spp.*	*UK*	*African whitewood*

Pilot-name	Scientific names	Local names	
	Enantia chlorantha Oliv.		
Molave	*Vitex parviflora* Juss.	Indonesia Philippines	Fuli Kaa, Kayu Kula Amugauan, Molave, Sagat
Momoqui	*Caesalpinia pluviosa* DC.	South America	False Brazilwood, Sibipiruna
Monghinza	*Manilkara mabokeensis* Aubr. *Manilkara obovata* J.H. Hemsley *Manilkara sylvestris* Aubt. & Pellegr.		
Mopaani	*Colophospermum mopane* (J. Kirk ex Benth.) J. Léonard. (Syn. *Copaifera mopane* Kirk & Benth.)		

Pilot-name	Scientific names	Local names	
Mopé	*Spondias mombin* L.	South America	Coolie Plum Gully Plum, Hog Plum, Jobo, Mopé, Prunier Mombin, Spanish Plum
Mora	*Mora spp.*	South America	Alcornoque, Morabukea, Nato, Nato Rojo, Pracuba Branca, Pracuuba
Moral	*Maclura tinctoria (*L.) D. Don ex Steud. (Syn. *Chlorophora tinctoria* (L) Gaudich.)	Argentina Bolivia Brazil Colombia Costa Rica	Tatayiva-Saiyu Amarillo Amarello, Taiuva Dinde, Palo Amarillo Palo de Mora

Pilot-name	Scientific names	Local names	
		Mexico Trinidad and Tobago	Barossa, Moral Bois d'Orange
Pilot-name	**Scientific names**	**Local names**	
Morototo	*Schefflera morototoni* (Aubl.) Maguire, Steyerm**.** & Frodin (Syn. *Didymopanax morototoni* (Aubl.) Decne. & Planch)	Argentina Brazil Colombia Cuba Dominican Rep. Mexico Puerto Rico Suriname Venezuela	Ambayguazu Mandioqueira Yarumero Yagrumo Macho Yagrumo Macho Chancaro Blanco Yagrumo Macho Kasavehout, Morototo Tinajero
Movingui	*Distemonanthus benthamianus* Baill.	Benin Cameroon Côte d'Ivoire Equatorial Guinea Gabon	Ayan Eyen Barre Eyen Eyen,

Pilot-name	Scientific names	Local names		
			Ghana Nigeria *UK*	Movingui Ayan Ayan, Ayanran *Ayan,* *Distemonanthus*
Mtambara	*Cephalosphaera usambarensis* Warb.			
Mtandarusi	*Trachylobium verrucosum* Oliv.		*UK*	*East African copal*
Mubala	*Pentaclethra macrophylla* Benth.			
Mueri	*Prunus africana* (Hook.f.) Kalk. (Syn. *Pygeum africanum* Hook.f.)		*UK*	*Red Stinkwood* *Bitter almond*
Mugaita	*Rapanea rhododendroides* Mez.			
Mugonha	*Adina microcephala* Hiern.		Africa	Matumi Rhodesian Redwood
Muhimbi	*Cynometra alexandri* C.H. Wright		Africa	Angu Baira

Pilot-name	Scientific names	Local names	
			Bapa Bosengere Kahimbi Kampiniungu Lukuanga Mbombele Mubale Mubangu Mubindi Mudindi Muhindi Mupombe Tembwe Uganda Ironwood

Pilot-name	Scientific names	Local names	
Mühühü	*Brachylaena huillensis* O.Hoffm. (Syn. *Brachylaena hutchinsii* Hutch.)	Congo	Mkalambaki, Mkarambati, Muhugu, Muhuhu, Mvumo

Pilot-name	Scientific names	Local names	
		Kenya	Mkalambaki, Mkarambati, Muhugu, Muhuhu, Mvumo
		South Africa	Laeveldvaalbos
		Tanzania	Mkalambaki, Mkarambati, Muhugu, Muhuhu, Mvumo
		Uganda	Mkalambaki, Mkarambati, Muhugu, Muhuhu, Mvumo
		UK	*Low Veld Brachyleana,* *Low Veld Silver Oak,* *Silver Oak*

Pilot-name	Scientific names	Local names	
Muira-piranga	*Brosimum rubescens* Taub.	Brazil French Guiana Guyana Suriname *Italy* *Spain* *UK*	Amapa Rana, Conduru, Falso Pao Brasil, Muirapiranga, Pau Rainha Satine, Satine Rouge, Satine Rubaine, Siton Paya Satinwood Doekaliballi, Satijnhout *Legno Satino,* *Ferolia* *Palo de Oro* *Bloodwood*
Muiratinga	*Maquira coriacea* (H.Karst.) C.C.Berg	Brazil	Capinuri, Muiratinga
Mukarati	*Burkea africana* Hook.		

Pilot-name	Scientific names	Local names	
Mukulungu	*Autranella congolensis* A. Chev. (Syn. *Mimusops congolensis* De Wild.)	Angola Cameroon Central African Republic Congo Dem. Rep. of the Congo Gabon Nigeria	Kungulu Elang, Elanzok Bouanga Mfua Mukulungu Akola Uku
Muninga	*Pterocarpus angolensis* DC.		
Muniridan	*Siparuna spp.*		
Pilot-name	**Scientific names**	**Local names**	
Musharagi	*Olea hochstetteri* Baker	UK	East African olive
Musine	*Croton megalocarpus* Hutch.		
Mussibi (Mutenyé)	*Guibourtia coleosperma* J. Léon (Syn. *Copaifera coleosperma* Benth.)	Zimbabwe *UK*	*Muzaule* *African Rosewood,* *Copalier,*

Pilot-name	Scientific names	Local names	
	Guibourtia arnoldiana J. Léon		*False Mopane,* *Mushibi,* *Musibi,* *Mussive,* *Muzaule,* *Muxibe,* *Rhodesian copalwood*
Mutaco	*Entandrophragma spicatum (*C.DC.) Sprague (Syn. *Entandrophragma ekebergioides (Harms)* Sprague Syn. *Wulfhorstia ekebergioides* Harms)		
Mutondo	*Funtumia africana* (Benth.) Stapf *Funtumia elastica* (P.Preuss) Stapf *Funtumia latifolia* (Stapf) Stapf		

Pilot-name	Scientific names	Local names	
Muziga	*Warburgia ugandensis* Sprague		
N'téné	*Copaifera religiosa* J. Léon.	Africa	Anzem, Bengi
Naga	*Brachystegia cynometroides* Harms *Brachystegia eurycoma* Harms. *Brachystegia leonensis* Hutch. & Davy *Brachystegia nigerica* Hoyle & A.P.D. Jones	Cameroon Côte d'Ivoire Gabon Liberia Nigeria Sierra Leone *UK*	Ekop-Naga Meblo Mendou Tebako Okwen Bogdei *Okwen*
Nargusta	*Terminalia amazonia* (J.F.Gmel.) Exell. *Terminalia guyanensis* Eichler	Brazil Colombia Honduras Mexico Panama Venezuela	Pau-Mulato Brancho Guayabo Leon Almendro Canshan Amarillo Carabazuelo Pardillo Negro

Pilot-name	Scientific names	Local names	
Nganga	*Cynometra spp.* *Cynometra hankei* Harms		
Niangon	*Tarrietia utilis* (Sprague) Sprague (Syn. *Heritiera utilis* (Sprague) Sprague) *Tarrietia densiflora* Aubr. & Normand (Syn. *Heritiera densiflora* (Pellegr.) Kosterm.	Côte d'Ivoire Gabon Ghana Liberia Sierra Leone	Niangon Ogoue Nyankom Whismore Yami
Nieuk	*Fillaeopsis discophora* Harms		
Niové	*Staudtia gabonensis* Warb. *Staudtia kamerunensis* Warb. *Staudtia stipitata* Warb.	Angola Cameroon Central African Republic Equatorial Guinea Gabon	Menga-Menga M'Bonda, Menga-Menga Molanga Bokapi M'Boun, Niove

Pilot-name	Scientific names	Local names	
		Dem. Rep. of the Congo	Kamashi, Susumenga
Nyatoh	*Palaquium spp.* *Palaquium gutta* (Hook.) Burck (Syn. *Palaquium acuminatum* Burck) *Palaquium hexandrum* (Griff.) Baill. *Palaquium maingayi* Engl. *Palaquium rostratum* (Miq.) Burck *Palaquium xanthochymum* Pierre ex Burck *Payena spp.* *Payena maingayi* C.B. Clarke *Madhuca motleyana* (de Vriese) J.F.Macbr. (Syn. *Ganua motleyana* (de Vriese) Pierre ex Dubard)	India Indonesia Malaysia Papua New Guinea Philippines Thailand Vietnam *Netherlands* *UK*	Pali Nyatoh Nyatoh, Mayang Taban, Riam Pencil Cedar Nato Kha-Nunnok Chay *Balam* *Padang*
Obéro	*Picralima nitida* (Stapf) T.Durand		

Pilot-name	Scientific names	Local names	
	(Syn. *Picralima klaineana* Pierre)		
Odzikouna	*Scytopetalum spp.*		
Pilot-name	**Scientific names**	**Local names**	
Okan	*Cylicodiscus gabunensis* Harms	Cameroon Congo Côte d'Ivoire Gabon Ghana Nigeria	Adoum, African Greenheart, Bokoka N'Duma Bouemon Edoum, Oduma Adadua, Benya, Denya Okan
Okoué	*Baphia nitida* Lodd. *Baphia pubescens* Hook.f.		

Pilot-name	Scientific names	Local names	
Okoumé	*Aucoumea klaineana* Pierre	Congo Equatorial Guinea Gabon *UK*	N'Kumi Okumé, N'Goumi, Okoumé, Angouma *Gaboon*
Olon	*Fagara heitzii* Aubrev. & Pellegr.	Cameroon Congo Dem. Rep. of the Congo Equatorial Guinea Gabon	Bongo M'Banza Kamasumu Olong Olon
Olonvogo	*Zanthoxylum gilletii* (De Wild.) P.G.Waterman (Syn. *Fagara inaequalis* Engl. Syn. *Fagara macrophylla* Engl. Syn. *Fagara tessmannii* Engl.)		
Onzabili	*Antrocaryon micraster* A. Chev.& Guill.	Angola Cameroon	N'Gongo Angonga

Pilot-name	Scientific names	Local names	
	Antrocaryon klaineanum Pierre *Antrocaryon nannanii* De Wild.	Côte d'Ivoire Equatorial Guinea Gabon Ghana Dem. Rep. of the Congo *Portugal*	Akoua Anguekong Onzabili Aprokuma Mugongo *Mongongo*
Orey	*Campnosperma panamense* Standl. *Campnosperma gummifera* (L). March.		
Osanga	*Pteleopsis hylodendron* Mildbr.	Cameroon Côte d'Ivoire Dem. Rep. of the Congo	Sikon Koframire Osanga
Ossimiale	*Newtonia leucocarpa* Gilb. & Bout. (Syn. *Piptadenia leucocarpa* Harms)		

Pilot-name	Scientific names	Local names	
Ossoko	*Scyphocephalium ochocoa* Warb. *Scyphocephalium mannii* Warb.	Gabon	Ossoko, Sogho
Ovengkol	*Guibourtia ehie* (A.Chev.) J. Léonard	Côte d'Ivoire Equatorial Guinea Gabon Ghana *USA*	Amazakoue Palissandro Ovengkol Hyeduanini, Anokye *Mozambique*
Ovoga	*Poga oleosa* Pierre	Cameroon Gabon Nigeria	Ngale Afo, Ovoga Inoi
Ozigo	*Dacryodes buettneri* (Engl.) H.J. Lam. (Syn. *Pachylobus buettneri* Engl.)	Equatorial Guinea Gabon *Germany*	Assia Ozigo, Assia *Assia*

Pilot-name	Scientific names	Local names	
Ozouga	*Sacoglottis gabonensis* Urb.	Cameroon Congo Côte d'Ivoire Gabon Ghana Nigeria Sierra Leone	Bedwa, Bidou, Bodoua, Edoue, Eloue Niuka Akouapo, Tougbi Essoua, Ozouga Ozouga, Atala, Tala, Ugu Kpowuli
Paco	*Ptaeroxylon obliquum* Radlk.		
Padauk Amboyna	*Pterocarpus indicus* Willd. (Syn. *Pterocarpus vidalianus* Rolfe)	India Indonesia	Andaman-Padauk Sena, Sonokembang

Pilot-name	Scientific names	Local names	
			Linggua
			Angsana
			Amboina
		Malaysia	Sena
		Myanmar	Pashu-Padauk
		Papua New Guinea	Png-Rosewood
		Philippines	Manila-Padouk,
			Narra
			Vitali
		France	*Amboine/Amboyna* or *Padouk*
			Amboine/Amboyna or *Padouk*
		Germany	*Amboyna* or *Padouk*
			Karin
		UK	
		Japan	

Pilot-name	Scientific names	Local names	
Padouk d'Afrique	*Pterocarpus osun* Craib.	Angola	Tacula
	Pterocarpus soyauxii Taub.	Cameroon	Mbel
		Congo	Kisese

Pilot-name	Scientific names	Local names	
	Pterocarpus tinctorius Welw.	Equatorial Guinea Gabon Nigeria Central African Republic Dem. Rep. of the Congo *Germany* *Belgium* *Italy* *Netherlands* *UK*	Palo rojo Mbel Osun Padouk Mongola, Mukula, N'Gula *Padauk* *Corail* *Paduk* *Padoek* *African Padauk,* *Barwood,* *Camwood,* *Padauk*
Paldao	*Dracontomelon dao* (Blanco) Merr. & Rolfe *Dracontomelon edule* Skeeis.	Malaysia Philippines	Sengkulang Dao, Ulandug, Lamio

Pilot-name	Scientific names	Local names	
	Dracontomelon sylvestre Bl.		
Palissandre d'Asie	*Dalbergia bariensis* Pierre *Dalbergia cambodiana* Pierre *Dalbergia cochinchinensis* Pierre *Dalbergia latifolia* Roxb. *Dalbergia oliveri* Prain *Dalbergia sissoo* Roxb.	Cambodia Laos Thailand Vietnam	East Indian Palisander East Indian rosewood Neang Nuon Palissandre d'Asie Tamalan
Palissandre de Guatemala	*Dalbergia tucurensis* Donn. Sm.		
Palissandre de Madagascar	*Dalbergia spp.* *Dalbergia louveli* R.Vig.	*France* *UK*	*Bois de rose de Madagascar* *Madagascar rosewood*

Pilot-name	Scientific names	Local names	
	Dalbergia monticola Bosser & R. Rabev. *Dalbergia normandii* Bosser & R. Rabev. *Dalbergia purpurascens* Baill. *Dalbergia xerophila* Bosser & R. Rabev.		
Palissandre de Rose	*Dalbergia decipularis* Rizz. & Matt.	Brazil French Guiana	Pau Rosa Bois de rose femelle

Pilot-name	Scientific names	Local names	
Palissandre de Santos	*Machaerium scleroxylon* Tul.	Brazil Bolivia French Guiana	Caviuna, Jacarand, Pau Ferro Morado Palissandre de Santos
Palissandre Honduras	*Dalbergia stevensonii* Standl.		
Palissandre Panama	*Dalbergia darienensis* Rudd.		

Pilot-name	Scientific names	Local names	
Palissandre Para	*Dalbergia spruceana* Benth.	Brazil *France* *Germany* *Spain* *UK* *USA* *Japan*	Caviuna We-We Jacaranda *Palissandre Rio* *Palissander* *Palisandro* *Brazilian Rosewood* *Jacaranda Pardo* *Brazilian Rosewood* *Shitan*
Palissandre Rio	*Dalbergia nigra* (Vell.) Allem. ex Benth.		
Panacoco	*Swartzia leiocalycina* Benth.	Brazil French Guiana	Carrapatinho, Coraçao de Negro, Gombeira Bois Perdrix, Ferreol, Panacoco Agui,

Pilot-name	Scientific names	Local names	
		Guyana Suriname *Germany* *UK*	Banya, Wamara Gandoe, Ijzerhart, Zwart Parelhout *Wamara* *Ironwood,* *Wamara*
Pao rosa	*Bobgunnia fistuloides* (Harms) J.H. Kirkbr. & Wiersema (Syn. *Swartzia fistuloides* Harms) *Bobgunnia madagascariensis* (Desv.) J.H. Kirkbr. & Wiers. (Syn. *Swartzia madagascariensis* Desv.)	Cameroon Congo Côte d'Ivoire Central African Republic Dem. Rep. of the Congo Gabon Mozambique Nigeria	Nom Nsas Kisasambra Boto N'Guessa Nsakala Oken Pau Ferro Udoghogho
Pilot-name	**Scientific names**	**Local names**	
Parapara	*Jacaranda copaia* Aubl.	Brazil	Carnauba da Matta,

Pilot-name	Scientific names	Local names	
		Colombia French Guiana Panama Suriname Venezuela	Para-Para Chingale Copaia, Faux Simarouba Gualandai Goebaja Abey, Cupay
Parcouri	*Platonia insignis* Mart.	Brazil Ecuador French Guiana Guyana Suriname	Bacuri, Bacuri-Açu, Bacuriuba Matazama Parcouri Pakuri Goelhart, Pakoeli
Pashaco	*Parkia velutina* Benoist		
Pau amarelo	*Euxylophora paraensis* Huber		

Pilot-name	Scientific names	Local names	
Pau marfim (Peroba rosa)	*Aspidosperma spp.*	Belize Bolivia Brazil Colombia French Guiana Guatemala Guyana Honduras Mexico Panama Peru Suriname Venezuela	My Lady Gavetillo Araracanga, Ararauba, Jacamin Copachi Quillo Caspi Kiantioutiou, Koumanti Oudou Chichica Shibadan Chaperna, Chapel Volador Alcarreto Pumaquiro Kormanti kopi Nielillo Negro
Pau mulato	*Calycophyllum spruceanum* (Benth.) K. Schum.	Ecuador	Capirona

Pilot-name	Scientific names	Local names	
Pau rosapau	*Rhamnus zeyheri* Sond.	*UK*	*Pink Ivory*

Pilot-name	Scientific names	Local names	
Pau Roxo	*Peltogyne maranhensis* Ducke	Brazil Colombia Guyana Mexico Suriname *France* *Netherlands* *UK*	Jatobazinho, Guarabu, Roxinho Tananeo Koroborelli, Merawayana, Saka Palo de Rosa, Pau Morado Dastan, Kocolorelli, Malako *Bois Pourpre* *Bois Violet* *Purperhart* *Amarant,* *Purpleheart,*

Pilot-name	Scientific names	Local names	
		USA	*Violetwood* *Amarant,* *Purpleheart,* *Violetwood*
Penaga	*Mesua ferrea* L.	India Malaysia *UK*	Agacuram, Atha, Mallaynangai, Naga Sampige, Nagappu, Nangil, Nangu, Nangul, Suruli Churuli, Nagacampakam, Nagapoovu, Nanku, Vayanavu *Iron wood tree*

Pilot-name	Scientific names	Local names	
Pernambouc	*Caesalpinia echinata* Lam.	Brazil	Brasileto, Ibirapitanga, Orabutá, Pernambuco, Pau Brasil, Pau Rosado
Peruvian Pepper	*Schinus molle* L.	South America *France* *UK*	Arveira Pimienta Pirul *Poivre Rosé* *California Pepper Tree,* *Chilean Pepper Tree,* *Mastic Tree,* *Molle,* *Pepper Berry Tree,* *Pepper Tree,* *Peruvian Mastic,* *Peruvian Pepper Tree,* *Pink Pepper,* *Weeping Pepper*
Pilot-name	**Scientific names**	**Local names**	

Pilot-name	Scientific names	Local names	
Pillarwood	*Cassipourea spp.* *Cassipourea malosana* (Baker) Alston (Syn. *Cassipourea elliottii* (Engl.) Alston)		
Pilon	*Hieronyma spp.*	Belize Brazil Colombia Ecuador Honduras Nicaragua Venezuela	Suradanni Acuarana, Sangue De Boi, Urucurana Mascarey Mascaré Rosita Nanciton Trompillo
Piquia	*Caryocar spp.* *Caryocar costaricense* Donn. Sm.	Brazil Colombia Costa Rica Guyana	Piquia Almendrillo, Almendron, Cagui Aji, Ajillo Pekia

Pilot-name	Scientific names	Local names	
		Suriname	Sawarie
Platano	*Pouteria spp.*		
Pombeira	*Citharexylum fruticosum* L.	Southeast Asia	Fiddlewood
Primavera	*Tabebuia donnell-smithii* Rose	*UK*	*Gold Tree*
Punah	*Tetramerista glabra* Miq.	Indonesia Malaysia	Punal, Bang Kalis, Paya Punam, Ponga, Peda, Entuyut, Amat, Tuyut
Pyinkado	*Xylia spp.*		
Quaruba	*Vochysia spp.* *Vochysia guatemalensis* Don. Sm.	Guyana	Iteballi, San Juán

Pilot-name	Scientific names	Local names	
	Vochysia schomburgkii Warm.		

Pilot-name	Scientific names	Local names	
Ramin	*Gonystylus bancanus* (Miq.) Kurz *Gonystylus macrophyllus* (Miq.) Airy Shaw (Syn. *Gonystylus philippinensis* Elm.) *Gonystylus reticulatus* (Elm.) Merr.	Indonesia Malaysia Philippines Solomon Islands *Switzerland*	Garu-Buaja, Akenia, Medang Keram Melawis, Ramin Batu, Ramin Telur, Ahmin Lantunan-Bagio Ainunura, Latareko, Petata, Fungunigalo *Akenia*
Rengas	*Gluta spp.*	Malaysia	Jalang, Kerbau, Rengas

Pilot-name	Scientific names	Local names	
		Myanmar Indonesia Thailand	Thayet-Thitsi Rengas, Tembaga Rakban
Resak	*Vatica spp.*		
Rikio	*Uapaca spp.* *Uapaca guineensis* Müll. Arg.	Cameroon Côte d'Ivoire Nigeria	Borikio, Rikio, Rikio Riviere Borikio, Rikio, Rikio Riviere Abo Emido, Yeye
Rosawa	*Gmelina vitiensis* (Seem) A.C. Sm.		
Rose of the Mountain	*Brownea spp.*		
Sabicu	*Lysiloma latisiliquum (L.) Benth.*	Central America	False Tamarind, Tsalam, Tzalam

Pilot-name	Scientific names	Local names	
Saboarana	*Swartzia benthamiana* Miq.	Guyana	Guyana Rosewood, Wamara
Safukala	*Dacryodes pubescens* H.J. Lam (Syn. *Pachylobus pubescens* Engl.)		
Sal	*Shorea obtusa Wall.* *Shorea robusta* C.F. Gaertn.	Asie du Sud-Est	Rang
Sali	*Tetragastris spp.*	Brazil Colombia French Guiana Guyana Nicaragua Puerto Rico	Almesca Aguarras, Palo de Cerdo Encens rouge, Gommier Haiawaballi Kerosen Masa, Palo de aceite
Sandalwood	*Santalum album* L.	Southeast Asia	Indian Sandalwood, Santal Blanc

Pilot-name	Scientific names	Local names	
Pilot-name	**Scientific names**	**Local names**	
Sapelli	*Entandrophragma cylindricum* Sprague	Angola Cameroon Central African Republic Congo Côte d'Ivoire Ghana Nigeria Uganda Dem. Rep. of the Congo *Germany* *UK*	Undianuno Assié-Sapelli M'Boyo Undianuno Aboudikro Penkwa Sapele Muyovu Lifaki *Sapelli-Mahagoni* *Sapele*
Sapucaia	*Eschweilera grandiflora* (Aubl.) Sandwith (Syn. *Lecythis grandiflora* Aubl.) *Lecythis pisonis* Cambess.	South America	Sapucaia Sapukaina
Saqui-Saqui	*Bombacopsis quinata* (Jacq.) Dugand	Central America	Cedro Espino,

Pilot-name	Scientific names	Local names	
		Colombia Venezuela	Cedro Espinoso, Cedro Tolua, Pochote Cedro Tolua, Ceiba Tolua, Cedro Macho Saqui Saqui, Cedro Dulce, Murea
Satin Ceylan	*Chloroxylon swietenia* DC.	Asia	Buruta, Ceylon Satinwood, East Indian Satinwood
Sepetir	*Sindora spp.* *Sindora affinis* De Wit *Sindora coriacea* (Baker) Prain *Sindora echinocalyx* Prain *Sindora siamensis* Teijsm. ex Miq. *Sindora velutina* Baker (Syn. *Sindora parvifolia* Backer)	Cambodia Indonesia Malaysia	Krakas Sindur Sepetir, Meketil, Saputi, Sepeteh, Petir,

Pilot-name	Scientific names	Local names	
	Pseudosindora palustris Sym. (Syn. *Copaifera palustris* (Sym.) De Wit)	Philippines Thailand	Petir-Sepetir Pay or Swamp-Sepetir, Sepetir Nin-Yaki Supa Krathon, Maka-Tea

Pilot-name	Scientific names	Local names	
Seraya, white (White Lauan)	*Parashorea malaanonan* Merr. *Parashorea plicata* Brandis *Parashorea macrophylla* Wyatt-Smith ex Ashton *Parashorea tomentella* Sym. Meijer	Indonesia Malaysia Myanmar Philippines Vietnam	Pendan, Urat Mata, Belutu, White Seraya Urat Mata Thingadu Bagtikan, White Lauan Cho-Chi
Sesendok	*Endospermum spp.*	Fiji Indonesia Malaysia	Kauvula Bakota, Sendok-Sendok Ekor,

Pilot-name	Scientific names	Local names	
		Philippines Papua New Guinea	Sendok-Sendok, Terbulan Gubas Basswood, Endospermum
Simpoh	*Dillenia spp.* *Dillenia aurea* Sm. *Dillenia eximia* Miq.	Indonesia Malaysia Myanmar Philippines Thailand	Sempur, Simpur Simpor Mai-Masan, Zinbyum Katmon, Masan San,
Sipo	*Entandrophragma utile* Sprague	Angola Cameroon Côte d'Ivoire Equatorial Guinea Gabon Ghana Nigeria	Kalungi Asseng-Assié Sipo Abebay Assi Utile Utile

Pilot-name	Scientific names	Local names	
		Uganda Dem. Rep. of the Congo *Germany* *UK*	Mufumbi Liboyo *Sipo-Mahagoni* *Utile*
Slangehout	*Loxopterygium sagotii* Hook f.	Suriname	Hububalli
Sobu	*Cleistopholis patens* Engl. & Diels. *Cleistopholis glauca* Pierre ex Engl.& Diels.		
Sougué	*Parinari excelsa* A.Chev, ssp. *holsti* Engl. (Syn. *Parinari tenuifolia* A. Chev.)	Liberia Nigeria Senegal Tanzania Uganda	Kpar Esagko, Inyi Mampata Mubura Mubura
Pilot-name	**Scientific names**	**Local names**	
Sucupira	*Bowdichia nitida* Benth.	Brazil	Sucupira, Sapurira

Pilot-name	Scientific names	Local names	
	Diplotropis martiusii Benth. *Diplotropis purpurea* (Rich.) Amsh.	Colombia French Guiana Guyana Peru Suriname Venezuela	Arenillo, Zapan Negro Coeur dehors, Baaka Tatabu Chontaquiro, Huasai-Caspi Zwarte Kabbes Congrio, Alcornoque
Sumauma	*Ceiba pentandra* (L.) Gaertn. *Ceiba samauma* (Mart. & Zucc.) K.Schum.	Bolivia Brazil Central America	Ceiba, Mapajo Toborochi, Sumauma Paneira Ceiba, Ceibon, Inup, Piton, Panya

Pilot-name	Scientific names	Local names	
		Colombia Ecuador French Guiana Guyana Peru Suriname Venezuela	Ceiba, Bonga Ceiba Uchuputu, Guambush Mahot coton, Fromager, Bois coton Kumaka, Silk Cotton Ceiba, Huimba Kankantrie, Koemaka Ceiba Yucca, Ceiba
Suren	*Toona sureni* (Bl.) Merr. (Syn. Toona febrifuga Roem.) *Toona ciliata* M. Roem. (Syn. *Cedrela toona* (Roxb. ex Rottler)	Cambodia India Indonesia Malaysia	Chomcha Toon Surian, Limpagna Surea-Bawang

Pilot-name	Scientific names	Local names	
	Toona calantas Merr. & Rolfe *Toona australis* (F. Muell.) Harms	Myanmar Papua New Guinea Philippines Thailand Vietnam *Australia* *UK* *USA*	Thitkado Red Cedar Calantas, Toon, Yomham Xoan-Moc *Red Cedar,* *Moulmein Cedar,* *Burma Cedar* *Moulmein Cedar,* *Burma Cedar*

Pilot-name	Scientific names	Local names	
Suya	*Pouteria speciosa* (Ducke) Baehni	Brazil Guyana	Pajura, Pajura de Obidos Chuya, Durban Pine, Por, Suya

Pilot-name	Scientific names	Local names	
Tali	*Erythrophleum spp.* *Erythrophleum suaveolens* Brenan (Syn. *Erythrophleum guineense* G. Don.) *Erythrophleum ivorense* A. Chev.	Cameroon Congo Côte d'Ivoire Dem. Rep. of the Congo Equatorial Guinea Gabon Ghana Guinea-Bissau Mozambique Nigeria Senegal Sierra Leone Tanzania Zambia *UK*	Elone N'Kassa Alui, Tali Eloun Elondo Eloun Potrodom Mancone Missanda Sasswood Tali Gogbei Mwavi Muave *Missandra*
Tamboti	*Spirostachys africana* Sond.		
Tani	*Cryptosepalum staudtii* Harms		

Pilot-name	Scientific names	Local names	
Tanimbuca	*Buchenavia spp.*		
Tapiá	*Alchornea triplinervia* (Spreng.) Müll.Arg.	Brazil	Kanakudiballi
Tasua	*Aglaia spp.* *(*Syn. *Amoora spp.)*		
Tatajuba	*Bagassa guianensis* Aubl.	Brazil French Guiana Suriname	Amapa-Rana, Tatajuba Bagasse Jaune Gele Bagasse
Tauari	*Couratari spp.*	Brazil Guyana French Guiana Suriname Venezuela	Imbirena Wadara Couatari, Inguipipa, Maho Cigare, Tabari Ingipipa Capa de Tabaco, Tampipio
Tchitola	*Oxystigma oxyphyllum* (Harms J. Léon.)	Angola	Tola Chinfuta

Pilot-name	Scientific names	Local names	
	(Syn. *Pterygopodium oxyphyllum* Harms)	Cameroon Congo Dem. Rep. of the Congo Gabon Nigeria	Nom Sinedon Kitola, Tchitola Akwakwa, Tshibudimbu Emola, M'Babou Lolagbola
Pilot-name	**Scientific names**	**Local names**	
Teak	*Tectona grandis* L.f.	India Indonesia Laos Myanmar Thailand Vietnam *France*	Sagwan Jati, Tek May Sak Kyun May Sak Giati, Teck *Teck*

Pilot-name	Scientific names	Local names	
		Germany	*Burma-Rangoon-Java Teak*
Tembusu	*Fagraea fragrans* Roxb.	Cambodia Fiji Malaysia Myanmar Philippines	Tatro, Trai Buabua Temasuk Anan, Ananma Urung
Tento	*Ormosia spp.* *Ormosia coutinhoi* Ducke	Brazil Colombia French Guiana Guyana Peru Puerto Rico Suriname	Buiucu, Tento Chocho, Choco Agui, Caconnier Rouge, Neko-Oudou Barakaro Huaryoro Palo de Matos Kokriki

Pilot-name	Scientific names	Local names	
		Venezuela	Peonia
Terminalia, brown	*Terminalia catappa L.*		
Terminalia, yellow	*Terminalia complanata* Schum. *Terminalia longispicata* V. Sl. *Terminalia sogerensis* Baker f.		
Thinwin	*Phaseolodes pendulum* (Benth.) Kuntze (Syn. *Millettia pendula* Benth.)		

Pilot-name	Scientific names	Local names	
Tiama	*Entandrophragma angolense* C. DC. *Entandrophragma congoense* A. Chev.	Angola Congo Côte d'Ivoire Equatorial Guinea Gabon Ghana Nigeria Uganda	Acuminata, Livuité Kiluka Tiama Dongomanguila Abeubêgne Edinam Gêdu-Nohor Mukusu Lifaki,

Pilot-name	Scientific names	Local names	
		Dem. Rep. of the Congo *Germany* *UK*	Vovo *Tiama-Mahagoni* *Gêdu-Nohor*
Timbo	*Enterolobium contortisiliquum* (Vell.) Morong	South America	Caro-Caro, Orejero, Pacara Earpod Tree, Tamboril, Timbo-Colorado, Timbo
Tipa	*Tipuana tipu* O. Ktze		
Tola (Oduma)	*Gossweilerodendron balsamiferum* Harms *Gossweilerodendron joveri* Normand ex Aubrev.	Angola Cameroon Congo Gabon	Tola branca Sinedon Tola, Tola blanc Emolo

Pilot-name	Scientific names	Local names	
		Nigeria Dem. Rep. of the Congo *Germany* *UK*	Agba Ntola *Agba,* *Tola branca* *Agba*
Toubaouaté	*Didelotia brevipaniculata* J. Léon.		
Trebol	*Platymiscium spp.* *Platycyamus regnellii* Benth. *Platymiscium pinnatum* (Jacq.) Dugand *Platymiscium trinitatis* Benth. (Syn. *Platymiscium duckei* Hub.) *Platymiscium ulei* Harms.	Belize Brazil Colombia Costa Rica El Salvador Honduras Mexico Peru	Granadillo Jacaranda do Brejo, Macacauba Guayacan trebol, Trebol Coyote, Cristobal Granadillo Granadillo Granadillo

Pilot-name	Scientific names	Local names	
		Venezuela	Cumaseba Roble
Tsanya	*Pausinystalia macroceras* Pierre ex Beille (Syn. *Corynanthe bequaertii* De Wild.) *Corynanthe paniculata* Welw.		
Tualang	*Koompassia excelsa* (Becc.) Taub.	Southeast Asia	Honey Bee Tree, Mangaris, Mengaris, Toale
Pilot-name	**Scientific names**	**Local names**	
Umgusi	*Baikiaea plurijuga* Harms	East Africa	Mukusi, Rhodesian Teak, Zambian Teak, Zambesi Redwood
Umiri	*Humiria balsamifera* var. *floribunda* (Mart.) Cuatrec. (Syn. *Humiria floribunda* Mart.)	Brazil Colombia	Umiri Oloroso

Pilot-name	Scientific names	Local names	
		Ecuador French Guiana Guyana Peru Suriname Venezuela	Chanul Bois Rouge, Houmiri Bastard Bulletwood, Meri, Tauaranru, Tauroniro Quinilla Colorado Basra Bolletrie, Blakaberi, Tawanonero Nina
Urunday	*Astronium balansae* Engl. *Astronium concinnum* Schott *Astronium graveolens* Jacq. *Astronium urundeuva* Engl.	Argentina Bolivia Brazil	Urunday del Noroeste, Urunday-Mi, Urundel Cuchi Arindeúva, Aroeira-do-Sertão,

Pilot-name	Scientific names	Local names	
		Paraguay Central and South America	Aroeira Preta, Urindeúva Urunde'y Mi Bois de Zèbre, Bossona Mura, Tigerwood, Urunday-Para, Zebrano Zebrawood, Zorrowood
Vene	*Pterocarpus erinaceus* Poir. (Syn. *Pterocarpus africanus* Hook.)	Burkina-Faso Equatorial Guinea Guinea Guinea-Bissau Mali	Goni, Guenin Pau Sangue Ven Pau Sangue Goni, Ven,

Pilot-name	Scientific names	Local names	
		Nigeria Senegal	Vene Vene Ven, Vene
Vésàmbata	*Oldfieldia africana* Benth. & Hook.f.		

Pilot-name	Scientific names	Local names	
Virola	*Virola spp.*	Central America Colombia Ecuador French Guiana	Banak, Sangre, Palo de Sangre, Bogamani, Cebo, Sangre Colorado Sebo, Nuanamo Chaliviande, Shempo Yayamadou, Moulomba

Pilot-name	Scientific names	Local names	
		Guyana Honduras Peru Suriname Trinidad and Tobago Venezuela *UK*	Dalli Banak Cumala Baboen, Pintri Cajuea Virola Cuajo, Sangrino, Camaticaro, Otivo *Dalli*
Wacapou	*Vouacapoua spp.*	Brazil French Guinea Guyana	Acapu, Ritangueira Bois Perdrix, Bounaati, Epi de Blé Sara, Sarabebeballi, Tatbu

Pilot-name	Scientific names	Local names	
		Suriname *UK* *USA*	Bruinhart, Wacapoe *Tatbu* *Partridgewood*
Walaba	*Eperua spp.*	Brazil French Guiana Guyana Suriname Venezuela	Apa, Apazeiro, Copaibarana, Espadeira Bioudou, Wapa Ituri Wallaba, Wallaba Walaba Uapa, Palo Machete
Wamara	*Bocoa prouacensis* Aubl.		
Wamba	*Tessmannia africana* Harms (Syn. *Tessmannia claessensii* De Wild.)		

Pilot-name	Scientific names	Local names	
	Tessmannia lescrauwaetii (De Wild.) Harms		
Pilot-name	**Scientific names**	**Local names**	
Wengé	*Millettia laurentii* De Wild. *Millettia stuhlmannii* Taub.	Cameroon Congo Gabon Dem. Rep. of the Congo Mozambique Tanzania *Germany* *France* *UK*	Awoung Wenge Awong Wenge Jambire Mpande *Panga-Panga*, *Panga-Panga*, *Panga-Panga*
Xoan	*Melia azedarach* L.	Bangladesh Cambodia China	Bakarjan, Ghora Nim, Mahanim, Mahnim Dak hien Mindi Kechil

Pilot-name	Scientific names	Local names	
		India	Bakain, Bakarja, Betain, Deikna, Dek, Drek, Mallan Nim
		Indonesia	Gringging, Marambung, Mindi
		Nepal	Bakaina, Bakaino, Bakena
		Philippines	Balalunga, Balagango, Paraiso
		Thailand	Khian, Lian, Lian-Baiyai
		Vietnam	Xaon

Pilot-name	Scientific names	Local names	
Yemane	*Gmelina arborea* Roxb.	Bangladesh	Gamar, Gamari, Gomari, Gumbar, Gumhar
		India	Gambhar, Gomari, Gumhar, Kambhari, Sewan
		Myanmar	Mai Saw, Yemane, Yemani, Yemari
		Nepal	Gamari, Gambari, Gumhari, Khamari
		Thailand	Gumari, Saw,

Pilot-name	Scientific names	Local names	
			So, So-maeo
		France	*Gmelina,* *Melina,* *Peuplier d Afrique*
		Germany	*Gumar-Teak*
		Spain	*Gmelina,* *Melina*
		UK	*Beechwood,* *Gmelina,* *Goomar Teak,* *Kashmir Tree,* *Malay Beechwood,* *White Teak,* *Yemane*
Yungu	*Drypetes gossweileri* S. Moore		
Zingana	*Microberlinia spp.* *Microberlinia bisulcata* A. Chev.	Cameroon Gabon	Allen Ele Zingana *Zebrano*

Pilot-name	Scientific names	Local names	
	Microberlinia brazzavillensis A. Chev.	*Germany* *UK*	*Zebrano,* *Zebrawood*

Chapter 45

Cork and articles of cork

LEGAL NOTES

Note.

1.- This Chapter does not cover :

(a) Footwear or parts of footwear of Chapter 64;

(b) Headgear or parts of headgear of Chapter 65; or

(c) Articles of Chapter 95 (for example, toys, games, sports requisites).

EXPLANATORY NOTES

Chapter 45

Cork and articles of cork

Note.

1.- This Chapter does not cover :

(a) Footwear or parts of footwear of Chapter 64;

(b) Headgear or parts of headgear of Chapter 65; or

(c) Articles of Chapter 95 (for example, toys, games, sports requisites).

GENERAL

Cork is obtained almost exclusively from the outer bark of the cork-oak (*Quercus suber*) which is grown in Southern Europe and North Africa.

The first stripping of bark is known as “virgin” cork and is hard, brittle, inelastic, of inferior quality and low value. It has a blistered and cracked outer surface, while the inner surface is yellowish with red spots.

Subsequent yields are commercially more important. They are compact and homogeneous, and the outer surface, although to some extent fissured, is less rugged than that of virgin cork.

Cork is light, elastic, compressible, flexible, waterproof, rotproof, and a bad conductor of heat and sound.

This Chapter covers natural and agglomerated cork in all forms (including articles of cork and agglomerated cork), other than those **excluded** at the end of the Explanatory Note to heading 45.03.

Heading 4501

Natural cork, raw or simply prepared; waste cork; crushed, granulated or ground cork.

EXPLANATORY NOTES

45.01 - Natural cork, raw or simply prepared; waste cork; crushed, granulated or ground cork.

4501.10 - Natural cork, raw or simply prepared

4501.90 - Other

This heading covers :

(1) **Natural cork, raw or simply prepared**. Raw cork is presented in curved slabs as stripped from the cork tree. Natural cork, simply prepared, includes cork which has been surface scraped or otherwise cleaned (e.g., by charring the outer surface), the cracked outer layer remaining, or with the edges cleaned to remove parts unsuitable for use (trimmed cork). Cork treated with fungicides or flattened by pressing after treatment in boiling water or steam also remains in the heading; cork which has been debacked (deprived of the outer bark), or which has been roughly squared, is, however, **excluded** (**heading 45.02**).

(2) **Waste of natural or agglomerated cork** (i.e., shavings, waste pieces and scrap) used generally for the production of crushed, granulated or powdered cork. It includes waste turnings, etc., of cork in the form of “cork wool”, which is sometimes used as a stuffing or filling material.

(3) **Crushed, granulated or ground cork**, made from virgin cork or cork waste, and mainly used in the manufacture of agglomerated cork, linoleum or lincrusta. Granulated cork is also used as a heat- or sound-insulating material and to some extent for packing fruit. Crushed, granulated or ground cork remains in the heading if coloured, impregnated, baked or expanded by heat-treatment; but agglomerated cork is **excluded** (**heading 45.04**).

4501.10

- Natural cork, raw or simply prepared

4501.90

- Other

Heading 4502

Natural cork, debacked or roughly squared, or in rectangular (including square) blocks, plates, sheets or strip (including sharp-edged blanks for corks or stoppers).

EXPLANATORY NOTES

45.02 - Natural cork, debacked or roughly squared, or in rectangular (including square) blocks, plates, sheets or strip (including sharp-edged blanks for corks or stoppers).

This heading covers natural cork slabs :

(1) With the whole of the back (outer bark) sawn or otherwise removed from the outer surface (**debacked cork**); or

(2) With the outer (bark) and inner (tree) surfaces sawn or otherwise cut so as to be approximately parallel (**roughly squared cork**).

The heading also covers products which have been further worked into the form of rectangular (including square) blocks, plates, sheets or strip obtained from the bulk cork of heading 45.01, by slicing both faces and cutting the edges at right angles. Such products remain classified in this heading whether or not consisting of layers of cork placed one above the other and glued together.

Blocks, plates, sheets and strip cut to shapes **other than** rectangular (including square) are regarded as articles of cork (**heading 45.03**).

Cork sheets reinforced with paper or fabric, including the strips of very thin cork in rolls used for tipping cigarettes, are included in this heading. (The term “cork-paper” is sometimes applied to very thin sheet or strip cork even though not paper-backed.)

The heading also covers blanks for corks or stoppers, in the form of sharp-edged cubes or square slabs, including those cut from slabs composed of two or more layers glued together. Similar products with rounded edges, however, are **excluded** (**heading 45.03**).

4502.00

Natural cork, debacked or roughly squared, or in rectangular (including square) blocks, plates, sheets or strip (including sharp-edged blanks for corks or stoppers).

Heading 4503

Articles of natural cork.

EXPLANATORY NOTES

45.03 - Articles of natural cork (+).

4503.10 - Corks and stoppers

4503.90 - Other

This heading covers, *inter alia* :

(1) Corks and stoppers of all kinds, of natural cork, including blanks with rounded edges. Cork stoppers may sometimes be fitted with caps of metal, plastics, etc. Pourer-stoppers, measure-stoppers and other articles in which a cork stopper is a subsidiary part are, however, **classified elsewhere** according to the kind of article or the material giving it its essential character.

(2) Discs, washers and wafers of natural cork, for lining crown corks and other closures for bottles, jars, etc.; cork linings or shells for the interior of bottle necks.

(3) Blocks, plates, sheets and strip of natural cork, cut to shape other than rectangular (including square); lifebuoys, floats for fishing nets, bath-mats, table-mats, typewriter or other mats.

(4) Handle grips of various kinds (knife handles, etc.), washers and gaskets (**other than** those included in assorted sets of **heading 84.84**).

The following are, however, **excluded** from this heading :

(a) Footwear and parts thereof, including removable in-soles (socks), of **Chapter 64**.

(b) Headgear and parts thereof of **Chapter 65**.

(c) Crown corks of base metal lined with cork discs (**heading 83.09**).

(d) Cork cartridge wads (**heading 93.06**).

(e) Toys, games and sports requisites, including fishing-line floats, and parts thereof (**Chapter 95**).

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Subheading Explanatory Note.

Subheading 4503.10

Corks and stoppers of subheading 4503.10 are pieces of natural cork shaped like straight sided or tapered cylinders or rectangular prisms with rounded lateral edges. They may be dyed, polished, paraffined, perforated, fire- or dye-branded. Some solid cork stoppers have an enlarged head or are capped with metal, plastics, etc. Corks or stoppers are used as plugs to close containers. Hollow stoppers (or shell corks) are used as coverings of, for example, glass stoppers for bottles of glass or ceramic material.

The subheading also includes identifiable blanks for corks or stoppers, **provided** their edges have been rounded.

The subheading **does not include** thin cork discs used as seals in crown corks (**subheading 4503.90**).

4503.10

- Corks and stoppers

4503.90

- Other

Heading 4504

Agglomerated cork (with or without a binding substance) and articles of agglomerated cork.

EXPLANATORY NOTES

45.04 - Agglomerated cork (with or without a binding substance) and articles of agglomerated cork.

4504.10 - Blocks, plates, sheets and strip; tiles of any shape; solid cylinders, including discs

4504.90 - Other

Agglomerated cork is manufactured by agglomerating crushed, granulated or ground cork generally under heat and pressure either :

(1) With an added binding substance (e.g., unvulcanised rubber, glue, plastics, tar, gelatin), or

(2) Without an added binding substance at a temperature of about 300 °C. In this latter case the natural gum in the cork acts as a binder.

Agglomerated cork of this heading may be impregnated (e.g., with oil), or reinforced by backing with paper or cloth **provided** it does not have the character of linoleum or similar materials classified in **heading 59.04**.

Agglomerated cork retains most of the properties of natural cork, and in particular is an excellent heat- or sound-insulating material. In many cases, however, the addition of the binders required for the agglomeration modifies some of the characteristic features of the cork, in particular the specific gravity and the tensile or crushing strengths. In addition, agglomerated cork has the advantage of being suitable for direct moulding to any size or shape.

Agglomerated cork is used to make much the same range of products as those referred to under heading 45.03 but, whereas it is rarely used for making stoppers, it is used more often than natural cork for crown cork discs.

Agglomerated cork is also used largely, and in preference to natural cork, for building materials such as panels, blocks and tiles, and as moulded shapes (cylinders, shells, etc.), for insulating or protecting hot water or steam piping, for lining petrol pipelines, for expansion jointing in the construction industry and for the manufacture of filters.

See the Explanatory Note to heading 45.03 as regards articles **excluded** from this heading.

4504.10

- Blocks, plates, sheets and strip; tiles of any shape; solid cylinders, including discs

4504.90

- Other

Chapter 46

Manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork

LEGAL NOTES

Notes.

1.- In this Chapter the expression “plaiting materials” means materials in a state or form suitable for plaiting, interlacing or similar processes; it includes straw, osier or willow, bamboos, rattans, rushes, reeds, strips of wood, strips of other vegetable material (for example, strips of bark, narrow leaves and raffia or other strips obtained from broad leaves), unspun natural textile fibres, monofilament and strip and the like of plastics and strips of paper, but not strips of leather or composition leather or of felt or nonwovens, human hair, horsehair, textile rovings or yarns, or monofilament and strip and the like of Chapter 54.

2.- This Chapter does not cover :

(a) Wall coverings of heading 48.14;

(b) Twine, cordage, ropes or cables, plaited or not (heading 56.07);

(c) Footwear or headgear or parts thereof of Chapter 64 or 65;

(d) Vehicles or bodies for vehicles of basketware (Chapter 87); or

(e) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings).

3.- For the purposes of heading 46.01, the expression “plaiting materials, plaits and similar products of plaiting materials, bound together in parallel strands” means plaiting materials, plaits and similar products of plaiting materials, placed side by side and bound together, in the form of sheets, whether or not the binding materials are of spun textile materials.

EXPLANATORY NOTES

Chapter 46

Manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork

Notes.

1.- In this Chapter the expression “plaiting materials” means materials in a state or form suitable for plaiting, interlacing or similar processes; it includes straw, osier or willow, bamboos, rattans, rushes, reeds, strips of wood, strips of other vegetable material (for example, strips of bark, narrow leaves and raffia or other strips obtained from broad leaves), unspun natural textile fibres, monofilament and strip and the like of plastics and strips of paper, but not strips of leather or composition leather or of felt or nonwovens, human hair, horsehair, textile rovings or yarns, or monofilament and strip and the like of Chapter 54.

2.- This Chapter does not cover :

(a) Wall coverings of heading 48.14;

(b) Twine, cordage, ropes or cables, plaited or not (heading 56.07);

(c) Footwear or headgear or parts thereof of Chapter 64 or 65;

(d) Vehicles or bodies for vehicles of basketware (Chapter 87); or

(e) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings).

3.- For the purposes of heading 46.01, the expression "plaiting materials, plaits and similar products of plaiting materials, bound together in parallel strands" means plaiting materials, plaits and similar products of plaiting materials, placed side by side and bound together, in the form of sheets, whether or not the binding materials are of spun textile materials.

GENERAL

In addition to articles of loofah, this Chapter covers semi-manufactured products (heading 46.01) and certain articles (headings 46.01 and 46.02) made by interlacing, weaving or by similar methods of assembling unspun materials, particularly :

(1) Straw, osier or willow, bamboos, rushes, rattans, reeds, chipwood (i.e., wood in thin strips), drawn wood, strips of other vegetable material (for example, strips of bark, narrow leaves and raffia or other strips obtained from broad leaves such as those of banana plants or palm trees), **provided** they are in a state or form suitable for plaiting, interlacing or similar processes.

(2) Unspun natural textile fibres.

(3) Monofilament and strip and the like of plastics of Chapter 39 (but **not** monofilament of which no cross-sectional dimension exceeds 1 mm **nor** strip or the like of an apparent width not exceeding 5 mm, of man-made textile materials, of **Chapter 54**).

(4) Strips of paper (including paper covered with plastics).

(5) Certain materials consisting of a textile core (unspun fibres, braid, etc.), wound or covered with strips of plastics, or thickly coated with plastics, so that the product no longer has the character of the fibres, braid, etc., forming the core.

Certain of these materials, particularly the vegetable products, may be prepared (e.g., by splitting, drawing, peeling, etc., or by impregnating with wax, glycerol, etc.) to render them more suitable for plaiting, interlacing or similar processes.

For the purposes of this Chapter, the following are **not** considered to be plaiting materials and articles or products made therefrom are **excluded** from the Chapter :

(i) Horsehair (**heading 05.11** or **Section XI**).

(ii) Monofilament of which no cross-sectional dimension exceeds 1 mm, or strip or flattened tubes (including strip and flattened tubes folded along the length), whether or not compressed or twisted

(artificial straw and the like), of man-made textile materials, **provided** that the apparent width (i.e., in the folded, flattened, compressed or twisted state) does not exceed 5 mm **(Section XI)**.

(iii) Textile rovings (except when wholly covered with plastics as described in paragraph (5) above) **(Section XI)**.

(iv) Textile yarn impregnated, coated, covered or sheathed with plastics **(Section XI)**.

(v) Strips of leather or composition leather (generally **Chapter 41** or **42**) or of felt or nonwovens **(Section XI)** or human hair (**Chapter 5, 59, 65** or **67**).

In addition the Chapter **does not cover** :

(a) Saddlery and harness (**heading 42.01**).

(b) Products or articles of bamboo, of **Chapter 44**.

(c) Wall coverings of **heading 48.14**.

(d) Twine, cordage, rope or cables, even if plaited or of unspun fibres (**heading 56.07**).

(e) Narrow fabrics consisting of warp without weft assembled by means of an adhesive (bolducs) (**heading 58.06**).

(f) Footwear or parts thereof of **Chapter 64**.

(g) Headgear or parts of headgear, including hat-shapes, of **Chapter 65**.

(h) Whips (**heading 66.02**).

(ij) Artificial flowers (**heading 67.02**).

(k) Vehicles, or bodies for vehicles of basketware (**Chapter 87**).

(l) Articles of **Chapter 94** (for example, furniture, luminaires and lighting fittings).

(m) Articles of **Chapter 95** (for example, toys, games, sports requisites).

(n) Brooms or brushes (**heading 96.03**) or tailors' dummies, etc. (**heading 96.18**).

Heading 4601

Plaits and similar products of plaiting materials, whether or not assembled into strips; plaiting materials, plaits and similar products of plaiting materials, bound together in parallel strands or woven, in sheet form, whether or not being finished articles (for example, mats, matting, screens).

EXPLANATORY NOTES

46.01 - Plaits and similar products of plaiting materials, whether or not assembled into strips; plaiting materials, plaits and similar products of plaiting materials, bound together in

parallel strands or woven, in sheet form, whether or not being finished articles (for example, mats, matting, screens).

- Mats, matting and screens of vegetable materials :

4601.21 - - Of bamboo

4601.22 - - Of rattan

4601.29 - - Other.

- Other :

4601.92 - - Of bamboo

4601.93 - - Of rattan

4601.94 - - Of other vegetable materials

4601.99 - - Other

(A) **Plaits and similar products of plaiting materials, whether or not assembled into strips**.

This group covers :

(1) **Plaits**. These consist of strands of plaiting material, without warp or weft, interlaced either by hand or machine in a general longitudinal direction. By varying the nature, colour, thickness and number of strands, and the manner of interlacing, different decorative effects may be obtained.

Plaits of this kind may be joined side by side and assembled into wider strips by sewing, etc.

(2) **Products similar to plaits** in the sense that they have the same or similar uses, and that, though they are made by a process other than plaiting, they are also formed in longitudinal thong-like forms, strips, etc., from plaiting materials. They include :

(a) Products made from two or more strands by twisting together, joining together or otherwise assembling (**other than** decorative motifs of **heading 46.02**).

(b) Products (e.g., those known in trade as “China cord”) consisting of a kind of cord made from non-crushed vegetable materials assembled simply by twisting.

The above goods are mainly used in millinery, but are also used for the manufacture of certain furniture, shoes, mats, baskets or other receptacles.

The goods of this heading may contain spun textile yarn serving primarily for assembly or reinforcement purposes, whether or not having a supplementary decorative effect.

(B) **Plaiting materials, plaits and similar products of plaiting materials, bound together in parallel strands or woven, in sheet form, whether or not being finished articles (for example, mats, matting, screens).**

The goods of this group are obtained either directly from plaiting materials as defined in the General Explanatory Note to the Chapter or from the plaits or similar products of plaiting materials described in Part (A) above.

Those obtained directly from plaiting materials are either formed of strands woven together, generally in the manner of warp and weft fabrics, or made of parallel strands placed side by side and maintained in position in the form of sheets by transverse binding threads or strands holding the successive parallel strands.

The woven goods may consist wholly of plaiting materials, or may consist of a warp of plaiting material and a weft of textile yarn, or *vice versa,* provided that the sole function of the textile yarn (apart from incidentally introducing colour effects) is to bind the plaiting substances.

Similarly, in the case of the goods made by binding parallel strands of plaiting materials, the binder may be a plaiting material, a textile yarn or some other material.

Similar processes of binding together or weaving are also used to obtain goods in sheet form from the plaits or similar products of plaiting materials described in Part (A) above.

The goods of this group, which may be reinforced or backed or lined with woven textile fabric or with paper, include :

(1) **Semi-manufactured products** such as raffia, rattan and similar fabrics; and the finer products made in the piece in the form of lapping or strips for use in millinery, upholstery, etc.

(2) **Certain finished articles,** for example :

(a) Mats and matting (floor coverings, etc.), including in particular the so-called Chinese (or Indian) mats and matting (whether rectangular or in other shapes), made by weaving or binding together parallel strands of plaiting materials (or plaits or similar products of plaiting materials) with other plaiting materials, twine, cord, etc.

(b) Coarse matting such as the straw mats used for horticultural purposes.

(c) Screens or panels such as those of willow or osier; building panels of plaiting materials or of plaits or similar products of plaiting materials (straw, reeds, etc.) laid parallel, compressed and bound together at regular intervals with base metal wire. These building panels or slabs may be covered on all surfaces and edges with kraft paperboard.

The heading **excludes** mats and matting of coir or sisal fibre or the like with a base of cordage or of woven textile fabric (**Chapter 57**).

4601.2

- Mats, matting and screens of vegetable materials :

4601.21

-- Of bamboo
4601.22

-- Of rattan
4601.29

-- Other
4601.9

- Other :
4601.92

-- Of bamboo
4601.93

-- Of rattan
4601.94

-- Of other vegetable materials
4601.99

-- Other
Heading 4602

Basketwork, wickerwork and other articles, made directly to shape from plaiting materials or made up from goods of heading 46.01; articles of loofah.

EXPLANATORY NOTES

46.02 - Basketwork, wickerwork and other articles, made directly to shape from plaiting materials or made up from goods of heading 46.01; articles of loofah.

- Of vegetable materials :

4602.11 - - Of bamboo

4602.12 - - Of rattan

4602.19 - - Other

4602.90 - Other

Subject to the exclusions specified in the General Explanatory Note to this Chapter, the heading covers :

(i) articles made directly to shape from plaiting materials;

(ii) articles made up from the already assembled products of heading 46.01, i.e., from plaits or similar products, or from the products bound together in parallel strands or woven in sheet form.

The heading **does not**, however, **cover** finished articles of **heading 46.01**, that is, plaiting materials, plaits and similar products of plaiting materials, which have acquired the character of finished articles by reason of being bound together in parallel strands or woven, in sheet form (for example, mats, matting or screens) : see the Explanatory Note to heading 46.01, paragraph (B) (2); and

(iii) articles of loofah (gloves, pads, etc.) lined or not.

Such articles include :

(1) Baskets, panniers, hampers and basketware containers of all kinds, whether or not fitted with rollers or castors, including fish baskets, creels and fruit baskets.

(2) Similar baskets or boxes of interlaced chipwood. But chipbaskets of non-interlaced chipwood are **excluded** (**heading 44.15**).

(3) Travelling-bags and suitcases.

(4) Handbags, shopping-bags and the like.

(5) Lobster pots and similar articles; birdcages and beehives.

(6) Trays, bottleholders, carpet-beaters, tableware, kitchenware and other household articles.

(7) Millinery motifs and other fancy articles, **other than** those of **heading 67.02**.

(8) Straw envelopes for bottles. These articles are mostly in the form of hollow cones of coarse straw or similar materials roughly laid parallel and bound together with yarn or cord.

(9) Mats made by assembling long plaits into squares, circles, etc., and binding them together with twine.

4602.1

- Of vegetable materials :

4602.11

-- Of bamboo

4602.12

-- Of rattan

4602.19

-- Other

4602.90

- Other

Section X

PULP OF WOOD OR OF OTHER FIBROUS CELLULOSIC MATERIAL; RECOVERED (WASTE AND SCRAP) PAPER OR PAPERBOARD; PAPER AND PAPERBOARD AND ARTICLES THEREOF

EXPLANATORY NOTES

Section X

PULP OF WOOD OR OF OTHER FIBROUS CELLULOSIC MATERIAL; RECOVERED (WASTE AND SCRAP) PAPER OR PAPERBOARD; PAPER AND PAPERBOARD AND ARTICLES THEREOF

Chapter 47

Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard

LEGAL NOTES

Note.

1.- For the purposes of heading 47.02, the expression “chemical wood pulp, dissolving grades” means chemical wood pulp having by weight an insoluble fraction of 92 % or more for soda or sulphate wood pulp or of 88 % or more for sulphite wood pulp after one hour in a caustic soda solution containing 18 % sodium hydroxide (NaOH) at 20 °C, and for sulphite wood pulp an ash content that does not exceed 0.15 % by weight.

EXPLANATORY NOTES

Chapter 47

Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard

Note.

1.- For the purposes of heading 47.02, the expression “chemical wood pulp, dissolving grades” means chemical wood pulp having by weight an insoluble fraction of 92 % or more for soda or sulphate wood pulp or of 88 % or more for sulphite wood pulp after one hour in a caustic soda solution containing 18 % sodium hydroxide (NaOH) at 20 °C, and for sulphite wood pulp an ash content that does not exceed 0.15 % by weight.

GENERAL

The pulp of this Chapter consists essentially of cellulose fibres obtained from various vegetable materials, or from waste textiles of vegetable origin.

The most important pulp in international trade is wood pulp, termed "mechanical wood pulp", "chemical wood pulp", "semi-chemical wood pulp" or "chemi-mechanical pulp", according to its method of preparation. The woods mostly used are pine, spruce, poplar and aspen, but harder woods such as beech, chestnut, eucalyptus and certain tropical woods are also used.

Other materials used for making pulp include :

(1) Cotton linters.

(2) Recovered (waste and scrap) paper or paperboard.

(3) Rags (particularly cotton, linen or hemp) and other textile wastes such as old ropes.

(4) Straw, esparto, flax, ramie, jute, hemp, sisal, bagasse, bamboo and various other grasses and reeds.

Wood pulp may be brown or white. It may be semi-bleached or bleached by chemicals or may be unbleached. A pulp should be regarded as semi-bleached or bleached if, after manufacture, it has been subjected to any treatment intended to increase its degree of whiteness (brightness).

Apart from their use in the paper industry, some pulps (especially bleached pulps) serve as a source of cellulose in the manufacture of various products such as artificial textile materials, plastics, varnishes and explosives; they may also be used in cattle fodder.

Pulp is generally presented in baled sheets (whether or not perforated), wet or dry, but may sometimes be in slabs, in rolls or in the form of powder or flakes.

The Chapter **does not cover** :

(a) Cotton linters (**heading 14.04**).

(b) Synthetic paper pulps consisting of sheets of non-coherent polyethylene or polypropylene fibres (fibrils) (**heading 39.20**).

(c) Fibreboard (**heading 44.11**).

(d) Filter blocks, slabs or plates, of paper pulp (**heading 48.12**).

(e) Other articles of paper pulp (**Chapter 48**).

Heading 4701

Mechanical wood pulp.

EXPLANATORY NOTES

47.01 - Mechanical wood pulp.

Mechanical wood pulp is obtained solely by a mechanical process i.e., by disintegrating or grinding wood, freed of its bark and sometimes of its knots, into its fibres by mechanical milling under a flow of water.

Milling without prior steam treating produces the so-called “white” mechanical wood pulp in which the fibres are broken and weakened. The wood may be steam treated before grinding, producing stronger fibres of brown colour (brown mechanical wood pulp).

Further development from the traditional grinding methods is the pulp referred to as refiner mechanical pulp where wood chips are shredded in a disc refiner by passing the chips between two closely spaced ridged plates, one or both of which may be rotating. One of the superior grades of this type of pulp is produced by refining wood chips after they have received preliminary heat treatment to soften them and allow an easier separation of the fibres with less fibre damage. The resultant pulp quality is superior to the traditional mechanical wood pulp.

Thus the main types of mechanical wood pulp are :

Stone groundwood (SGW) produced from roundwood or blocks in stone grinders at atmospheric pressure.

Pressurised stone groundwood (PGW) produced from roundwood or blocks in pressurised stone grinders.

Refiner mechanical pulp (RMP) produced from wood chips or wafers in refiners discharging at atmospheric pressure.

Thermo-mechanical pulp (TMP) produced from wood chips or wafers in refiners after high-pressure steaming of the wood.

It should be noted that some pulps produced in refiners may be chemically treated. Such pulps fall in **heading 47.05**.

Mechanical wood pulp is not generally used alone because the fibres are relatively short and would produce weak products. In paper-making it is more often mixed with chemical pulp. Newsprint is generally made from such a mixture (see Note 4 to Chapter 48).

4701.00

Mechanical wood pulp.

Heading 4702

Chemical wood pulp, dissolving grades.

EXPLANATORY NOTES

47.02 - Chemical wood pulp, dissolving grades.

This heading covers chemical wood pulp of dissolving grades **only**, as defined in Note 1 to this Chapter. This pulp is specially refined or purified to meet the requirements of its intended use. It is used for making regenerated cellulose, cellulose ethers and esters and products of these materials, such as plates, sheets, film, foil and strip, textile fibres and certain papers (e.g., paper of a kind used as a base for photosensitive paper, filter paper and vegetable parchment). According to the final use or to the end product, it is also called viscose pulp, acetate pulp, etc.

Chemical wood pulp is obtained by first reducing the wood to chips or particles which are then treated with chemicals. As a result of the treatment the greater part of the lignin and other non-cellulosic materials is removed.

The chemicals usually employed are sodium hydroxide (“soda” process), a mixture of sodium hydroxide and sodium sulphate, which is converted partly into sodium sulphide (“sulphate” process), calcium bisulphite or magnesium bisulphite, also known as calcium hydrogen sulphite or magnesium hydrogen sulphite respectively (“sulphite” process).

The product obtained is superior in fibre length and richer in cellulose than mechanical pulp made from the same raw material.

The manufacture of chemical wood pulp, dissolving grades, is achieved through extensive chemical and physiochemical reactions. In addition to whitening, its manufacture may require chemical purification, deresination, depolymerisation, ash reduction or adjustment of reactivity, most of which are combined in a complex bleaching and purification process.

4702.00

Chemical wood pulp, dissolving grades.
Heading 4703

Chemical wood pulp, soda or sulphate, other than dissolving grades.
EXPLANATORY NOTES

47.03 - Chemical wood pulp, soda or sulphate, other than dissolving grades.

- Unbleached :

4703.11 - - Coniferous

4703.19 - - Non-coniferous

- Semi-bleached or bleached :

4703.21 - - Coniferous

4703.29 - - Non-Coniferous

Soda or sulphate pulps are produced by boiling the wood, usually in chipped form, in strongly alkaline solutions. For soda pulp the cooking liquor is a solution of sodium hydroxide; for sulphate pulp a modified sodium hydroxide solution is employed. The term “sulphate” came to be applied because sodium sulphate, part of which is converted into sodium sulphide, is used at a stage in the preparation of the cooking liquor. Sulphate pulp is by far the more important.

Pulps from these processes are used in the manufacture of absorbent products (such as fluffing and napkins (diapers)) as well as for papers and paperboards requiring high tearing resistance and tensile and bursting strength.

4703.1

- Unbleached :
4703.11

-- Coniferous
4703.19

-- Non-coniferous
4703.2

- Semi-bleached or bleached :
4703.21

-- Coniferous
4703.29

-- Non-coniferous
Heading 4704

Chemical wood pulp, sulphite, other than dissolving grades.
EXPLANATORY NOTES

47.04 - Chemical wood pulp, sulphite, other than dissolving grades.

- Unbleached :

4704.11 - - Coniferous

4704.19 - - Non-coniferous

- Semi-bleached or bleached :

4704.21 - - Coniferous

4704.29 - - Non-coniferous

The sulphite process generally employs an acid solution and takes its name from the various “sulphite” chemicals, such as calcium bisulphite (calcium hydrogen sulphite), magnesium bisulphite (magnesium hydrogen sulphite), sodium bisulphite (sodium hydrogen sulphite), ammonium bisulphite (ammonium hydrogen sulphite), which may be used during the preparation of the cooking liquor (see the Explanatory Note to heading 47.02). The solution also contains free sulphur dioxide. The process is used extensively for the treatment of spruce fibre.

Sulphite pulp is used, alone or mixed with other pulps, for various writing or printing papers, etc. It is also used, *inter alia*, for greaseproof or glazed transparent papers.

4704.1

- Unbleached :

4704.11

-- Coniferous

4704.19

-- Non-coniferous

4704.2

- Semi-bleached or bleached :

4704.21

-- Coniferous

CLASSIFICATION OPINIONS

1. Finely ground bleached sulphite cellulose pulp (obtained from conifers or from beech), to which stearin (generally not more than 7 %) has been added to render the pulp less absorbent.
Adoption : 1962

4704.29

-- Non-coniferous

CLASSIFICATION OPINIONS

1. Finely ground bleached sulphite cellulose pulp (obtained from conifers or from beech), to which stearin (generally not more than 7 %) has been added to render the pulp less absorbent.
Adoption : 1962

Heading 4705

Wood pulp obtained by a combination of mechanical and chemical pulping processes.

EXPLANATORY NOTES

47.05 - Wood pulp obtained by a combination of mechanical and chemical pulping processes.

This heading covers wood pulp manufactured by a combination of mechanical and chemical pulping processes. Such pulp is variously described as semi-chemical pulp, chemi-mechanical pulp, etc.

Semi-chemical pulp is produced in a two-part process in which the wood, generally in chips, is first chemically softened in digesters and then mechanically refined. It contains a great deal of impurities and ligneous matter and is used mainly for medium-quality papers. It is generally known as neutral sulphite semi-chemical (NSSC), bisulphite semi-chemical or kraft semi-chemical.

Chemi-mechanical pulp is produced in refiners from wood in chips, shavings, sawdust or similar forms. The wood is reduced to a fibrous state by the abrasive action induced by two closely spaced ridged plates or discs, one or both of which are rotating. Small amounts of chemicals are introduced as a pre-treatment or during refining in order to facilitate fibre separation. The wood may be subjected to steaming for different periods of time at different pressures and temperatures. Depending on the combination of processes employed in its manufacture, and the order in which the processes are carried out, chemi-mechanical pulp is also known as chemi-thermomechanical pulp (CTMP), chemi-refiner mechanical pulp (CRMP) or thermo chemi-mechanical pulp (TCMP).

Chemi-mechanical pulps are used, *inter alia*, in the production of newsprint (see Note 4 to Chapter 48). They are also used for making tissue and graphic paper.

The heading includes pulps known as screenings.

4705.00

Wood pulp obtained by a combination of mechanical and chemical pulping processes.

Heading 4706

Pulps of fibres derived from recovered (waste and scrap) paper or paperboard or of other fibrous cellulosic material.

EXPLANATORY NOTES

47.06 - Pulps of fibres derived from recovered (waste and scrap) paper or paperboard or of other fibrous cellulosic material.

4706.10 - Cotton linters pulp

4706.20 - Pulps of fibres derived from recovered (waste and scrap) paper or paperboard

4706.30 - Other, of bamboo

- Other :

4706.91 - - Mechanical

4706.92 - - Chemical

4706.93 - - Obtained by a combination of mechanical and chemical processes

The important kinds of fibrous cellulosic material, other than wood, used for making pulps are mentioned in the General Explanatory Note.

Pulps of fibres derived from recovered (waste and scrap) paper or paperboard are usually presented in the form of dried, baled sheets and consist of heterogenous blends of cellulosic fibres. They may be bleached or unbleached. These pulps are obtained by a series of mechanical or chemical cleaning, screening and de-inking processes. Depending on the input material and the extent of the processing, they may contain small quantities of residues such as ink, clay, starch, polymer coatings or glues.

Pulps of this heading **other than** those derived from recovered (waste and scrap) paper or paperboard may be obtained by a mechanical process, a chemical process or a combination of mechanical and chemical processes.

4706.10

- Cotton linters pulp

4706.20

- Pulps of fibres derived from recovered (waste and scrap) paper or paperboard

4706.30

- Other, of bamboo

4706.9

- Other :

4706.91

-- Mechanical

4706.92

-- Chemical

4706.93

-- Obtained by a combination of mechanical and chemical processes

Heading 4707

Recovered (waste and scrap) paper or paperboard.

EXPLANATORY NOTES

47.07 - Recovered (waste and scrap) paper or paperboard (+).

4707.10 - Unbleached kraft paper or paperboard or corrugated paper or paperboard

4707.20 - Other paper or paperboard made mainly of bleached chemical pulp, not coloured in the mass

4707.30 - Paper or paperboard made mainly of mechanical pulp (for example, newspapers, journals and similar printed matter)

4707.90 - Other, including unsorted waste and scrap

Waste of paper or paperboard covered by this heading includes shavings, cuttings, clippings, torn sheets, old newspapers and journals, proof-sheets, printers' rejects and similar material.

The heading also covers scrap articles of paper or paperboard.

Such waste and scrap is normally used for pulping and is often presented in compressed bales, but it should be noted that its possible use for other purposes (e.g., packing) does not exclude its classification in this heading.

Paper wool, however, even if manufactured from waste paper, is **excluded** (**heading 48.23**).

The heading also **excludes** waste and scrap of paper or paperboard, containing precious metal or precious metal compounds, of a kind used principally for the recovery of precious metal, e.g., waste and scrap photographic paper or paperboard containing silver or compounds thereof (**heading 71.12**).

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° °

Subheading Explanatory Note.

Subheadings 4707.10, 4707.20 and 4707.30

Although, in principle, subheadings 4707.10, 4707.20 and 4707.30 cover sorted waste and scrap, classification in any one of these subheadings is not affected by the presence of small quantities of paper or paperboard of any other subheading of heading 47.07.

4707.10

- Unbleached kraft paper or paperboard or corrugated paper or paperboard

4707.20

- Other paper or paperboard made mainly of bleached chemical pulp, not coloured in the mass

4707.30

- Paper or paperboard made mainly of mechanical pulp (for example, newspapers, journals and similar printed matter)

4707.90

- Other, including unsorted waste and scrap

Chapter 48

Paper and paperboard; articles of paper pulp, of paper or of paperboard

LEGAL NOTES

Notes.

1.- For the purposes of this Chapter, except where the context otherwise requires, a reference to "paper" includes references to paperboard (irrespective of thickness or weight per m^2).

2.- This Chapter does not cover :

(a) Articles of Chapter 30;

(b) Stamping foils of heading 32.12;

(c) Perfumed papers or papers impregnated or coated with cosmetics (Chapter 33);

(d) Paper or cellulose wadding impregnated, coated or covered with soap or detergent (heading 34.01), or with polishes, creams or similar preparations (heading 34.05);

(e) Sensitised paper or paperboard of headings 37.01 to 37.04;

(f) Paper impregnated with diagnostic or laboratory reagents (heading 38.22);

(g) Paper-reinforced stratified sheeting of plastics, or one layer of paper or paperboard coated or covered with a layer of plastics, the latter constituting more than half the total thickness, or articles of such materials, other than wall coverings of heading 48.14 (Chapter 39);

(h) Articles of heading 42.02 (for example, travel goods);

(ij) Articles of Chapter 46 (manufactures of plaiting material);

(k) Paper yarn or textile articles of paper yarn (Section XI);

(l) Articles of Chapter 64 or Chapter 65;

(m) Abrasive paper or paperboard (heading 68.05) or paper- or paperboard-backed mica (heading 68.14) (paper and paperboard coated with mica powder are, however, to be classified in this Chapter);

(n) Metal foil backed with paper or paperboard (generally Section XIV or XV);

(o) Articles of heading 92.09;

(p) Articles of Chapter 95 (for example, toys, games, sports requisites); or

(q) Articles of Chapter 96 (for example, buttons, sanitary towels (pads) and tampons, napkins (diapers) and napkin liners).

3.- Subject to the provisions of Note 7, headings 48.01 to 48.05 include paper and paperboard which have been subjected to calendering, super-calendering, glazing or similar finishing, false water-marking or surface sizing, and also paper, paperboard, cellulose wadding and webs of cellulose fibres, coloured or marbled throughout the mass by any method. Except where heading 48.03 otherwise requires, these headings do not apply to paper, paperboard, cellulose wadding or webs of cellulose fibres which have been otherwise processed.

4.- In this Chapter the expression “newsprint” means uncoated paper of a kind used for the printing of newspapers, of which not less than 50 % by weight of the total fibre content consists of wood fibres obtained by a mechanical or chemi-mechanical process, unsized or very lightly sized, having a surface roughness Parker Print Surf (1 MPa) on each side exceeding 2.5 micrometres (microns), weighing not less than 40 g/m^2 and not more than 65 g/m^2, and applies only to paper : (a) in strips or rolls of a width exceeding 28 cm; or (b) in rectangular (including square) sheets with one side exceeding 28 cm and the other side exceeding 15 cm in the unfolded state.

5.- For the purposes of heading 48.02, the expressions “paper and paperboard, of a kind used for writing, printing or other graphic purposes” and “non perforated punch-cards and punch tape paper” mean paper and paperboard made mainly from bleached pulp or from pulp obtained by a mechanical or chemi-mechanical process and satisfying any of the following criteria :

(A) For paper or paperboard weighing not more than 150 g/m^2 :

(a) containing 10 % or more of fibres obtained by a mechanical or chemi-mechanical process, and

1. weighing not more than 80 g/m^2, or

2. coloured throughout the mass; or

(b) containing more than 8 % ash, and

1. weighing not more than 80 g/m^2, or

2. coloured throughout the mass; or

(c) containing more than 3 % ash and having a brightness of 60 % or more; or

(d) containing more than 3 % but not more than 8 % ash, having a brightness less than 60 % , and a burst index equal to or less than 2.5 kPa m2/g; or

(e) containing 3 % ash or less, having a brightness of 60 % or more and a burst index equal to or less than 2.5 kPa m2/g.

(B) For paper or paperboard weighing more than 150 g/m^2 :

(a) coloured throughout the mass; or

(b) having a brightness of 60 % or more, and

1. a caliper of 225 micrometres (microns) or less, or

2. a caliper more than 225 micrometres (microns) but not more than 508 micrometres (microns) and an ash content more than 3 %; or

(c) having a brightness of less than 60 %, a caliper of 254 micrometres (microns) or less and an ash content more than 8 %.

Heading 48.02 does not, however, cover filter paper or paperboard (including tea-bag paper) or felt paper or paperboard.

6.- In this Chapter “kraft paper and paperboard” means paper and paperboard of which not less than 80 % by weight of the total fibre content consists of fibres obtained by the chemical sulphate or soda processes.

7.- Except where the terms of the headings otherwise require, paper, paperboard, cellulose wadding and webs of cellulose fibres answering to a description in two or more of the headings 48.01 to 48.11 are to be classified under that one of such headings which occurs last in numerical order in the Nomenclature.

8.- Headings 48.03 to 48.09 apply only to paper, paperboard, cellulose wadding and webs of cellulose fibres :

(a) in strips or rolls of a width exceeding 36 cm; or

(b) in rectangular (including square) sheets with one side exceeding 36 cm and the other side exceeding 15 cm in the unfolded state.

9.- For the purposes of heading 48.14, the expression “wallpaper and similar wall coverings” applies only to :

(a) Paper in rolls, of a width of not less than 45 cm and not more than 160 cm, suitable for wall or ceiling decoration :

(i) Grained, embossed, surface-coloured, design-printed or otherwise surface-decorated (for example, with textile flock), whether or not coated or covered with transparent protective plastics;

(ii) With an uneven surface resulting from the incorporation of particles of wood, straw, etc.;

(iii) Coated or covered on the face side with plastics, the layer of plastics being grained, embossed, coloured, design-printed or otherwise decorated; or

(iv) Covered on the face side with plaiting material, whether or not bound together in parallel strands or woven;

(b) Borders and friezes, of paper, treated as above, whether or not in rolls, suitable for wall or ceiling decoration;

(c) Wall coverings of paper made up of several panels, in rolls or sheets, printed so as to make up a scene, design or motif when applied to a wall.

Products on a base of paper or paperboard, suitable for use both as floor coverings and as wall coverings, are to be classified in heading 48.23.

10.- Heading 48.20 does not cover loose sheets or cards, cut to size, whether or not printed, embossed or perforated.

11.- Heading 48.23 applies, *inter alia*, to perforated paper or paperboard cards for Jacquard or similar machines and paper lace.

12.- Except for the goods of heading 48.14 or 48.21, paper, paperboard, cellulose wadding and articles thereof, printed with motifs, characters or pictorial representations, which are not merely subsidiary to the primary use of the goods, fall in Chapter 49.

Subheading Notes.

1.- For the purposes of subheadings 4804.11 and 4804.19, "kraftliner" means machine-finished or machine-glazed paper and paperboard, of which not less than 80 % by weight of the total fibre content consists of wood fibres obtained by the chemical sulphate or soda processes, in rolls, weighing more than 115 g/m^2 and having a minimum Mullen bursting strength as indicated in the following table or the linearly interpolated or extrapolated equivalent for any other weight.

Weight g/m^2	Minimum Mullen bursti
115	393
125	417
200	637
300	824
400	961

2.- For the purposes of subheadings 4804.21 and 4804.29, "sack kraft paper" means machine-finished paper, of which not less than 80 % by weight of the total fibre content consists of fibres obtained by the chemical sulphate or soda processes, in rolls, weighing not less than 60 g/m^2 but not more than 115 g/m^2 and meeting one of the following sets of specifications :

a) Having a Mullen burst index of not less than 3.7 kPa m^2/g and a stretch factor of more than 4.5 % in the cross direction and of more than 2 % in the machine direction.

b) Having minima for tear and tensile as indicated in the following table or the linearly interpolated equivalent for any other weight :

Weight g/m^2	Minimum tear mN		Minimum tensile kN/m	
	Machine direction	Machine direction plus cross direction	Cross direction	Machine direction plus
60	700	1,510	1.9	6
70	830	1,790	2.3	7.2
80	965	2,070	2.8	8.3
100	1,230	2,635	3.7	10.6
115	1,425	3,060	4.4	12.3

3.- For the purposes of subheading 4805.11, "semi-chemical fluting paper" means paper, in rolls, of which not less than 65 % by weight of the total fibre content consists of unbleached hardwood fibres obtained by a combination of mechanical and chemical pulping processes, and having a CMT 30 (Corrugated Medium Test with 30 minutes of conditioning) crush resistance exceeding 1.8 newtons/g/m² at 50 % relative humidity, at 23 °C.

4.- Subheading 4805.12 covers paper, in rolls, made mainly of straw pulp obtained by a combination of mechanical and chemical processes, weighing 130 g/m^2 or more, and having a cmT 30 (Corrugated Medium Test with 30 minutes of conditioning) crush resistance exceeding 1.4 newtons/g/m^2 at 50 % relative humidity, at 23 °C.3.- For the purposes of subheading 4805.11, “semi-chemical fluting paper” means paper, in rolls, of which not less than 65 % by weight of the total fibre content consists of unbleached hardwood fibres obtained by a combination of mechanical and chemical pulping processes, and having a cmT 30 (Corrugated Medium Test with 30 minutes of conditioning) crush resistance exceeding 1.8 newtons/g/m^2 at 50 % relative humidity, at 23 °C.

5.- Subheadings 4805.24 and 4805.25 cover paper and paperboard made wholly or mainly of pulp of recovered (waste and scrap) paper or paperboard. Testliner may also have a surface layer of dyed paper or of paper made of bleached or unbleached non-recovered pulp. These products have a Mullen burst index of not less than 2 kPa m^2/g.

6.- For the purposes of subheading 4805.30, “sulphite wrapping paper” means machine-glazed paper, of which more than 40 % by weight of the total fibre content consists of wood fibres obtained by the chemical sulphite process, having an ash content not exceeding 8 % and having a Mullen burst index of not less than 1.47 kPa m^2/g.

7.- For the purposes of subheading 4810.22, “light-weight coated paper” means paper, coated on both sides, of a total weight not exceeding 72 g/m^2, with a coating weight not exceeding

15 g/m^2 per side, on a base of which not less than 50 % by weight of the total fibre content consists of wood fibres obtained by a mechanical process.

EXPLANATORY NOTES

Chapter 48

PAPER AND PAPERBOARD; ARTICLES OF PAPER PULP, OF PAPER OR OF PAPERBOARD

Notes.

1.- For the purposes of this Chapter, except where the context otherwise requires, a reference to "paper" includes references to paperboard (irrespective of thickness or weight per m^2).

2.- This Chapter does not cover :

(a) Articles of Chapter 30;

(b) Stamping foils of heading 32.12;

(c) Perfumed papers or papers impregnated or coated with cosmetics (Chapter 33);

(d) Paper or cellulose wadding impregnated, coated or covered with soap or detergent (heading 34.01), or with polishes, creams or similar preparations (heading 34.05);

(e) Sensitised paper or paperboard of headings 37.01 to 37.04;

(f) Paper impregnated with diagnostic or laboratory reagents (heading 38.22);

(g) Paper-reinforced stratified sheeting of plastics, or one layer of paper or paperboard coated or covered with a layer of plastics, the latter constituting more than half the total thickness, or articles of such materials, other than wall coverings of heading 48.14 (Chapter 39);

(h) Articles of heading 42.02 (for example, travel goods);

(ij) Articles of Chapter 46 (manufactures of plaiting material);

(k) Paper yarn or textile articles of paper yarn (Section XI);

(l) Articles of Chapter 64 or Chapter 65;

(m) Abrasive paper or paperboard (heading 68.05) or paper- or paperboard-backed mica (heading 68.14) (paper and paperboard coated with mica powder are, however, to be classified in this Chapter);

(n) Metal foil backed with paper or paperboard (generally Section XIV or XV);

(o) Articles of heading 92.09;

(p) Articles of Chapter 95 (for example, toys, games, sports requisites); or

(q) Articles of Chapter 96 (for example, buttons, sanitary towels (pads) and tampons, napkins (diapers) and napkin liners).

3.- Subject to the provisions of Note 7, headings 48.01 to 48.05 include paper and paperboard which have been subjected to calendering, super-calendering, glazing or similar finishing, false water-marking or surface sizing, and also paper, paperboard, cellulose wadding and webs of cellulose fibres, coloured or marbled throughout the mass by any method. Except where heading 48.03 otherwise requires, these headings do not apply to paper, paperboard, cellulose wadding or webs of cellulose fibres which have been otherwise processed.

4.- In this Chapter the expression “newsprint” means uncoated paper of a kind used for the printing of newspapers, of which not less than 50 % by weight of the total fibre content consists of wood fibres obtained by a mechanical or chemi-mechanical process, unsized or very lightly sized, having a surface roughness Parker Print Surf (1 MPa) on each side exceeding 2.5 micrometres (microns), weighing not less than 40 g/m^2 and not more than 65 g/m^2, and applies only to paper : (a) in strips or rolls of a width exceeding 28 cm; or (b) in rectangular (including square) sheets with one side exceeding 28 cm and the other side exceeding 15 cm in the unfolded state.

5.- For the purposes of heading 48.02, the expressions “paper and paperboard, of a kind used for writing, printing or other graphic purposes” and “non perforated punch-cards and punch tape paper” mean paper and paperboard made mainly from bleached pulp or from pulp obtained by a mechanical or chemi-mechanical process and satisfying any of the following criteria :

(A) For paper or paperboard weighing not more than 150 g/m^2 :

(a) containing 10 % or more of fibres obtained by a mechanical or chemi-mechanical process, and

1. weighing not more than 80 g/m^2, or

2. coloured throughout the mass; or

(b) containing more than 8 % ash, and

1. weighing not more than 80 g/m^2, or

2. coloured throughout the mass; or

(c) containing more than 3 % ash and having a brightness of 60 % or more; or

(d) containing more than 3 % but not more than 8 % ash, having a brightness less than 60 % , and a burst index equal to or less than 2.5 kPa m2/g; or

(e) containing 3 % ash or less, having a brightness of 60 % or more and a burst index equal to or less than 2.5 kPa m2/g.

(B) For paper or paperboard weighing more than 150 g/m^2 :

(a) coloured throughout the mass; or

(b) having a brightness of 60 % or more, and

1. a caliper of 225 micrometres (microns) or less, or

2. a caliper more than 225 micrometres (microns) but not more than 508 micrometres (microns) and an ash content more than 3 %; or

(c) having a brightness of less than 60 %, a caliper of 254 micrometres (microns) or less and an ash content more than 8 %.

Heading 48.02 does not, however, cover filter paper or paperboard (including tea-bag paper) or felt paper or paperboard.

6.- In this Chapter “kraft paper and paperboard” means paper and paperboard of which not less than 80 % by weight of the total fibre content consists of fibres obtained by the chemical sulphate or soda processes.

7.- Except where the terms of the headings otherwise require, paper, paperboard, cellulose wadding and webs of cellulose fibres answering to a description in two or more of the headings 48.01 to 48.11 are to be classified under that one of such headings which occurs last in numerical order in the Nomenclature.

8.- Headings 48.03 to 48.09 apply only to paper, paperboard, cellulose wadding and webs of cellulose fibres :

(a) in strips or rolls of a width exceeding 36 cm; or

(b) in rectangular (including square) sheets with one side exceeding 36 cm and the other side exceeding 15 cm in the unfolded state.

9.- For the purposes of heading 48.14, the expression “wallpaper and similar wall coverings” applies only to :

(a) Paper in rolls, of a width of not less than 45 cm and not more than 160 cm, suitable for wall or ceiling decoration :

(i) Grained, embossed, surface-coloured, design-printed or otherwise surface-decorated (for example, with textile flock), whether or not coated or covered with transparent protective plastics;

(ii) With an uneven surface resulting from the incorporation of particles of wood, straw, etc.;

(iii) Coated or covered on the face side with plastics, the layer of plastics being grained, embossed, coloured, design-printed or otherwise decorated; or

(iv) Covered on the face side with plaiting material, whether or not bound together in parallel strands or woven;

(b) Borders and friezes, of paper, treated as above, whether or not in rolls, suitable for wall or ceiling decoration;

(c) Wall coverings of paper made up of several panels, in rolls or sheets, printed so as to make up a scene, design or motif when applied to a wall.

Products on a base of paper or paperboard, suitable for use both as floor coverings and as wall coverings, are to be classified in heading 48.23.

10.- Heading 48.20 does not cover loose sheets or cards, cut to size, whether or not printed, embossed or perforated.

11.- Heading 48.23 applies, *inter alia*, to perforated paper or paperboard cards for Jacquard or similar machines and paper lace.

12.- Except for the goods of heading 48.14 or 48.21, paper, paperboard, cellulose wadding and articles thereof, printed with motifs, characters or pictorial representations, which are not merely subsidiary to the primary use of the goods, fall in Chapter 49.

Subheading Notes.

1.- For the purposes of subheadings 4804.11 and 4804.19, “kraftliner” means machine-finished or machine-glazed paper and paperboard, of which not less than 80 % by weight of the total fibre content consists of wood fibres obtained by the chemical sulphate or soda processes, in rolls, weighing more than 115 g/m^2 and having a minimum Mullen bursting strength as indicated in the following table or the linearly interpolated or extrapolated equivalent for any other weight.

Weight g/m^2	Minimum Mullen bursti
115	393
125	417
200	637
300	824
400	961

2.- For the purposes of subheadings 4804.21 and 4804.29, “sack kraft paper” means machine-finished paper, of which not less than 80 % by weight of the total fibre content consists of

fibres obtained by the chemical sulphate or soda processes, in rolls, weighing not less than 60 g/m^2 but not more than 115 g/m^2 and meeting one of the following sets of specifications :

a) Having a Mullen burst index of not less than 3.7 kPa m^2/g and a stretch factor of more than 4.5 % in the cross direction and of more than 2 % in the machine direction.

b) Having minima for tear and tensile as indicated in the following table or the linearly interpolated equivalent for any other weight :

Weight g/m^2	Minimum tear mN		Minimum	
	Machine direction	Machine direction plus cross direction	Cross direction	Machin
60	700	1,510	1.9	
70	830	1,790	2.3	
80	965	2,070	2.8	
100	1,230	2,635	3.7	
115	1,425	3,060	4.4	

3.- For the purposes of subheading 4805.11, "semi-chemical fluting paper" means paper, in rolls, of which not less than 65 % by weight of the total fibre content consists of unbleached hardwood fibres obtained by a combination of mechanical and chemical pulping processes, and having a CMT 30 (Corrugated Medium Test with 30 minutes of conditioning) crush resistance exceeding 1.8 newtons/g/m² at 50 % relative humidity, at 23 °C.

4.- Subheading 4805.12 covers paper, in rolls, made mainly of straw pulp obtained by a combination of mechanical and chemical processes, weighing 130 g/m^2 or more, and having a cmT 30 (Corrugated Medium Test with 30 minutes of conditioning) crush resistance exceeding 1.4 newtons/g/m^2 at 50 % relative humidity, at 23 °C.3.- For the purposes of subheading 4805.11, “semi-chemical fluting paper” means paper, in rolls, of which not less than 65 % by weight of the total fibre content consists of unbleached hardwood fibres obtained by a combination of mechanical and chemical pulping processes, and having a cmT 30 (Corrugated Medium Test with 30 minutes of conditioning) crush resistance exceeding 1.8 newtons/g/m^2 at 50 % relative humidity, at 23 °C.

5.- Subheadings 4805.24 and 4805.25 cover paper and paperboard made wholly or mainly of pulp of recovered (waste and scrap) paper or paperboard. Testliner may also have a surface layer of dyed paper or of paper made of bleached or unbleached non-recovered pulp. These products have a Mullen burst index of not less than 2 kPa m^2/g.

6.- For the purposes of subheading 4805.30, “sulphite wrapping paper” means machine-glazed paper, of which more than 40 % by weight of the total fibre content consists of wood fibres obtained by the chemical sulphite process, having an ash content not exceeding 8 % and having a Mullen burst index of not less than 1.47 kPa m^2/g.

7.- For the purposes of subheading 4810.22, “light-weight coated paper” means paper, coated on both sides, of a total weight not exceeding 72 g/m^2, with a coating weight not exceeding 15 g/m^2 per side, on a base of which not less than 50 % by weight of the total fibre content consists of wood fibres obtained by a mechanical process.

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Subheading Explanatory Notes.

Subheading Note 1

In this Note the minimum Mullen bursting strength is expressed in kilopascals (kPa). The g/cm^2 equivalents are as follows :

Weight g/m^2		kPa		g/cm^2
115		393		4,030
125		417		4,250
200		637		6,500
300		824		8,400
400		961		9,800

The calculation of the intermediate values (interpolation) or of values of more than 400 g (extrapolation) should be based on the following formulae :

Basis weight	Minimum Mullen bursting strength g/cm^2
Not exceeding 125 g/m^2	Basis weight (g/m^2) x 22 + 1,500
Exceeding 125 g/m^2	Basis weight (g/m^2) x 30 + 500

but not exceeding 200 g/m^2	
Exceeding 200 g/m^2 but not exceeding 300 g/m^2	Basis weight (g/m^2) x 19 + 2,700
Exceeding 300 g/m^2	Basis weight (g/m^2) x 14 + 4,200

Subheading Note 2

For papers of weights per m^2 falling between the values indicated in this Note, the minima could be calculated (with an error not exceeding 2 %) on the basis of the following table :

	Minimum
Tear, machine direction (mN) (rounded to nearest 0 or 5 millinewton)	Basis weight (g/m^2) x 13.23 ─ 94.64
Tear, machine direction plus cross direction (mN) (rounded as indicated above)	Basis weight (g/m^2) x 28.22 ─ 186.2
Tensile, cross direction (kN/m)	Basis weight (g/m^2) x 0.0449 ─ 0.8186
Tensile, machine direction plus cross direction (kN/m)	Basis weight (g/m^2) x 0.1143 ─ 0.829

GENERAL

In the Explanatory Notes to this Chapter, except where the context otherwise requires, a reference to “paper” includes references to paperboard (irrespective of thickness or weight).

Paper consists essentially of the cellulosic fibres of the pulps of Chapter 47 felted together in sheet form. Many products, such as certain tea-bag materials, consist of a mixture of these cellulose fibres and of textile fibres (in particular man-made fibres as defined in Note 1 to Chapter 54). Where the

textile fibres predominate by weight, the products are not regarded as paper and are classified as nonwovens (**heading 56.03**).

To avoid discrepancies which can result from the use of different methods, it is highly desirable that all administrations use the International Organization for Standardization (ISO) test methods to determine the physical properties of paper and paperboard of Chapter 48. Whenever the following analytical and physical criteria are mentioned throughout this Chapter, the ISO Standards listed below should be used :

Ash Content :

ISO 2144 Paper and board - - Determination of ash

Brightness :

ISO 2470 Paper and board - - Measurement of diffuse blue reflectance factor (ISO brightness)

Bursting strength and burst index :

ISO 2758 Paper - - Determination of bursting strength

ISO 2759 Board - - Determination of bursting strength

CMT 60 (crush resistance) :

ISO 7263 Corrugating medium - - Determination of the flat crush resistance after laboratory fluting

Fibre composition :

ISO 9184/1-3 Paper, board and pulps - - Fibre furnish analysis

Grammage (weight) :

ISO 536 Paper and board - - Determination of grammage

Parker Print-Surf surface roughness :

ISO 8791/4 Paper and board - - Determination of roughness/smoothness (air leak methods)

Single sheet thickness (caliper) :

ISO 534 Paper and board - - Determination of thickness and apparent bulk density or apparent sheet density

Tearing resistance :

ISO 1974 Paper - - Determination of tearing resistance (Elmendorf method)

Tensile strength and stretch :

ISO 1924/2 Paper and board - - Determination of tensile properties - - Part 2 : Constant rate of elongation method.

The manufacture of paper, whether by machine or by hand, may be considered as being in three stages, the preparation of the pulp, formation of the sheet or web, and finishing.

PREPARATION OF THE PULP

The pulp is prepared by blending if necessary, mixing with fillers, size, or colouring matter as required, and reduction to a suitable consistency by dilution in water and mechanical beating.

The fillers, which are generally of inorganic origin (e.g., kaolin (China clay), titanium dioxide, calcium carbonate) are used in order to increase opacity, improve printability or economise pulp. Size (e.g., rosin mixed with alum) is used to render the paper less absorbent to ink, etc.

FORMATION OF THE SHEET OR WEB

(A) Machine-made paper and paperboard.

The most commonly used method of making paper by machine is the Fourdrinier process. In this process the pulp, after being prepared as above, is fed through the head box onto a large endless band of man-made monofilaments or brass or bronze wire moving forward, generally with a vibratory movement; the pulp loses most of its water by gravity and by table rolls, foils or suction boxes placed along the underside of the wire. The fibres become felted and assume the form of a limp web. In some machines this web then passes under a wire-covered roll (dandy-roll) where it is consolidated and smoothed and, if required, is given a watermark produced, e.g., by an embossed design or line effect applied to the surface of the dandy roll cover. The web next passes to an endless belt of felt and so to the press section where it is further consolidated; it is then dried by passing over heated cylinders.

An alternative method is the twin wire former (used particularly in newsprint manufacture). The pulp passes between two forming rolls and is carried between two “wires”. Water is deflected from both wires, aided by suction boxes and suction rolls, and the web is formed. The newly formed web is drawn to the pressing and dryer sections. The twin wires forming both sides of the paper are alike, thus eliminating the felt side and wire side which characterise paper produced by the Fourdrinier process.

In other types of machines the Fourdrinier wire is replaced by a large cylinder (“mould”) covered with wire gauze revolving partly immersed in the prepared pulp. The cylinder takes up a layer of pulp and forms it into a paper web which is transferred to drying felts either in continuous lengths or, by dividing the surface of the roll, in sheet form. In a variation of the process, layers are allowed to build up around a large diameter roll to be cut off when the required thickness is reached.

Machines with multiple wires or cylinder moulds (or a combination of Fourdrinier wire and cylinder moulds) are used to make boards composed of layers (sometimes of different colour or quality) produced simultaneously and rolled together in the wet state without the use of adhesive.

(B) Hand-made paper and paperboard.

In the manufacture of hand-made paper and paperboard the essential operation of moulding the pulp fibres into sheet form is performed by hand, even though other operations may be performed by machine.

Hand-made paper and paperboard may be made from any paper-making material but generally best grade linen or cotton rags are used.

In forming the sheet, a quantity of pulp is agitated on a sieve-like mould until most of the water is removed and the fibres felted. The sheet is then removed from the mould, pressed between felts and hung up to dry.

The hand mould on which the fibres are felted together may consist either of parallel-laid wires or of woven wire cloth which produce watermarks on the paper. Watermark designs may also be affixed to the wire.

The characteristic properties of hand-made paper are strength and durability and the quality of the grain. These properties render it suitable for special uses, e.g., banknote paper, document paper, drawing paper, etching paper, special filter papers, ledger paper, mounting paper, high class printing or stationery papers. It is also used for making wedding cards, letterheads, calendars, etc.

Hand-made paper is normally made to size as used and has four deckled edges with marked feathering; these may, however, sometimes be trimmed and in any case are not a reliable distinguishing feature since some machine-made papers, particularly mould-made paper, also have deckled edges which are not, however, so markedly feathered.

FINISHING OPERATIONS

Paper may be finished by calendering or supercalendering (being first moistened if necessary), either by calenders integral with the paper-making machine or separate from it; this gives a more or less polished or glazed surface on either one or both faces. A similar surface on one side of the paper may be obtained by machine glazing using a heated cylinder. The paper may also receive a kind of false watermarking at this stage. Almost all ordinary writing, printing and drawing papers are also surface sized, for example, with some kind of glue or starch solution, generally in order to increase their surface strength and their resistance to the penetration and spreading of aqueous liquids, for example, writing ink.

Coated paper and paperboard

This term applies to paper or paperboard which has been given a coating on one or both sides either to produce a specially glossy finish or to render the surface suitable for particular requirements.

Coating products generally consist of mineral substances, binding agents and other additives necessary for the coating operation, such as hardeners and dispersing agents.

Carbon paper, self-copy and other copying or transfer papers, in rolls or sheets of particular dimensions, fall in heading 48.09.

Paper and paperboard, coated with kaolin (China clay) or other inorganic substances, with or without a binder, in rolls or sheets, fall in heading 48.10. In addition to kaolin, the inorganic substances used for coating include barium sulphate, calcium carbonate, calcium sulphate, magnesium silicate, zinc

oxide, and powdered metal. These coating materials are generally applied by means of a binding agent such as glue, gelatin, amylaceous substances (e.g., starch, dextrin), shellac, albumin, synthetic latex. Products are coated with kaolin, etc., to attain a glossy, dull or matte finish. Examples of products coated with kaolin or other inorganic substances are : coated printing papers and paperboard (including coated art or chromo papers), coated folding carton stock, papers coated with metal powder (**other than** stamping foils of **heading 32.12**) or mica powder, enamel papers (used largely for labels and for covering boxes). It may be noted that the binding agents used for fixing the coating, such as glue or starch, are also used for surface sizing but in the case of an uncoated surface sized paper, the coating pigments are absent.

Subject to the exceptions mentioned in the heading, paper and paperboard with a coating of tar, bitumen, asphalt, plastics or other organic materials such as wax, stearin, textile dust, sawdust, granulated cork, shellac, in rolls or sheets, fall in heading 48.11. These coating materials may not require a binding agent for their application. The coatings are used to obtain the physical characteristics for a broad range of end uses, for example, for waterproof packages, release paper and paperboard. Such coated papers and paperboards include gummed or adhesive paper, flock papers (coated with textile dust and used for box coverings and wallpaper), paper coated with granulated cork (used as packing material), graphite paper, tarred wrapping paper.

Colouring materials are also frequently added to the coating medium.

Many coated papers and paperboards are finished with a high gloss by super-calendering, or the coating may be varnished in order to protect it from moisture (as in the case of washable papers, for example).

It is possible to distinguish between surface sizing and coating by using a combination of chemical and physical methods. In most cases, differentiation can easily be made either on the basis of the nature or quantity of the material present or on the basis of the overall physical characteristics. In general, in the case of surface sizing, the appearance and texture of the natural surface of the paper or paperboard are maintained, whereas, in the case of coated paper or paperboard, the irregularities of the natural surface are substantially eliminated by the coating material.

Problems may arise in borderline cases, particularly for the following reasons : low coated papers may have had the coating applied in the size press; certain substances present in coatings also exist in paper itself (e.g., filler); and fibres may be visible in the case of papers coated with material which does not contain a pigment, e.g., an aqueous dispersion of poly(vinyl chloride). However, it should be possible to deal with these cases by one or more of the methods indicated below.

Many coated papers, such as mineral-coated art printing papers, cannot easily be distinguished by the eye from highly finished uncoated papers. The coating, however, may sometimes be seen by scraping the surface or be removed by immersion in water.

One method of testing which may determine whether or not a paper is coated (particularly with inorganic substances) involves sticking the paper to an adhesive tape. When the tape is peeled off most of the coating adheres to the tape. It is then necessary to dissolve the wood fibres and any starch present on the tape with cupriethylene diamine. The presence or absence of a coating is indicated by comparing the weights of the tape before and after these operations. This method can also be used for papers coated with organic substances.

Among other methods used for identifying coated paper and paperboard are scanning electron microscopy (SEM), X-ray diffraction and infra-red spectrophotometry. These can be used for identifying products of both headings 48.10 and 48.11.

Coloured or printed paper and paperboard

These include papers printed by any process with one or several colours, stripes, motifs, designs, etc., and also surface marbled or jaspé papers. These papers are used for various purposes such as box covering and bookbinding.

Paper may be surface-printed in ink of any colour with lines, whether parallel, convergent, or at an angle. Such paper is used, *inter alia*, for account books and book-keeping, school exercise books, drawing books, manuscript music sheets and books, writing paper, graphpaper and note books.

This Chapter includes printed papers (such as wrapping papers for individual traders, printed with names of traders, trade marks and devices, directions for use of merchandise) **provided** that the printing is merely subsidiary to the use of the paper for wrapping, writing, etc., and that the goods do not constitute printed matter of **Chapter 49** (see Note 12 to this Chapter).

Impregnated paper and paperboard

Most of these papers and paperboards are obtained by treatment with oils, waxes, plastics, etc., in such a manner as to permeate them and give them special qualities (e.g., to render them waterproof, greaseproof, and sometimes translucent or transparent). They are used largely for protective wrapping or as insulating materials.

Impregnated papers and paperboards include, oiled wrapping paper, oiled or waxed manifold paper, stencil paper, insulating paper and paperboard impregnated, e.g., with plastics, rubberised paper, paper and paperboard merely impregnated with tar or bitumen.

Certain papers such as wallpaper base may be impregnated with insecticides or chemicals.

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This Chapter also includes **cellulose wadding and webs of cellulose fibres** which consist of a variable number of very thin layers of loosely felted cellulose fibres rolled together when in a damp condition so that the layers tend to separate on drying.

SCOPE OF THE CHAPTER

This Chapter covers :

(I) Paper, paperboard, cellulose wadding and webs of cellulose fibres, of all kinds, in rolls or sheets :

(A) Headings 48.01, 48.02, 48.04 and 48.05 relate to machine-made uncoated papers subjected, if required, to sizing and simple finishing processes (e.g., calendering, glazing). Heading 48.02 also covers uncoated hand-made papers, which may be subjected to those

same processes. Heading 48.03 relates to uncoated papers of a kind used for household or sanitary purposes, cellulose wadding and webs of cellulose fibres, which may be subjected to processes mentioned in the heading. Note 3 to this Chapter specifies the processes permitted for paper, paperboard, cellulose wadding and webs of cellulose fibres, of headings 48.01 to 48.05.

The processes admissible in headings 48.01 to 48.05 are performed as a part of the continuous paper-manufacturing run. A characteristic of the papers of these headings is that the appearance and texture of their natural surface are maintained. In the case of coated papers, the irregularities of the natural surface are substantially eliminated by the coating material which forms a new, superior, non-cellulosic surface.

(B) Headings 48.06 to 48.11 relate to certain special papers or paperboards, (for example, parchment, greaseproof, composite) or paper, paperboard or cellulose wadding and webs of cellulose fibres which have been subjected to various treatments, such as coating, design printing, ruling, impregnating, corrugation, creping, embossing, and perforation.

Heading 48.11 also includes certain floor coverings on a base of paper or paperboard.

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Except where the terms of the headings otherwise require, when paper or paperboard answers to a description in two or more of the above-mentioned headings it is classified in that heading which occurs last in numerical order in the Nomenclature (Note 7 to this Chapter).

It should also be noted that headings 48.03 to 48.09 apply only to paper, paperboard, cellulose wadding and webs of cellulose fibres, which are :

(1) in strips or rolls of a width exceeding 36 cm; or

(2) in rectangular (including square) sheets with one side exceeding 36 cm and the other side exceeding 15 cm in the unfolded state.

On the other hand, headings 48.02, 48.10 and 48.11 cover paper and paperboard, in rolls or rectangular (including square) sheets, of any size. However, hand-made paper and paperboard in any size or shape as made directly and having all its edges deckled remains classified in heading 48.02, subject to Note 7 to this Chapter.

(II) Filter blocks, slabs and plates, of paper pulp (heading 48.12), cigarette paper, whether or not cut to size or in the form of booklets or tubes (heading 48.13), wallpaper and similar wall coverings (as defined in Note 9 to this Chapter) and window transparencies (heading 48.14).

(III) Paper, paperboard, cellulose wadding and webs of cellulose fibres, (but not the kinds falling in headings 48.02, 48.10 and 48.11, or in (II) above), in rolls or sheets cut to sizes below those stated in (I) above or cut to shapes other than rectangular (including square) and articles of paper pulp, paper, paperboard, cellulose wadding or webs of cellulose fibres. These fall in one or other of the headings 48.16 to 48.23.

For the purposes of headings 48.12, 48.18, 48.22 and 48.23 and of the relevant Explanatory Notes, the term “paper pulp” means all the products of headings 47.01 to 47.06, that is to say pulp of wood or of other fibrous cellulosic material.

The Chapter **does not cover**, however, goods excluded by Notes 2 and 12 to this Chapter.

Heading 4801

Newsprint, in rolls or sheets.

EXPLANATORY NOTES

48.01 - Newsprint, in rolls or sheets.

The expression “newsprint” is defined in Note 4 to this Chapter.

In this definition the expression “wood fibres obtained by a mechanical or chemi-mechanical process” means fibres obtained by various pulp manufacturing techniques in which defibration is solely or principally achieved by the application of mechanical forces upon the raw material. These fibres are generally produced in the form of the following pulps :

(1) **Mechanical pulps**, which include stone groundwood (SGW) and pressurised stone groundwood (PGW) pulps, as well as pulps produced in refiners, for example refiner mechanical pulp (RMP) and thermo-mechanical pulp (TMP).

(2) **Chemi-mechanical pulps**, which are also produced in refiners but have been treated with **small amounts** of chemicals. They include chemi-thermomechanical pulp (CTMP), chemi-refiner mechanical pulp (CRMP) and thermo chemi-mechanical pulp (TCMP), but **do not** include semi-chemical pulps generally known as neutral sulphite semi-chemical (NSSC), bisulphite semi-chemical or kraft semi-chemical pulps.

For a more detailed description of the methods of production of these pulps see the Explanatory Notes to headings 47.01 and 47.05.

The expression “wood fibres” in this definition **does not cover** bamboo fibres.

The newsprint of this heading may be subjected to processes mentioned in Note 3 to this Chapter. Newsprint otherwise processed is, however, **excluded**.

4801.00

Newsprint, in rolls or sheets.

Heading 4802

Uncoated paper and paperboard, of a kind used for writing, printing or other graphic purposes, and non perforated punch-cards and punch tape paper, in rolls or rectangular (including square) sheets, of any size, other than paper of heading 48.01 or 48.03; hand-made paper and paperboard.

EXPLANATORY NOTES

48.02 - Uncoated paper and paperboard, of a kind used for writing, printing or other graphic purposes, and non perforated punch-cards and punch tape paper, in rolls or rectangular

(including square) sheets, of any size, other than paper of heading 48.01 or 48.03; hand-made paper and paperboard (+).

4802.10 - Hand-made paper and paperboard

4802.20 - Paper and paperboard of a kind used as a base for photo-sensitive, heat-sensitive or electro-sensitive paper or paperboard

4802.40 - Wallpaper base

- Other paper and paperboard, not containing fibres obtained by a mechanical or chemi-mechanical process or of which not more than 10 % by weight of the total fibre content consists of such fibres :

4802.54 - - Weighing less than 40 g/m^2

4802.55 - - Weighing 40 g/m^2 or more but not more than 150 g/m^2, in rolls

4802.56 - - Weighing 40 g/m^2 or more but not more than 150 g/m^2, in sheets with one side not exceeding 435 mm and the other side not exceeding 297 mm in the unfolded state

4802.57 - - Other, weighing 40 g/m^2 or more but not more than 150 g/m^2

4802.58 - - Weighing more than 150 g/m^2

- Other paper and paperboard, of which more than 10 % by weight of the total fibre content consists of fibres obtained by a mechanical or chemi-mechanical process :

4802.61 - - In rolls

4802.62 - - In sheets with one side not exceeding 435 mm and the other side not exceeding 297 mm in the unfolded state

4802.69 - - Other

Uncoated paper and paperboard, of a kind used for writing, printing or other graphic purposes, and non perforated punch-cards and punch tape paper of this heading are defined in Note 5 to this Chapter. Such paper and paperboard complying with that definition are always classified in this heading.

Hand-made paper and paperboard in any size or shape as made directly and having all its edges deckled falls, subject to the provisions of Chapter Note 7, in this heading.

Hand-made paper and paperboard having any of its edges trimmed or cut and machine-made paper and paperboard are, however, classified in this heading only if they are in strips or rolls or in rectangular (including square) sheets, of any size. If they have been cut to any other shape, they fall in later headings of this Chapter (for example, **48.17**, **48.21** or **48.23**).

Paper and paperboard of this heading may be subjected to processes specified in Note 3 to this Chapter, such as colouring or marbling throughout the mass, calendering, super-calendering glazing, false watermarking or surface sizing. Paper and paperboard which have been otherwise processed, are **excluded** (generally, **headings 48.06 to 48.11**).

In addition to hand-made paper and paperboard and subject to Chapter Note 5 to this Chapter, the heading includes :

(A) Base papers and paperboard, for example :

(1) Paper and paperboard of a kind used as a base for photo-sensitive, heat-sensitive or electro-sensitive paper or paperboard;

(2) Carbonising base paper (a thin, tear-resistant paper weighing from 9 to 70 g per m^2 according to the intended use) for conversion into one-time or other carbon paper;

(3) Wallpaper base;

(4) Base paper and paperboard for conversion into kaolin coated paper and paperboard of heading 48.10.

(B) Other paper and paperboard, of a kind used for writing, printing or other graphic purposes, for example :

(1) Magazine paper and book printing paper (including thin and bulky printings);

(2) Offset printing papers;

(3) Printing Bristol board, index Bristol, postcard stock, tag stock, cover paper;

(4) Poster paper, drawing paper, school exercise or note book paper, writing tablet or school paper;

(5) Bond paper, duplicating paper, mimeograph paper, typewriter paper, onionskin, manifold and other paper for office or personal stationery, including paper of a kind used in printers or in photocopying apparatus;

(6) Ledger paper, adding machine roll paper;

(7) Envelope paper and folder paper;

(8) Register or recording paper, form bond paper, and continuous stationery;

(9) Security paper used for cheques, stamps, banknotes or the like.

(C) Non perforated punch-cards and punch tape paper.

This heading also **excludes** :

(a) Newsprint (**heading 48.01**).

(b) Paper of **heading 48.03**.

(c) Filter paper and paperboard (including tea-bag paper) and felt paper and paperboard (**heading 48.05**).

(d) Cigarette paper (**heading 48.13**).

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Subheading Explanatory Note.

Subheading 4802.20

Subject to Note 5 to this Chapter, paper and paperboard of a kind used as a base for photo-sensitive paper or paperboard generally means paper or paperboard of rag pulp or fine paper or paperboard containing rag pulp, entirely free of extraneous matter (particularly metals such as iron or copper).

4802.10

- Hand-made paper and paperboard

4802.20

- Paper and paperboard of a kind used as a base for photo-sensitive, heat-sensitive or electro-sensitive paper or paperboard

4802.40

- Wallpaper base

4802.5

- Other paper and paperboard, not containing fibres obtained by a mechanical or chemi-mechanical process or of which not more than 10 % by weight of the total fibre content consists of such fibres :

4802.54

-- Weighing less than 40 g/m²

4802.55

-- Weighing 40 g/m² or more but not more than 150 g/m², in rolls

4802.56

-- Weighing 40 g/m² or more but not more than 150 g/m², in sheets with one side not exceeding 435 mm and the other side not exceeding 297 mm in the unfolded state

4802.57

-- Other, weighing 40 g/m² or more but not more than 150 g/m²

4802.58

-- Weighing more than 150 g/m²

4802.6

- Other paper and paperboard, of which more than 10 % by weight of the total fibre content consists of fibres obtained by a mechanical or chemi-mechanical process :

4802.61

-- In rolls

4802.62

-- In sheets with one side not exceeding 435 mm and the other side not exceeding 297 mm in the unfolded state

4802.69

-- Other

Heading 4803

Toilet or facial tissue stock, towel or napkin stock and similar paper of a kind used for household or sanitary purposes, cellulose wadding and webs of cellulose fibres, whether or not creped, crinkled, embossed, perforated, surface-coloured, surface-decorated or printed, in rolls or sheets.

EXPLANATORY NOTES

48.03 - Toilet or facial tissue stock, towel or napkin stock and similar paper of a kind used for household or sanitary purposes, cellulose wadding and webs of cellulose fibres, whether or not creped, crinkled, embossed, perforated, surface-coloured, surface-decorated or printed, in rolls or sheets.

This heading covers two categories of goods :

(1) Toilet or facial tissue stock, towel or napkin stock and similar paper of a kind used for household or sanitary purposes. However, such paper in rolls of a width not exceeding 36 cm or cut to any size or shape other than that mentioned in Note 8 to this Chapter, and other household or sanitary articles made from this kind of paper fall in **heading 48.18**.

(2) Cellulose wadding and webs of cellulose fibres. However, such products in rolls of a width not exceeding 36 cm or cut to any size or shape other than that mentioned in Note 8 to this Chapter, and other articles of cellulose wadding or webs of cellulose fibres, fall in **headings 48.18, 48.19** or **48.23**.

Cellulose wadding consists of a creped web of cellulose fibres of open formation, with a crepe ratio of more than 35 % comprising one or more plies, with each ply having a grammage (basis weight) that may reach 20 g/m^2 before creping.

Webs of cellulose fibres (tissues) consist of a creped web of cellulose fibres of closed formation, with a maximum crepe ratio of 35 %, comprising one or more plies, with each ply having a grammage (basis weight) that may reach 20 g/m^2 before creping.

It should be noted that in addition to being subjected to the processes specified in Note 3 to this Chapter, the products of this heading may be creped, crinkled, embossed, perforated, surface-coloured, surface-decorated or printed.

The heading also **excludes** :

(a) Cellulose wadding impregnated or coated with pharmaceutical substances or put up in forms or packings for retail sale for medical, surgical, dental or veterinary purposes (**heading 30.05**).

(b) Paper and cellulose wadding impregnated, coated or covered with soap or detergent (**heading 34.01**), or with polishes, creams or similar preparations (**heading 34.05**).

(c) Blotting paper (**heading 48.05**).

4803.00

Toilet or facial tissue stock, towel or napkin stock and similar paper of a kind used for household or sanitary purposes, cellulose wadding and webs of cellulose fibres, whether or not creped, crinkled, embossed, perforated, surface-coloured, surface-decorated or printed, in rolls or sheets.

Heading 4804

Uncoated kraft paper and paperboard, in rolls or sheets, other than that of heading 48.02 or 48.03.

EXPLANATORY NOTES

48.04 - Uncoated kraft paper and paperboard, in rolls or sheets, other than that of heading 48.02 or 48.03.

- Kraftliner :

4804.11 - - Unbleached

4804.19 - - Other

- Sack kraft paper :

4804.21 - - Unbleached

4804.29 - - Other

- Other kraft paper and paperboard weighing 150 g/m^2 or less :

4804.31 - - Unbleached

4804.39 - - Other

- Other kraft paper and paperboard weighing more than 150 g/m^2 but less than 225 g/m^2 :

4804.41 - - Unbleached

4804.42 - - Bleached uniformly throughout the mass and of which more than 95 % by weight of the total fibre content consists of wood fibres obtained by a chemical process

4804.49 - - Other

- Other kraft paper and paperboard weighing 225 g/m^2 or more :

4804.51 - - Unbleached

4804.52 - - Bleached uniformly throughout the mass and of which more than 95 % by weight of the total fibre content consists of wood fibres obtained by a chemical process

4804.59 - - Other

The expression “kraft paper and paperboard” is defined in Note 6 to this Chapter. The most important categories of kraft paper and paperboard are kraftliner, sack kraft paper and other kraft paper for wrapping and packaging purposes.

“Kraftliner” and “sack kraft paper” are defined in subheading Notes 1 and 2 to this Chapter. The expression “wood fibres” in the definition of kraftliner **does not cover** bamboo fibres.

Kraft paper and paperboard are classified in this heading only if they are in strips or rolls of a width exceeding 36 cm or in rectangular (including square) sheets with one side exceeding 36 cm and the other side exceeding 15 cm in the unfolded state (see Note 8 to this Chapter). If they have been cut to any other size or shape, they generally fall in **heading 48.23**.

Paper and paperboard of this heading may be subjected to processes specified in Note 3 to this Chapter, such as colouring or marbling throughout the mass, calendering, super-calendering, glazing or surface sizing. Paper and paperboard which have been otherwise processed are **excluded** (generally **heading 48.07, 48.08, 48.10** or **48.11**).

4804.1

- Kraftliner :

4804.11

-- Unbleached

4804.19

-- Other

4804.2

- Sack kraft paper :

4804.21

-- Unbleached

4804.29

-- Other

4804.3

- Other kraft paper and paperboard weighing 150 g/m² or less :

4804.31

-- Unbleached

4804.39

-- Other

4804.4

- Other kraft paper and paperboard weighing more than 150 g/m² but less than 225 g/m² :

4804.41

-- Unbleached

4804.42

-- Bleached uniformly throughout the mass and of which more than 95 % by weight of the total fibre content consists of wood fibres obtained by a chemical process

4804.49

-- Other

4804.5

- Other kraft paper and paperboard weighing 225 g/m² or more :

4804.51

-- Unbleached

4804.52

-- Bleached uniformly throughout the mass and of which more than 95 % by weight of the total fibre content consists of wood obtained by a chemical process

4804.59

-- Other

Heading 4805

Other uncoated paper and paperboard, in rolls or sheets, not further worked or processed than as specified in Note 3 to this Chapter.

EXPLANATORY NOTES

48.05 - Other uncoated paper and paperboard, in rolls or sheets, not further worked or processed than as specified in note 3 to this chapter (+).

- Fluting paper :

4805.11 - - Semi-chemical fluting paper

4805.12 - - Straw fluting paper

4805.19 - - Other

- Testliner (recycled liner board) :

4805.24 - - Weighing 150 g/m^2 or less

4805.25 - - Weighing more than 150 g/m^2

4805.30 - Sulphite wrapping paper

4805.40 - Filter paper and paperboard

4805.50 - Felt paper and paperboard

- Other :

4805.91 - - Weighing 150 g/m^2 or less

4805.92 - - Weighing more than 150 g/m^2 but less than 225 g/m^2

4805.93 - - Weighing 225 g/m^2 or more

This heading covers machine-made uncoated papers and paperboards as manufactured in the form of rolls or sheets (for dimensions, see Note 8 to this Chapter), **other than** those included in **headings 48.01 to 48.04**. It **excludes**, however, certain special papers and paperboards or special products (**headings 48.06 to 48.08** and **headings 48.12 to 48.16**) and paper and paperboard which have been subjected to processes other than those permitted in Note 3, for example, coated or impregnated paper or paperboard (**headings 48.09 to 48.11**).

Examples of paper and paperboard of this heading are :

(1) **Semi-chemical fluting paper** as defined in subheading Note 3 to this Chapter.

(2) **Multi-ply paper and paperboard** which are products obtained by pressing together two or more layers of moist pulps of which at least one has characteristics different from the others. These differences may arise from the nature of the pulps used (e.g., recycled waste), the method of production (e.g., mechanical or chemical) or, if the pulps are of the same nature and have been produced by the same method, the degree of processing (e.g., unbleached, bleached or coloured).

(3) **Sulphite wrapping paper** as defined in subheading Note 6 to this Chapter. The expression “wood fibres” in this definition **does not cover** bamboo fibres.

(4) **Filter paper and paperboard** (including tea-bag paper).

(5) **Felt paper and paperboard**.

(6) **Blotting paper**.

The heading also **excludes** fibreboard (**heading 44.11**).

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Subheading Explanatory Notes.

Subheading 4805.19

Subheading 4805.19 includes "Wellenstoff fluting paper (recycled medium)", being paper in rolls made mainly of pulp of recovered (waste and scrap) paper or paperboard, with additives (e.g., starch), weighing at least 100 g/m^2, and having a CMT 30 (Corrugated Medium Test with 30 minutes of conditioning) crush resistance exceeding 1.6 newtons/g/m^2 at 50 % relative humidity, at 23 °C.

Subheading 4805.40

Filter paper and paperboard are porous products, devoid of wood fibres obtained by a mechanical or semi-chemical process, unsized and designed to remove solid particles from liquids or gases. They are obtained from rag or chemical pulp or a mixture thereof and may also contain synthetic or glass fibres. The pore size is determined by the size of the particles to be removed. These products include filter paper and paperboard for the manufacture of tea bags, of coffee filters, of filters for motor vehicles, as well as analytical filter paper and paperboard which should be neither acidic nor alkaline and should have a very low ash content.

Subheading 4805.50

Felt paper and paperboard are products made from a fibrous mass of varying degrees of absorbency. Waste and scrap of paper or paperboard, wood pulp or textile waste in the form of fibres are used in their manufacture. Felt paper and paperboard are generally of a dull blue grey colour with coarsely fibrous surface and contain impurities. They are used, *inter alia*, in the manufacture of paperboard for roofing and as intermediate layers for cases and fancy leather articles.

4805.1

- Fluting paper :

4805.11

-- Semi-chemical fluting paper

4805.12

-- Straw fluting paper

4805.19

-- Other

4805.2

- Testliner (recycled liner board) :

4805.24

-- Weighing 150 g/m² or less

4805.25

-- Weighing more than 150 g/m²

4805.30

- Sulphite wrapping paper

4805.40

- Filter paper and paperboard

4805.50

- Felt paper and paperboard

4805.9

- Other :

4805.91

-- Weighing 150 g/m² or less

4805.92

-- Weighing more than 150 g/m² but less than 225 g/m²

4805.93

-- Weighing 225 g/m² or more

Heading 4806

Vegetable parchment, greaseproof papers, tracing papers and glassine and other glazed transparent or translucent papers, in rolls or sheets.

EXPLANATORY NOTES

48.06 - Vegetable parchment, greaseproof papers, tracing papers and glassine and other glazed transparent or translucent papers, in rolls or sheets.

4806.10 - Vegetable parchment

4806.20 - Greaseproof papers

4806.30 - Tracing papers

4806.40 - Glassine and other glazed transparent or translucent papers

Vegetable parchment is made by immersing unsized and unloaded paper of good quality in sulphuric acid for a few seconds. The action of the acid converts some of the cellulose into amyloid form having a gelatinous and impermeable character. When the treated paper is thoroughly washed and dried the resultant product is much stronger than the original paper, is translucent and resistant to oil, grease and, to a large extent, impervious to water and gas. The heavier and more rigid qualities of vegetable parchment paper, and the product obtained by pressing two or more sheets of vegetable parchment paper together while in the wet state, are known as vegetable parchment paperboard.

Similar papers may be made by the same method except that titanium oxide is added to the pulp. The papers thus obtained, although still parchment papers, are then opaque.

Vegetable parchment paper is used as a protective wrapping for fatty substances (e.g., butter, lard) and other provisions, for packing dynamite, as membranes for use in the processes of osmosis and dialysis, as papers for diplomas, etc., as tracing paper and plan paper for certain uses, for the manufacture of greetings cards, etc. Vegetable parchment paperboard is used as a substitute for parchment in bookbinding, for the manufacture of lampshades, travel goods, etc.

Paper which has been parchmented on one side only (used in the manufacture of certain types of wallpaper) also falls in this heading.

Greaseproof papers (known in certain countries as “imitation parchment paper”) are made directly from pulp (usually sulphite pulp) by reducing the fibres to a state of fine subdivision and hydrolysing them by prolonged beating in water. The paper is translucent and to a large extent impervious to oil and grease. In general it is used for the same purposes as vegetable parchment but, being cheaper, it is particularly suitable for wrapping fatty foods. It is hardly ever glazed and resembles vegetable parchment in appearance but can be distinguished from it by its lower resistance to water.

Vegetable parchment and greaseproof paper are sometimes made softer and more translucent by the use of glycerol, glucose, etc., during the surface finishing. Such treatment does not affect their classification.

Greaseproof paper can be distinguished from vegetable parchment by testing their resistance to water. When soaked for a few minutes vegetable parchment tears only with difficulty and shows a clean break, whereas greaseproof paper treated in the same way tears easily with a more fibrous break.

Similar paper (**imitation greaseproof paper**) having greaseproof qualities but in a less marked degree is obtained when the beating of the pulp is not so prolonged and hydrolysis of the fibres not so complete. To increase the transparency and give a brighter finish, paraffin wax or stearin may be added to the pulp.

A form of **tracing paper**, similar to greaseproof, is made by prolonged beating of the pulp to produce high transparency. The heading also covers other kinds of tracing papers.

Glassine, a glazed transparent paper, is made in the same manner as greaseproof paper but in the final stage of manufacture it obtains its characteristic transparency and high-density finish by repeated damping and glazing under pressure between heated rollers in a supercalender. Similar glazed transparent papers are now made by the same process but with the addition of plastics or other materials to the pulp.

Glazed transparent or translucent papers are mainly uncoloured, but tinted varieties (glazed translucent papers) are also produced by the addition of colouring matter at the pulp stage. They are generally less impermeable than vegetable parchment or greaseproof papers but are also used as protective wrapping for provisions, sweetmeats, etc., for the manufacture of windows for envelopes and, when shredded into shavings, as fine packing material, e.g., for chocolates.

For the dimensions of the products of this heading, see Note 8 to this Chapter.

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The heading **excludes** papers which have been rendered greaseproof or waterproof by coating, impregnation or similar processes after manufacture of the paper (**headings 48.09** or **48.11**).

4806.10

- Vegetable parchment

4806.20

- Greaseproof papers

4806.30

- Tracing papers

4806.40

- Glassine and other glazed transparent or translucent papers

Heading 4807

Composite paper and paperboard (made by sticking flat layers of paper or paperboard together with an adhesive), not surface-coated or impregnated, whether or not internally reinforced, in rolls or sheets.

EXPLANATORY NOTES

48.07 - Composite paper and paperboard (made by sticking flat layers of paper or paperboard together with an adhesive), not surface-coated or impregnated, whether or not internally reinforced, in rolls or sheets.

This heading covers paper and paperboard made by sticking two or more layers of paper or paperboard together with the aid of an adhesive. These products can be made from paper or paperboard of any quality and the bonding material may be of animal, vegetable or mineral origin (e.g., dextrin, glue, tar, gum, asphalt, latex).

The products of this heading can be distinguished from the products of the preceding headings (made by assembling layers by compression without the aid of bonding materials) by the fact that, on immersion in water or other suitable solvent, the separate layers can be readily parted and bear evidence of the adhesive substance. The layers of composite papers and paperboards also usually separate on burning.

Composite paper and paperboard in which the bonding medium also acts as waterproofing material (e.g., tarred duo-kraft) are included in this heading, as are also paper and paperboard which are internally reinforced with bitumen, tar, asphalt, textile or other material (e.g., textile or metal gauze, plastics), **provided** the essential character of the products remains that of paper or paperboard. These products are principally used as waterproof wrapping.

The finer qualities of composite papers and paperboards, in which the laminated character is not readily apparent, are used for printing or stationery. Others are used for box-making or bookbinding.

For the dimensions of the products of this heading, see Note 8 to this Chapter.

Fibreboard is **excluded** from this heading (**heading 44.11**).

4807.00

Composite paper and paperboard (made by sticking flat layers of paper or paperboard together with an adhesive), not surface-coated or impregnated, whether or not internally reinforced, in rolls or sheets.

Heading 4808

Paper and paperboard, corrugated (with or without glued flat surface sheets), creped, crinkled, embossed or perforated, in rolls or sheets, other than paper of the kind described in heading 48.03.

EXPLANATORY NOTES

48.08 - Paper and paperboard, corrugated (with or without glued flat surface sheets), creped, crinkled, embossed or perforated, in rolls or sheets, other than paper of the kind described in heading 48.03.

4808.10 - Corrugated paper and paperboard, whether or not perforated

4808.40 - Kraft paper, creped or crinkled, whether or not embossed or perforated

4808.90 - Other

This heading covers a variety of papers and paperboards in rolls or sheets having the common characteristic of having been worked during or after manufacture in such a way that they are no longer flat or of uniform surface. For the dimensions of the products of this heading, see Note 8 to this Chapter. The heading includes :

(1) **Corrugated paper and paperboard**.

Corrugated paper and paperboard results from processing the material through grooved rollers with the application of heat and steam. They may consist of a single corrugated layer or may be combined with flat surface sheets on one side (single faced) or both sides (double faced). Heavier boards may be built up with successive plies of corrugated paper or paperboard with alternate flat surface layers.

The most common use of corrugated paper and paperboard is in the manufacture of corrugated containers. It is also used as protective packing material.

(2) **Creped or crinkled papers**.

These are made by mechanical treatment of the webs of paper in the moist state, or by passing the made paper between rollers with wrinkled surfaces. The original surface area of the paper is considerably reduced in the process and the resultant product has a wrinkled appearance and the property of high elasticity.

Cellulose wadding and webs of cellulose fibres, which normally have a crinkled appearance, are **not** regarded as a creped or crinkled paper and fall in **headings 48.03**, **48.18** or **48.23**. Also **excluded** is extensible paper produced by the clupak process which compacts the paper web thereby flexing and crowding the fibres during production. This paper, although made by mechanical treatment of the web in the moist state and possessing the property of elasticity, is generally free from the normal wrinkled appearance of creped and crinkled papers (generally **headings 48.04** or **48.05**).

Creped or crinkled papers are often coloured and are used in either single or multiple ply for the manufacture of a large variety of articles (e.g., cement bags and other packings, decorative streamers). However, such papers of a kind used for household or sanitary purposes are **excluded** (**heading 48.03**). Products of the kind specified in **heading 48.18** are also **excluded**.

(3) **Embossed paper and paperboard**.

Embossed papers and paperboards are those on which a perceptible unevenness of surface has been obtained, generally after the paper is made, by passing the paper, either in the wet or dry state, between rollers embossed or engraved on the surface with a pattern, or by pressing it with engraved or embossed metal plates. These products vary considerably in quality and appearance and include those papers commonly known as goffered papers, papers with embossed patterns simulating various leather grains, linen-finished papers (including those produced by rollers faced with cloth). They are used for the manufacture of certain writing papers, wallpaper, for lining and covering boxes, for bookbinding, etc.

(4) **Perforated paper and paperboard**.

These are made by punching holes mechanically with dies in the paper or paperboard in the dry state. The perforations may be in the form of designs or may be simply at regular intervals.

This heading includes paper perforated in lines to facilitate tearing to size.

Perforated paper is used for conversion into fancy papers (e.g., shelf papers and border papers) or for packing purposes, etc.

In addition to the goods of **headings 48.03** and **48.18**, the heading also **excludes** :

(a) Papers with a naturally raised grain, e.g., drawing paper (**heading 48.02** or **48.05**).

(b) Perforated paper and paperboard cards for Jacquard or similar machines, and paper lace (**heading 48.23**).

(c) Perforated paper and paperboard music cards, discs and rolls (**heading 92.09**).

4808.10

- Corrugated paper and paperboard, whether or not perforated

4808.40

- Kraft paper, creped or crinkled, whether or not embossed or perforated

4808.90

- Other

Heading 4809

Carbon paper, self-copy paper and other copying or transfer papers (including coated or impregnated paper for duplicator stencils or offset plates), whether or not printed, in rolls or sheets.

EXPLANATORY NOTES

48.09 - Carbon paper, self-copy paper and other copying or transfer papers (including coated or impregnated paper for duplicator stencils or offset plates), whether or not printed, in rolls or sheets.

4809.20 - Self-copy paper

4809.90 - Other

This heading covers papers coated, impregnated or otherwise obtained, in rolls or sheets. For the dimensions of the products of this heading, see Note 8 to this Chapter. These papers when not meeting these conditions, fall in **heading 48.16**; for detailed description of these papers see the Explanatory Note to heading 48.16

The heading **excludes** :

(a) Stamping foils (**heading 32.12**).

(b) Sensitised paper (generally **heading 37.03**).

4809.20

- Self-copy paper

4809.90

- Other

Heading 4810

Paper and paperboard, coated on one or both sides with kaolin (China clay) or other inorganic substances, with or without a binder, and with no other coating, whether or not surface-coloured, surface-decorated or printed, in rolls or rectangular (including square) sheets, of any size.

EXPLANATORY NOTES

48.10 - Paper and paperboard, coated on one or both sides with kaolin (china clay) or other inorganic substances, with or without a binder, and with no other coating, whether or not surface-coloured, surface-decorated or printed, in rolls or rectangular (including square) sheets, of any size (+).

- Paper and paperboard of a kind used for writing, printing or other graphic purposes, not containing fibres obtained by a mechanical or chemi-mechanical process or of which not more than 10 % by weight of the total fibre content consists of such fibres :

4810.13 - - In rolls

4810.14 - - In sheets with one side not exceeding 435 mm and the other side not exceeding 297 mm in the unfolded state

4810.19 - - Other

- Paper and paperboard of a kind used for writing, printing or other graphic purposes, of which more than 10 % by weight of the total fibre content consists of fibres obtained by a mechanical or chemi-mechanical process :

4810.22 - - Light-weight coated paper

4810.29 - - Other

- Kraft paper and paperboard, other than that of a kind used for writing, printing or other graphic purposes :

4810.31 - - Bleached uniformly throughout the mass and of which more than 95 % by weight of the total fibre content consists of wood fibres obtained by a chemical process, and weighing 150 g/m^2 or less

4810.32 - - Bleached uniformly throughout the mass and of which more than 95 % by weight of the total fibre content consists of wood fibres obtained by a chemical process, and weighing more than 150 g/m^2

4810.39 - - Other

- Other paper and paperboard :

4810.92 - - Multi-ply

4810.99 - - Other

The inorganic substances, other than kaolin (China clay), commonly used for coating include barium sulphate, magnesium silicate, calcium carbonate, calcium sulphate, zinc oxide and powdered metal (see the General Explanatory Note to this Chapter : coated paper and paperboard). The inorganic coating materials referred to in the heading may contain small amounts of organic substances for example to enhance the surface characteristics of the paper.

The heading covers paper and paperboard of a kind used for writing, printing or other graphic purposes, including such paper of a kind used in printers or in photocopying apparatus (light-weight coated paper of this category is defined in subheading Note 7; the expression “wood fibres” in the definition **does not cover** bamboo fibres), kraft paper and paperboard and multi-ply paper and paperboard (described in the Explanatory Note to heading 48.05), provided they are coated with kaolin or other inorganic substances.

Paper and paperboard are classified in this heading only if they are in strips or rolls or in rectangular (including square) sheets, of any size. If they have been cut to any other shape, they fall in later headings of this Chapter (for example, **48.17**, **48.21** or **48.23**).

The heading **excludes** :

(a) Perfumed papers or papers impregnated or coated with cosmetics (**Chapter 33**).

(b) Sensitised paper or paperboard of **headings 37.01 to 37.04**.

(c) Strips impregnated with diagnostic or laboratory reagents (**heading 38.22**).

(d) Copying papers of **headings 48.09** or **48.16.**

(e) Wallpaper and similar wall coverings and window transparencies of paper (**heading 48.14**).

(f) Correspondence cards and other paper or paperboard stationery of **heading 48.17**.

(g) Abrasive paper or paperboard (**heading 68.05**) and mica (other than mica powder) on a paper or paperboard support (**heading 68.14**).

(h) Metal foil backed with paper or paperboard (**generally Sections XIV or XV**).

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Subheading Explanatory Notes.

Subheadings 4810.13, 4810.14, 4810.19, 4810.22 and 4810.29

The paper and paperboard covered by these subheadings are those which, in the uncoated state, fall in heading 48.02.

Subheading 4810.92

Multi-ply paper and paperboard are described in the Explanatory Note to heading 48.05.

4810.1

- Paper and paperboard of a kind used for writing, printing or other graphic purposes, not containing fibres obtained by a mechanical or chemi-mechanical process or of which not more than 10 % by weight of the total fibre content consists of such fibres :

4810.13

-- In rolls

4810.14

-- In sheets with one side not exceeding 435 mm and the other side not exceeding 297 mm in the unfolded state

4810.19

-- Other

4810.2

- Paper and paperboard of a kind used for writing, printing or other graphic purposes, of which more than 10 % by weight of the total fibre content consists of fibres obtained by a mechanical or chemi-mechanical process :

4810.22

-- Light-weight coated paper

4810.29

-- Other

4810.3

- Kraft paper and paperboard, other than that of a kind used for writing, printing or other graphic purposes :

4810.31

-- Bleached uniformly throughout the mass and of which more than 95 % by weight of the total fibre content consists of wood fibres obtained by a chemical process, and weighing 150 g/m² or less

4810.32

-- Bleached uniformly throughout the mass and of which more than 95 % by weight of the total fibre content consists of wood fibres obtained by a chemical process, and weighing more than 150 g/m²

4810.39

-- Other

4810.9

- Other paper and paperboard :

4810.92

-- Multi-ply

4810.99

-- Other

Heading 4811

Paper, paperboard, cellulose wadding and webs of cellulose fibres, coated, impregnated, covered, surface-coloured, surface-decorated or printed, in rolls or rectangular (including square) sheets, of any size, other than goods of the kind described in heading 48.03, 48.09 or 48.10.
EXPLANATORY NOTES

48.11 - Paper, paperboard, cellulose wadding and webs of cellulose fibres, coated, impregnated, covered, surface-coloured, surface-decorated or printed, in rolls or rectangular (including square) sheets, of any size, other than goods of the kind described in heading 48.03, 48.09 or 48.10.

4811.10 - Tarred, bituminised or asphalted paper and paperboard

- Gummed or adhesive paper and paperboard :

4811.41 - - Self-adhesive

4811.49 - - Other

- Paper and paperboard coated, impregnated or covered with plastics (excluding adhesives) :

4811.51 - - Bleached, weighing more than 150 g/m^2

4811.59 - - Other

4811.60 - Paper and paperboard, coated, impregnated or covered with wax, paraffin wax, stearin, oil or glycerol

4811.90 - Other paper, paperboard, cellulose wadding and webs of cellulose fibres

Paper and paperboard are classified in this heading only if they are in strips or rolls or in rectangular (including square) sheets, of any size. If they have been cut to any other shape, they fall in later headings of this Chapter (for example, **48.23**). **Subject** to these conditions and the **exceptions** mentioned in the heading and those referred to at the end of this Explanatory Note, this heading applies to the following in rolls or sheets :

(A) Paper, paperboard, cellulose wadding and webs of cellulose fibres, to which superficial coatings of materials other than kaolin or other inorganic substances have been applied over the whole or part of one or both surfaces (e.g., thermosensitive paper used, for example, in telefax machines).

(B) Impregnated paper, paperboard, cellulose wadding and webs of cellulose fibres (see the General Explanatory Note to this Chapter : impregnated paper and paperboard).

(C) Paper, paperboard, cellulose wadding and webs of cellulose fibres, coated or covered, provided in the case of paper or paperboard coated or covered with plastics, the layer of plastics does not constitute more than half the total thickness (see Note 2 (g) to this Chapter).

Paper and paperboard for the manufacture of packagings for beverages and other foodstuffs, printed with texts and illustrations referring to the goods to be packaged therein, covered on both faces with thin transparent sheets of plastics, with or without a lining of metal foil (on the face which will form the inside of the packaging), are also classified in this heading. These products may be creased and marked to identify individual containers to be cut from the rolls.

(D) Paper, paperboard, cellulose wadding and webs of cellulose fibres, coloured on the surface with a single colour or with different colours, including surface marbled and design printed paper, and those printed with motifs, characters or pictorial representations merely subsidiary to their primary use and not constituting printed matter of **Chapter 49** (see Note 12 and General Explanatory Note to this Chapter : coloured or printed paper and paperboard).

The heading also **excludes** :

(a) Cellulose wadding impregnated or coated with pharmaceutical substances, etc., of **heading 30.05**.

(b) Perfumed papers or papers impregnated or coated with cosmetics (**Chapter 33**).

(c) Paper and cellulose wadding impregnated, coated or covered with soap or detergent (**heading 34.01**), or with polishes, creams or similar preparations (**heading 34.05**).

(d) Sensitised paper or paperboard of **heading 37.01 to 37.04**.

(e) Litmus and pole-finding papers and other paper impregnated with diagnostic or laboratory reagents (**heading 38.22**).

(f) One layer of paper or paperboard coated or covered with a layer of plastics, the latter constituting more than half the total thickness (**Chapter 39**).

(g) Paper merely watermarked with lines, etc. even if the lines serve the purpose of printed lines (**headings 48.02**, **48.04** and **48.05**).

(h) Wallpaper and similar wall coverings and window transparencies of paper (**heading 48.14**).

(ij) Correspondence cards and other paper or paperboard stationery of **heading 48.17.**

(k) Roofing boards consisting of a substrate of paperboard completely enveloped in, or covered on both sides by, a layer of asphalt or similar material (**heading 68.07**).

4811.10

- Tarred, bituminised or asphalted paper and paperboard

CLASSIFICATION OPINIONS

1. Moisture insulation material consisting of two sheets of creped asphalt-impregnated paper with aluminium foil interlining.
Adoption : 1959

2. Corrugated roofing boards obtained by impregnating with bituminous materials, under pressure, a fibrous web made of paper pulp according to paper techniques; in certain cases, the boards are covered on one side with varnish or with mineral material (sand, granules, etc.) bonded by a thin layer of bituminous material.
See also Opinions 6807.90/1 and 6807.90/2.
Adoption : 1971

4811.4

- Gummed or adhesive paper and paperboard :

4811.41

-- Self-adhesive

4811.49

-- Other

4811.5

- Paper and paperboard coated, impregnated or covered with plastics (excluding adhesives) :

4811.51

-- Bleached, weighing more than 150 g/m²

4811.59

-- Other

CLASSIFICATION OPINIONS

1. Unbleached kraft paper or paperboard product used for the manufacture of packagings for beverages, printed on one face with texts and illustrations referring to the goods to be packaged therein, covered with a thin transparent sheet of polyethylene on both faces, in rolls of a width exceeding 15 cm and creased and marked to identify individual containers to be cut from the rolls.
Application of GIR 3 (b).
See also Opinions 4811.59/2 and 4811.60/1.
Adoption : 1995

2. Unbleached kraft paper or paperboard product used for the manufacture of packagings for beverages, printed on one face with texts and illustrations referring to the goods to be packaged therein, covered on that face with a thin transparent sheet of polyethylene and lined on the other face (on the face which will form the inside of the packaging), with aluminium foil covered with a thin transparent sheet of polyethylene, in rolls of a width exceeding 15 cm and creased and marked to identify individual containers to be cut from the rolls.
Application of GIR 3 (b).
See also Opinion 4811.59/1.
Adoption : 1995

4811.60

- Paper and paperboard, coated, impregnated or covered with wax, paraffin wax, stearin, oil or glycerol

CLASSIFICATION OPINIONS

1. Paraffin-waxed paper and paperboard, to be used for the manufacture of containers for milk, cream, fruit juices, etc., or of gramophone record covers, in rolls of a width exceeding 15 cm or in rectangular sheets of a length exceeding 36 cm, whether or not lined with aluminium foil (i.e., on the face which will form the inside of the packing), printed on one side with texts or illustrations

referring to the goods to be packed therein.
Adoption : 1966

2. **Strip** of paraffin-waxed paper of a width not exceeding 15 cm, treated with sorbitol, with an appreciably narrower strip of aluminium foil fixed lengthwise to the centre of one side, put up in rolls for wrapping sweets.
Adoption : 1966

4811.90

- Other paper, paperboard, cellulose wadding and webs of cellulose fibres

CLASSIFICATION OPINIONS

1. **"Japanese silk paper",** in sheets, for lampshades, decorated with parts of dried natural plants and with designs painted with metallic powder, the whole covered with a very light natural silk fabric applied under pressure.
Adoption : 1959

2. **Paperboard** in rectangular sheets of a length exceeding 36 cm, completely printed on one side with characters and illustrations, which need only be cut up to obtain book covers (in this particular instance, each sheet included eight complete soft covers for binding into books). The printed texts and illustrations on articles of this type always have an accessory character incidental to the primary use of the goods and not such as to make them printed matter of Ch. 49.
Adoption : 1964

3. **Paper** in rolls of a width exceeding 15 cm, coated on one side with an organic heat sensitive (thermosensitive) substance which blackens as a result of chemical reaction when heat is applied; in telefax machines, facsimile reproduction is obtained on the paper by means of a thermal printing process which transcribes electrical impulses generated at the transmitting end of a telefax operation, the complete image being built up from a series of lines or dots produced on the paper by heated pen (heated stylus) or dot matrix thermal printhead incorporated in the receiving telefax machine.
Adoption : 1991

4. **Paper** in rolls of a width not exceeding 15 cm, coated on one side with an organic heat sensitive (thermosensitive) substance which blackens as a result of chemical reaction when heat is applied; in telefax machines, facsimile reproduction is obtained on the paper by means of a thermal printing process which transcribes electrical impulses generated at the transmitting end of a telefax operation, the complete image being built up from a series of lines or dots produced on the paper by heated pen (heated stylus) or dot matrix thermal printhead incorporated in the receiving telefax machine.
Adoption : 1991

Heading 4812

Filter blocks, slabs and plates, of paper pulp.

EXPLANATORY NOTES

48.12 - Filter blocks, slabs and plates, of paper pulp.

These are composed of vegetable fibres (cotton, flax, wood, etc.) with a high cellulose content, compressed together in the form of blocks, slabs or plates without the aid of any binding materials, the fibres remaining in a loosely adherent condition.

The vegetable fibres may be mixed with asbestos fibres; in that case, the blocks, slabs or plates are classified in this heading provided that they still retain the character of articles of paper pulp.

Before manufacture into blocks, slabs or plates the fibres are reduced to the consistency of paper pulp and, in view of the purpose for which they are required, are freed from all impurities in order to avoid giving a colour, odour or taste to the filtered materials.

Filter blocks may also be manufactured by compressing together two or more such slabs made (sometimes by hand) from the prepared and purified pulp.

Filter blocks (also known as filter mass) are used in filters for clarifying liquids (e.g., wine, spirits, beer, vinegar). They are classified in this heading irrespective of their size or shape.

This heading **excludes** :

(a) Cotton linters merely compressed in the form of sheets or slabs (**heading 14.04**).

(b) Other paper products used for filtering liquids, e.g., filter paper (**heading 48.05** or **48.23**), cellulose wadding (**heading 48.03** or **48.23**).

4812.00

Filter blocks, slabs and plates, of paper pulp.

Heading 4813

Cigarette paper, whether or not cut to size or in the form of booklets or tubes.

EXPLANATORY NOTES

48.13 - Cigarette paper, whether or not cut to size or in the form of booklets or tubes.

4813.10 - In the form of booklets or tubes

4813.20 - In rolls of a width not exceeding 5 cm

4813.90 - Other

The heading covers all cigarette paper (including plug wrap and tipping paper, used for wrapping the filter mass and for assembling the filter-tip and the cigarette, respectively), regardless of its size or presentation. Generally, the cigarette paper is in one of the following forms :

(1) In leaves or booklets (printed or not) containing a number of loose leaves of paper of a size sufficient for a single cigarette. These are for rolling cigarettes by hand.

(2) Tubes of the dimensions of a cigarette.

(3) In rolls cut to size (generally not exceeding 5 cm in width) for use on cigarette machines.

(4) In rolls of a width exceeding 5 cm.

This paper, often laid or watermarked, is of good quality (frequently of hemp or linen rag pulp), but very thin and relatively strong. It may be free from loading or lightly charged with special fillers. It is usually made from white paper but may also be coloured, and is sometimes impregnated with substances such as potassium nitrate, wood creosote or liquorice.

Cigarette paper may be coated at one end with wax, metal pigments or other non-absorbent substances and the tubes are sometimes tipped with cork, straw, silk, etc. Paper in the form of tubes may also be fitted with filters, generally consisting of small plugs of absorbent paper, cellulose wadding or cellulose acetate fibres, or the tip ends may be reinforced with paper of heavier quality.

4813.10

- In the form of booklets or tubes

4813.20

- In rolls of a width not exceeding 5 cm

4813.90

- Other

Heading 4814

Wallpaper and similar wall coverings; window transparencies of paper.

EXPLANATORY NOTES

48.14 - Wallpaper and similar wall coverings; window transparencies of paper.

4814.20 - Wallpaper and similar wall coverings, consisting of paper coated or covered, on the face side, with a grained, embossed, coloured, design-printed or otherwise decorated layer of plastics

4814.90 - Other

(A) WALLPAPER AND SIMILAR WALL COVERINGS

In accordance with Note 9 to this Chapter, the expression “wallpaper and similar wall coverings” applies only to :

(a) Paper in rolls, of a width of not less than 45 cm and not more than 160 cm, suitable for wall or ceiling decoration and answering to **one** of the following descriptions :

(1) Grained, embossed, surface-coloured, design-printed or otherwise surface-decorated (e.g., with textile flock), whether or not coated or covered with transparent protective plastics to render the paper washable or even scrubbable. These are commonly known as “wallpaper”.

“Lincrusta” also belongs to this group. It consists of heavy paper material coated with a drying mixture composed of oxidised linseed oil and fillers, the coating being embossed and surface-decorated in a manner rendering the paper suitable for wall or ceiling decoration.

(2) Having an uneven surface resulting from the incorporation, during manufacture, of particles of wood, straw, etc. These wall coverings are commonly known as “ingrain” paper. They may be surface-decorated (e.g., painted) or undecorated. Undecorated ingrain paper is usually painted after being hung on the wall.

(3) Coated or covered on the face side with plastics, the layer of plastics having been grained, embossed, coloured, design-printed or otherwise decorated. These wall coverings are washable and are more resistant to abrasive wear than those described in Item (i) above. Products having a poly(vinyl chloride) layer are often called “vinyl wall coverings” or “vinyl wallpaper”.

(4) Entirely or partly covered on the face side with plaiting material, whether or not bound together in parallel strands or woven. Some of these wall coverings have a layer of plaiting material bound by spun textile fibre.

(b) Borders and friezes, being narrow strips of paper, treated as above (e.g., embossed, design-printed, surface-decorated with a mixture of drying oil and fillers, coated or covered with plastics), whether or not in rolls and suitable for wall or ceiling decoration.

(c) Wall coverings of paper made up of several panels which are printed so as to make up a scene, design or motif when applied to a wall (also known as photo murals). The panels may be of any dimensions and may be presented in rolls or in sheets.

(B) WINDOW TRANSPARENCIES OF PAPER

These products are made from thin, hard and highly-glazed translucent or transparent paper. They are printed in a variety of ornamental designs, frequently coloured to imitate stained glass, and are used either for decorative purposes or simply to reduce the transparency of windows. They may also be printed with texts or illustrations, e.g., for advertising or display purposes.

They may be supplied in rolls, or in sizes and shapes ready for pasting on to the glass of windows or doors. They are sometimes also coated with adhesive.

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This heading **excludes** :

(a) Self-adhesive wall coverings consisting solely of a sheet of plastics affixed to a protective layer of paper which is removed at the time of application (**Chapter 39**).

(b) Wall coverings consisting of veneer or cork backed with paper (**heading 44.08**, **45.02** or **45.04**).

(c) Products similar to wall coverings but of heavier and more rigid construction, consisting, for example, of a layer of plastics on a base of paperboard, usually presented in wider rolls (e.g., 183 cm), used as both floor coverings and wall coverings (generally **heading 48.23**).

(d) Transfers (decalcomanias) somewhat similar in appearance to window transparencies (**heading 49.08**).

(e) Textile wall coverings on a base of paper (**heading 59.05**).

(f) Wall coverings consisting of aluminium foil backed with paper (**heading 76.07**).

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(a) Self-adhesive wall coverings consisting solely of a sheet of plastics affixed to a protective layer of paper which is removed at the time of application (**Chapter 39**).

(b) Wall coverings consisting of veneer or cork backed with paper (**headings 44.08**, **45.02** or **45.04**).

(c) Products similar to wall coverings but of heavier and more rigid construction, consisting, for example, of a layer of plastics on a base of paperboard, usually presented in wider rolls (e.g., 183 cm), used as both floor coverings and wall coverings (generally **heading 48.23**).

(d) Transfers (decalcomanias) somewhat similar in appearance to window transparencies (**heading 49.08**).

(e) Textile wall coverings on a base of paper (**heading 59.05**).

(f) Wall coverings consisting of aluminium foil backed with paper (**heading 76.07**).

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° °

4814.20

- Wallpaper and similar wall coverings, consisting of paper coated or covered, on the face side, with a grained, embossed, coloured, design-printed or otherwise decorated layer of plastics

4814.90

- Other

Heading 4816

Carbon paper, self-copy paper and other copying or transfer papers (other than those of heading 48.09), duplicator stencils and offset plates, of paper, whether or not put up in boxes.
EXPLANATORY NOTES

48.16 - Carbon paper, self-copy paper and other copying or transfer papers (other than those of heading 48.09), duplicator stencils and offset plates, of paper, whether or not put up in boxes.

4816.20 - Self-copy paper

4816.90 - Other

This heading covers papers coated, or sometimes impregnated, in such a way that one or more copies of an original document can be made by applying pressure (e.g., by the impact of a typewriter key), moisture, ink, etc.

Such papers fall in this heading only if presented in rolls of a width not exceeding 36 cm or in rectangular (including square) sheets of which no side exceeds 36 cm in unfolded state, or cut into shapes other than rectangles (including squares); otherwise they fall in**heading 48.09**. For duplicator stencils and offset plates there are no conditions as to size. The papers of this heading are usually put up in boxes.

They can be grouped in two categories, according to the reproduction process involved :

(A) PAPERS REPRODUCING THE ORIGINAL DOCUMENT BY TRANSFER OF ALL OR PART OF THEIR COATING SUBSTANCE OR IMPREGNANT TO ANOTHER SURFACE

This category includes :

(1) **Carbon or similar copying papers**.

These consist of paper which has been coated or sometimes impregnated, with fatty or waxy substances mixed with carbon black or other colouring material. They are used for pen, pencil or typewriter copying onto ordinary paper.

These papers may be :

(a) thin paper used for interleaving and for one time or repeated use,

or

(b) ordinary-weight coated paper which usually forms part of a set.

This group also covers hectographic carbon paper for duplicators, used to make a master sheet which in turn serves as a printing “plate” to produce more copies.

(2) **Self-copy papers**.

Self-copy papers, also known as carbonless copy papers, may be put up in fan-fold form. Pressure applied by means of an office machine or a stylus on the original sheet produces a reaction between two different ingredients normally separated from each other either in the same sheet or in two adjacent sheets, reproducing the impression of the original.

(3) **Heat transfer papers**.

These are coated on one side with a thermosensitive substance, for use in an infra-red copying machine to make a copy of an original document by transferring a dye compounded with the coating substance on to a sheet of ordinary paper (heat transfer process).

(B) COPYING PAPER, DUPLICATOR STENCILS AND OFFSET PLATES USING PROCESSES OTHER THAN THOSE DESCRIBED IN (A) ABOVE

This category includes :

(1) **Paper for duplicator stencils and duplicator stencils**.

Papers for duplicator stencils are thin, strong, unsized papers proofed by coating or impregnating with paraffin or other wax, collodion or preparations of similar products. Pressure applied by means of a typewriter, a stylus or any other appropriate instrument perforates the surface coating with the textual matter or patterns to be reproduced.

Duplicator stencils are usually provided with a detachable thick paper backing attached to the top edge which is specially perforated to allow for the fixing of the prepared stencil on to the duplicator, and they are sometimes interleaved with a paper for making a carbon copy. Furthermore, stencils generally bear guide marks and various other printed particulars.

The heading also includes framed addressing machine stencils.

(2) **Paper for offset plates and offset plates**.

Paper for offset plates has a special coating on one side rendering it impervious to lithographic ink. The plates are used on office-type offset machines for the reproduction on ordinary paper of texts or designs applied to them by hand, with a machine or by any other marking process.

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The papers of this heading may also be in fan-fold form and combine two or more of the reproduction processes described above. A typical example is a paper coated on one side with a special ink by means of which (as with carbon paper) a reverse image of a text or design can be formed on a second paper similar to the plates described in paragraph (B) (2) above. When this second paper is placed on a suitable duplicating machine, the ink deposited on its reverse side is transferred to ordinary paper as a positive image of the original, and many copies can be made.

Copying or transfer papers, bearing texts or designs for reproduction, remain classified in this heading, whether or not bound in sequence.

The heading **excludes** :

(a) Transfer papers of the types known as stamping foils or blocking foils. These are thin papers with a coating of metal, metal powder or pigment and are used for printing book covers, hat bands, etc. (**heading 32.12**).

(b) Sensitised paper or paperboard of **headings 37.01 to 37.04**.

(c) Copying paste with a basis of gelatin on a paper backing (**heading 38.24**).

(d) Duplicator stencils consisting of a thin layer of plastics provided with a detachable paper backing, cut to size and perforated at one edge (**Chapter 39**).

(e) Paper coated with a thermosensitive substance used to make a copy of an original document by direct blackening of the coating substance (thermocopying process) (**heading 48.11** or **48.23**).

(f) Manifold business forms and interleaved carbon sets (**heading 48.20**).

(g) Transfers (decalcomanias) (**heading 49.08**).

4816.20

- Self-copy paper

4816.90

- Other

Heading 4817

Envelopes, letter cards, plain postcards and correspondence cards, of paper or paperboard; boxes, pouches, wallets and writing compendiums, of paper or paperboard, containing an assortment of paper stationery.

EXPLANATORY NOTES

48.17 - Envelopes, letter cards, plain postcards and correspondence cards, of paper or paperboard; boxes, pouches, wallets and writing compendiums, of paper or paperboard, containing an assortment of paper stationery.

4817.10 - Envelopes

4817.20 - Letter cards, plain postcards and correspondence cards

4817.30 - Boxes, pouches, wallets and writing compendiums, of paper or paperboard, containing an assortment of paper stationery

This heading covers paper or paperboard stationery of the kind used in correspondence, e.g., envelopes, letter cards, plain postcards (including correspondence cards). Separate writing paper in loose sheets or in blocks and certain other articles referred to below are, however, **excluded**.

These articles may be printed with addresses, names, trade marks, decorations, crests, initials, etc., merely subsidiary to their use as stationery.

Letter **cards** are sheets of paper or paperboard or card with gummed (and sometimes perforated) edges or other provision for closing or sealing without the use of envelopes.

Plain **postcards** do not fall in this heading **unless** they contain printed provision for the address or stamp or other indications of their use.

Correspondence **cards** do not fall in this heading **unless** they have deckled or gilt edges or rounded corners, or are printed or otherwise prepared in such a manner as clearly to indicate their use as stationery. Plain cards not so prepared are classified in **headings 48.02, 48.10, 48.11 or 48.23**, as the case may be.

The heading also covers boxes, pouches, wallets and writing compendiums, of paper or paperboard, containing an assortment of paper stationery.

This heading also **excludes** :

(a) Letter paper in folded or unfolded sheets, printed or not, and whether or not boxed or packeted (headings 48.02, 48.10 or 48.11, as the case may be).

(b) Letter pads, memorandum pads, etc. of heading 48.20.

(c) Envelopes, postcards, letter cards, etc., stamped by printing or otherwise, with stamps of current issue (heading 49.07).

(d) Printed or illustrated postcards and printed cards of heading 49.09.

(e) Printed letters and similar articles, which are designed for special purposes, e.g., demand notes, removal notices, advertisement letters, including such articles requiring completion in manuscript (heading 49.11).

(f) Illustrated first-day covers and maximum cards : if not bearing postage stamps (heading 49.11); if bearing postage stamps (heading 97.04).

4817.10

- Envelopes

4817.20

- Letter cards, plain postcards and correspondence cards

4817.30

- Boxes, pouches, wallets and writing compendiums, of paper or paperboard, containing an assortment of paper stationery

Heading 4818

Toilet paper and similar paper, cellulose wadding or webs of cellulose fibres, of a kind used for household or sanitary purposes, in rolls of a width not exceeding 36 cm, or cut to size or shape; handkerchiefs, cleansing tissues, towels, tablecloths, serviettes, bed sheets and similar household, sanitary or hospital articles, articles of apparel and clothing accessories, of paper pulp, paper, cellulose wadding or webs of cellulose fibres.

EXPLANATORY NOTES

48.18 - Toilet paper and similar paper, cellulose wadding or webs of cellulose fibres, of a kind used for household or sanitary purposes, in rolls of a width not exceeding 36 cm, or cut to size or shape; handkerchiefs, cleansing tissues, towels, tablecloths, serviettes, bed sheets and similar household, sanitary or hospital articles, articles of apparel and clothing accessories, of paper pulp, paper, cellulose wadding or webs of cellulose fibres.

4818.10 - Toilet paper

4818.20 - Handkerchiefs, cleansing or facial tissues and towels

4818.30 - Tablecloths and serviettes

4818.50 - Articles of apparel and clothing accessories

4818.90 - Other

This heading covers toilet paper and similar paper, cellulose wadding and webs of cellulose fibres, of a kind used for household or sanitary purposes :

(1) in strips or rolls of a width not exceeding 36 cm;

(2) in rectangular (including square) sheets of which no side exceeds 36 cm in the unfolded state;

(3) cut to shape other than rectangular (including square).

It also covers household, sanitary or hospital articles, as well as articles of apparel and clothing accessories, of paper pulp, paper, cellulose wadding or webs of cellulose fibres.

The goods of this heading are often made from the materials of heading 48.03.

The heading **excludes** :

(a) Cellulose wadding impregnated or coated with pharmaceutical substances or put up in forms or packings for retail sale for medical, surgical, dental or veterinary purposes (**heading 30.05**).

(b) Perfumed papers and papers impregnated or coated with cosmetics (**Chapter 33**).

(c) Paper and cellulose wadding impregnated, coated or covered with soap or detergent (**heading 34.01**), or with polishes, creams or similar preparations (**heading 34.05**).

(d) Articles of **Chapter 64**.

(e) Headgear and parts thereof of **Chapter 65**.

(f) Sanitary towels (pads) and tampons, napkins (diapers) and napkin liners and similar articles of **heading 96.19**.

4818.10

- Toilet paper

4818.20

- Handkerchiefs, cleansing or facial tissues and towels

4818.30

- Tablecloths and serviettes

4818.50

- Articles of apparel and clothing accessories

4818.90

- Other

Heading 4819

Cartons, boxes, cases, bags and other packing containers, of paper, paperboard, cellulose wadding or webs of cellulose fibres; box files, letter trays, and similar articles, of paper or paperboard of a kind used in offices, shops or the like.

EXPLANATORY NOTES

48.19 - Cartons, boxes, cases, bags and other packing containers, of paper, paperboard, cellulose wadding or webs of cellulose fibres; box files, letter trays, and similar articles, of paper or paperboard of a kind used in offices, shops or the like.

4819.10 - Cartons, boxes and cases, of corrugated paper or paperboard

4819.20 - Folding cartons, boxes and cases, of non-corrugated paper or paperboard

4819.30 - Sacks and bags, having a base of a width of 40 cm or more

4819.40 - Other sacks and bags, including cones

4819.50 - Other packing containers, including record sleeves

4819.60 - Box files, letter trays, storage boxes and similar articles, of a kind used in offices, shops or the like

(A) Cartons, boxes, cases, bags and other packing containers.

This group covers containers of various kinds and sizes generally used for the packing, transport, storage or sale of merchandise, whether or not also having a decorative value. The heading includes cartons, boxes, cases, bags, cones, packets, sacks, paperboard drums (containers), whether manufactured by rolling or by any other method, and whether or not fitted with reinforcing circular bands of other materials, tubular containers for posting documents, protective garment bags, jars, pots and the like (e.g., for milk or cream), whether or not waxed. The heading also covers special purpose paper bags such as bags for vacuum cleaners, bags for travel sickness, and record boxes and sleeves.

The heading includes folding cartons, boxes and cases. These are :

- cartons, boxes and cases in the flat in one piece, for assembly by folding and slotting (e.g., cake boxes);

  and

- containers assembled or intended to be assembled by means of glue, staples, etc., on one side only, the construction of the container itself providing the means of forming the other sides, although, where appropriate, additional means of fastening, such as adhesive tape or staples may be used to secure the bottom or lid.

The articles of this group may be printed, e.g., with the name of the merchant, directions for use, illustrations. Thus, seed packets with pictures of the products and sowing directions, in addition to the name of the firm, or chocolate or cereal packets with pictures for the amusement of children remain classified in this heading.

The articles of this heading may also have reinforcements or accessories of materials other than paper (e.g., textile backings, wooden supports, string handles, corners of metal or plastics).

(B) Box files, letter trays and similar articles of a kind used in offices, shops or the like.

This group covers containers, such as filing cabinets, box files, letter trays, storage boxes and similar articles of a rigid and durable type, and generally of better finish than the packing containers of group (A) above. They are used for the filing or storage of documents or stock of various kinds in offices, shops, warehouses, etc.

These articles may have reinforcements or accessories of non-paper materials (e.g., hinges, handles, locking devices of metal, wood, plastics or textile material). They may also be provided with frames of metal, plastics, etc., for the insertion of indication cards.

The heading **excludes** :

(a) Articles of **heading 42.02** (travel goods, etc.).

(b) Articles of plaited paper (**heading 46.02**).

(c) Coated, covered and printed paper or paperboard of **heading 48.11**, presented in rolls, used for the manufacture of containers and creased and marked to identify individual containers to be cut from the rolls.

(d) Albums for samples or for collections (**heading 48.20**).

(e) Sacks and bags of woven paper yarn, of **heading 63.05**.

4819.10

- Cartons, boxes and cases, of corrugated paper or paperboard

4819.20

- Folding cartons, boxes and cases, of non-corrugated paper or paperboard

4819.30

- Sacks and bags, having a base of a width of 40 cm or more

4819.40

- Other sacks and bags, including cones

4819.50

- Other packing containers, including record sleeves

4819.60

- Box files, letter trays, storage boxes and similar articles, of a kind used in offices, shops or the like

Heading 4820

Registers, account books, note books, order books, receipt books, letter pads, memorandum pads, diaries and similar articles, exercise books, blotting-pads, binders (loose-leaf or other), folders, file covers, manifold business forms, interleaved carbon sets and other articles of stationery, of paper or paperboard; albums for samples or for collections and book covers, of paper or paperboard.

EXPLANATORY NOTES

48.20 - Registers, account books, note books, order books, receipt books, letter pads, memorandum pads, diaries and similar articles, exercise books, blotting-pads, binders (loose-leaf or other), folders, file covers, manifold business forms, interleaved carbon sets and other articles of stationery, of paper or paperboard; albums for samples or for collections and book covers, of paper or paperboard.

4820.10 - Registers, account books, note books, order books, receipt books, letter pads, memorandum pads, diaries and similar articles

4820.20 - Exercise books

4820.30 - Binders (other than book covers), folders and file covers

4820.40 - Manifold business forms and interleaved carbon sets

4820.50 - Albums for samples or for collections

4820.90 - Other

This heading covers various articles of stationery, **other than** correspondence goods of **heading 48.17** and the goods referred to in Note 10 to this Chapter. It includes :

(1) Registers, account books, note books of all kinds, order books, receipt books, copy books, diaries, letter pads, memorandum pads, engagement books, address books and books, pads, etc., for entering telephone numbers.

(2) Exercise books. These may simply contain sheets of lined paper but may also include printed examples of handwriting for copying in manuscript.

Educational workbooks, sometimes called writing books, with or without narrative texts, which contain printed textual questions or exercises not subsidiary to their primary use as workbooks and usually with spaces for completion in manuscript are, however, **excluded** (**heading 49.01**). Children's

workbooks consisting essentially of pictures, with complementary texts, for writing or other exercises are also **excluded** (**heading 49.03**).

(3) Binders designed for holding loose sheets, magazines, or the like (e.g., clip binders, spring binders, screw binders, ring binders), and folders, file covers, files (**other than** box files) and portfolios.

(4) Manifold business forms : These are multipart form sets either printed on self copy paper or interleaved with carbon paper. These forms are used to make multiple copies and may be continuous or non-continuous. They contain printed matter which requires the insertion of additional information to complete.

(5) Interleaved carbon sets : These are similar to manifold business forms but they either contain no printed matter or contain only identifying information such as letter heads. They are used extensively for typing multiple copies and like most manifold business forms are held together by means of a glued and perforated stub.

(6) Albums for samples or for collections (e.g., stamp, photograph).

(7) Other articles of stationery such as blotting-pads (folding or not).

(8) Book covers (binding covers and dust covers), whether or not printed with characters (title, etc.) or illustrations.

Some articles of this heading often contain a considerable amount of printed matter but remain classified in this heading (and not in Chapter 49) **provided** that the printing is subsidiary to their primary use, for example, on forms (essentially for completion in manuscript or typescript) and diaries (essentially for writing).

The goods of this heading may be bound with materials other than paper (e.g., leather, plastics or textile material) and have reinforcements or fittings of metal, plastics, etc.

On the other hand, articles such as desk memo-blocks consisting essentially of wood, marble, etc., are classified as manufactures of wood, marble, etc., as the case may be. Loose sheets of exercise paper and other writing paper, including perforated sheets for loose-leaf books, fall generally in **headings 48.02, 48.10, 48.11 or 48.23,** as the case may be. Loose-leaf sheets for albums are also **excluded** from this heading and fall in other headings according to their characteristics.

The heading **excludes** :

(a) Cheque books (**heading 49.07**).

(b) Blank multi-coupon travel tickets (**heading 49.11**).

(c) Lottery tickets, “scratch cards”, raffle tickets and tombola tickets (generally **heading 49.11**).

4820.10

- Registers, account books, note books, order books, receipt books, letter pads, memorandum pads, diaries and similar articles

4820.20

- Exercise books

4820.30

- Binders (other than book covers), folders and file covers

4820.40

- Manifold business forms and interleaved carbon sets

4820.50

- Albums for samples or for collections

4820.90

- Other

CLASSIFICATION OPINIONS

1. "Magic note pads", consisting essentially of a sliding part (comprising a sheet of aluminium, a sheet of blue paper coated on one side with artificial wax, a sheet of transparent paper and a sheet of transparent plastics, superimposed and fixed together), fitted inside a paperboard sheath open at one end; marks can be made by means of a pencil or stylus and erased by pulling the sliding part.
Adoption : 1966

Heading 4821

Paper or paperboard labels of all kinds, whether or not printed.

EXPLANATORY NOTES

48.21 - Paper or paperboard labels of all kinds, whether or not printed (+).

4821.10 - Printed

4821.90 - Other

This heading covers all varieties of paper and paperboard labels of a kind used for attachment to any type of article for the purpose of indicating its nature, identity, ownership, destination, price, etc. They may be of the stick-on type (gummed or self-adhesive) or designed to be affixed by other means, e.g., string.

These labels may be plain, printed to any extent with characters or pictures, gummed, fitted with ties, clasps, hooks or other fasteners or reinforced with metal or other materials. They may be perforated or put up in sheets or booklets.

Self-adhesive printed stickers designed to be used, for example, for publicity, advertising or mere decoration, e.g., “comic stickers” and “window stickers”, are **excluded** (**heading 49.11**).

The heading **does not cover** “labels” consisting of a relatively strong sheet of base metal covered on one or both sides with a thin sheet of paper, whether or not printed (**headings 73.26, 76.16, 79.07**, etc., or **heading 83.10**).

°

° °

Subheading Explanatory Note.

Subheading 4821.10

This subheading covers all printed labels regardless of the significance or extent of the printing thereon. Labels printed, for example, with lines or other simple borders or merely incorporating small motifs or other symbols are therefore regarded as “printed” for the purposes of this subheading.

4821.10

- Printed

4821.90

- Other

Heading 4822

Bobbins, spools, cops and similar supports of paper pulp, paper or paperboard (whether or not perforated or hardened).

EXPLANATORY NOTES

48.22 - Bobbins, spools, cops and similar supports of paper pulp, paper or paperboard (whether or not perforated or hardened).

4822.10 - Of a kind used for winding textile yarn

4822.90 - Other

The heading covers bobbins, tubes, spools, cops, cones and similar supports for winding yarn or wire, whether for industrial use or for retail sale. It also covers cylindrical cores (open ended or closed) of the kind used for winding cloth, paper or other material.

These goods may be made of paperboard, of rolled paper sheets, or of pressed or moulded pulp (see penultimate paragraph of the General Explanatory Note to this Chapter). They are sometimes perforated. They may be glued, impregnated or coated with plastics, etc., but such articles which have the character of goods of laminated plastics are **excluded** (**Chapter 39**).

The bobbins, tubes, spools, etc., may have reinforcements or fittings, at one or both ends, of wood, metal, or other materials.

The heading **excludes** flat supports of various shapes used for similar purposes (**heading 48.23**).

4822.10

- Of a kind used for winding textile yarn

4822.90

- Other

Heading 4823

Other paper, paperboard, cellulose wadding and webs of cellulose fibres, cut to size or shape; other articles of paper pulp, paper, paperboard, cellulose wadding or webs of cellulose fibres.

EXPLANATORY NOTES

48.23 - Other paper, paperboard, cellulose wadding and webs of cellulose fibres, cut to size or shape; other articles of paper pulp, paper, paperboard, cellulose wadding or webs of cellulose fibres.

4823.20 - Filter paper and paperboard

4823.40 - Rolls, sheets and dials, printed for self-recording apparatus

- Trays, dishes, plates, cups and the like, of paper or paperboard :

4823.61 - - Of bamboo

4823.69 - - Other

4823.70 - Moulded or pressed articles of paper pulp

4823.90 - Other

This heading includes :

(A) Paper and paperboard, cellulose wadding and webs of cellulose fibres, not covered by any of the previous headings of this Chapter :

- in strips or rolls of a width not exceeding 36 cm;
- in rectangular (including square) sheets of which no side exceeds 36 cm in the unfolded state;
- cut to shape other than rectangular (including square).

It is to be noted, however, that paper and paperboard in strips or rolls, or in rectangular (including square) sheets, of any size, of **headings 48.02**, **48.10** and **48.11** remain classified in these headings.

(B) Articles of paper pulp, paper, paperboard, cellulose wadding or webs of cellulose fibres, not covered by any of the previous headings of this Chapter nor excluded by Note 2 to this Chapter.

Thus the heading includes :

(1) Filter paper and paperboard (folded or not). Generally these are in shapes other than rectangular (including square), such as circular filter papers and boards.

(2) Printed dials, other than in rectangular (including square) form, for self-recording apparatus.

(3) Paper and paperboard, of a kind used for writing, printing or other graphic purposes, not covered in the earlier headings of this Chapter, cut to shape other than rectangular (including square).

(4) Trays, dishes, plates, cups and the like, of paper or paperboard.

(5) Moulded or pressed articles of paper pulp.

(6) Uncoated strip paper (whether or not folded) for plaiting or other uses, other than for graphic purposes.

(7) Paper wool (i.e., narrow strips in a tangled mass, used for packing).

(8) Confectionery wrappers, fruit wrappers and other wrappings cut to size.

(9) Cake cards and papers; jam-pot covers; shaped papers for bags.

(10) Perforated paper and paperboard cards for Jacquard or similar machines (see Note 11 to this Chapter) i.e., those already provided with the perforations required for control of the loom ("punched" paper and paperboard cards).

(11) Paper lace and embroidery; shelf edging.

(12) Paper gaskets and washers.

(13) Stamp mounts, photograph mounting corners and photo mounts, reinforcement corners for suit-cases.

(14) Textile spinning cans; flat shaped cards for winding yarn, ribbon, etc.; moulded sheets for packing eggs.

(15) Sausage casings.

(16) Dress patterns, models and templates, whether or not assembled.

(17) Fans and hand screens, with paper mounts or leaves and frames of any material, and separately presented mounts. However, fans or hand screens with frames of precious metal are classified in **heading 71.13**.

In addition to the goods excluded by Note 2 to this Chapter, the heading **excludes** :

(a) Fly-papers (**heading 38.08**).

(b) Strips impregnated with diagnostic or laboratory reagents (**heading 38.22**).

(c) Fibreboard (**heading 44.11**).

(d) Uncoated strip paper of a kind used for writing, printing or other graphic purposes, of **heading 48.02**.

(e) Strip paper, coated, covered or impregnated, of **headings 48.10** or **48.11**.

(f) Lottery tickets, "scratch cards", raffle tickets and tombola tickets (generally **heading 49.11**).

(g) Paper sun umbrellas (**heading 66.01**).

(h) Artificial flowers, foliage and fruit and parts thereof (**heading 67.02**).

(ij) Insulators and other electrical goods (**Chapter 85**).

(k) Articles of **Chapter 90** (e.g., orthopaedic appliances or demonstrational apparatus, dials for scientific instruments).

(l) Dials for clocks and watches (**heading 91.14**).

(m) Cartridge cases and wads (**heading 93.06**).

(n) Lampshades (**heading 94.05**).

4823.20

- Filter paper and paperboard

4823.40

- Rolls, sheets and dials, printed for self-recording apparatus

4823.6

- Trays, dishes, plates, cups and the like, of paper or paperboard :

4823.61

-- Of bamboo

4823.69

-- Other

4823.70

- Moulded or pressed articles of paper pulp

CLASSIFICATION OPINIONS

1. Easter eggs, consisting of two parts which fit together to form a container, made of moulded paper pulp and covered with a thin sheet of design-printed aluminium foil.
Adoption : 1959

4823.90

- Other

CLASSIFICATION OPINIONS

1. Heat-insulating material, of flock-like appearance, used, e.g., in attics (lofts) or wall cavities of buildings. This product is obtained from shredded newspapers or other waste paper or paperboard, reduced to small particles by grinding, then fireproofed by chemical treatment.
Adoption : 1987

Chapter 49

Printed books, newspapers, pictures and other products of the printing industry; manuscripts, typescripts and plans

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Photographic negatives or positives on transparent bases (Chapter 37);

(b) Maps, plans or globes, in relief, whether or not printed (heading 90.23);

(c) Playing cards or other goods of Chapter 95; or

(d) Original engravings, prints or lithographs (heading 97.02), postage or revenue stamps, stamp-postmarks, first-day covers, postal stationery or the like of heading 97.04, antiques of an age exceeding one hundred years or other articles of Chapter 97.

2.- For the purposes of Chapter 49, the term “printed” also means reproduced by means of a duplicating machine, produced under the control of an automatic data processing machine, embossed, photographed, photocopied, thermocopied or typewritten.

3.- Newspapers, journals and periodicals which are bound otherwise than in paper, and sets of newspapers, journals or periodicals comprising more than one number under a single cover are to be classified in heading 49.01, whether or not containing advertising material.

4.- Heading 49.01 also covers :

(a) A collection of printed reproductions of, for example, works of art or drawings, with a relative text, put up with numbered pages in a form suitable for binding into one or more volumes;

(b) A pictorial supplement accompanying, and subsidiary to, a bound volume; and

(c) Printed parts of books or booklets, in the form of assembled or separate sheets or signatures, constituting the whole or a part of a complete work and designed for binding.

However, printed pictures or illustrations not bearing a text, whether in the form of signatures or separate sheets, fall in heading 49.11.

5.- Subject to Note 3 to this Chapter, heading 49.01 does not cover publications which are essentially devoted to advertising (for example, brochures, pamphlets, leaflets, trade catalogues, year books published by trade associations, tourist propaganda). Such publications are to be classified in heading 49.11.

6.- For the purposes of heading 49.03, the expression “children’s picture books” means books for children in which the pictures form the principal interest and the text is subsidiary.

EXPLANATORY NOTES

Chapter 49

Printed books, newspapers, pictures and other products of the printing industry; manuscripts, typescripts and plans

Notes.

1.- This Chapter does not cover :

(a) Photographic negatives or positives on transparent bases (Chapter 37);

(b) Maps, plans or globes, in relief, whether or not printed (heading 90.23);

(c) Playing cards or other goods of Chapter 95; or

(d) Original engravings, prints or lithographs (heading 97.02), postage or revenue stamps, stamp-postmarks, first-day covers, postal stationery or the like of heading 97.04, antiques of an age exceeding one hundred years or other articles of Chapter 97.

2.- For the purposes of Chapter 49, the term “printed” also means reproduced by means of a duplicating machine, produced under the control of an automatic data processing machine, embossed, photographed, photocopied, thermocopied or typewritten.

3.- Newspapers, journals and periodicals which are bound otherwise than in paper, and sets of newspapers, journals or periodicals comprising more than one number under a single cover are to be classified in heading 49.01, whether or not containing advertising material.

4.- Heading 49.01 also covers :

(a) A collection of printed reproductions of, for example, works of art or drawings, with a relative text, put up with numbered pages in a form suitable for binding into one or more volumes;

(b) A pictorial supplement accompanying, and subsidiary to, a bound volume; and

(c) Printed parts of books or booklets, in the form of assembled or separate sheets or signatures, constituting the whole or a part of a complete work and designed for binding.

However, printed pictures or illustrations not bearing a text, whether in the form of signatures or separate sheets, fall in heading 49.11.

5.- Subject to Note 3 to this Chapter, heading 49.01 does not cover publications which are essentially devoted to advertising (for example, brochures, pamphlets, leaflets, trade catalogues, year books published by trade associations, tourist propaganda). Such publications are to be classified in heading 49.11.

6.- For the purposes of heading 49.03, the expression “children’s picture books” means books for children in which the pictures form the principal interest and the text is subsidiary.

GENERAL

With the few **exceptions** referred to below, this Chapter covers all printed matter of which the essential nature and use is determined by the fact of its being printed with motifs, characters or pictorial representations.

On the other hand, besides the goods of **headings 48.14** or **48.21**, paper, paperboard or cellulose wadding, or articles thereof, in which the printing is merely subsidiary to their primary use (e.g., printed wrapping paper and printed stationery) fall in **Chapter 48**. Also, printed textile articles such as scarves or handkerchiefs, in which the printing is mainly for decorative or novelty purposes and does not affect the essential character of the goods, embroidery fabrics and prepared tapestry canvases bearing printed designs fall in **Section XI**.

Goods of **headings 39.18, 39.19, 48.14** or **48.21** are also **excluded** from this Chapter, even if they are printed with motifs, characters or pictorial representations, which are not merely subsidiary to the primary use of the goods.

For the purposes of this Chapter, the term “printed” includes not only reproduction by the several methods of ordinary hand printing (e.g., prints from engravings or woodcuts, other than originals) or mechanical printing (letterpress, offset printing, lithography, photogravure, etc.), but also reproduction by duplicating machines, production under the control of an automatic data processing machine, embossing, photography, photocopying thermocopying or typewriting (see Note 2 to this Chapter), irrespective of the form of the characters in which the printing is executed (e.g., letters of any alphabet, figures, shorthand signs, Morse or other code symbols, Braille characters, musical notations, pictures, diagrams). The term **does not,** however, **include** coloration or decorative or repetitive-design printing.

The Chapter also includes similar products executed by hand (including hand-drawn maps and plans), as well as carbon copies of hand-written or typewritten texts.

In general the goods of this Chapter are executed on paper but the goods may be on other materials provided they have the characteristics described in the first paragraph of this General Explanatory Note. However, letters, numbers, sign-plates and similar motifs for shop signs and shop windows, bearing a printed picture or text, of ceramics, of glass, or of base metal are classifiable in **headings 69.14**, **70.20** and **83.10** respectively, or in **heading 94.05** if illuminated.

In addition to the more common forms of printed products (e.g., books, newspapers, pamphlets, pictures, advertising matter), this Chapter covers such articles as : printed transfers (decalcomanias); printed or illustrated postcards, greeting cards; calendars, maps, plans and drawings; postage, revenue or similar stamps. Microcopies on opaque bases, of articles of this Chapter, are classified in heading 49.11. Microcopies are obtained by means of an optical device which greatly reduces the dimensions of the documents photographed; microcopies normally need to be read by means of a magnifying device.

This Chapter also **excludes** :

(a) Photographic negatives or positives on transparent bases (for example, microfilms) of **Chapter 37**.

(b) Goods of **Chapter 97**.

Heading 4901

Printed books, brochures, leaflets and similar printed matter, whether or not in single sheets.

EXPLANATORY NOTES

49.01 - Printed books, brochures, leaflets and similar printed matter, whether or not in single sheets.

4901.10 - In single sheets, whether or not folded

- Other :

4901.91 - - Dictionaries and encyclopaedias, and serial instalments thereof

4901.99 - - Other

This heading covers virtually all publications and printed reading matter, illustrated or not, with the **exception** of publicity matter and products more specifically covered by other headings of the Chapter (particularly **headings 49.02, 49.03** or **49.04**). It includes :

(A) **Books and booklets** consisting essentially of textual matter of any kind, and printed in any language or characters, including Braille or shorthand. They include literary works of all kinds, text-books (including educational workbooks sometimes called writing books), with or without narrative texts, which contain questions or exercises (usually with spaces for completion in manuscript); technical publications; books of reference such as dictionaries, encyclopaedias and directories (e.g., telephone directories, including "yellow pages"); catalogues for museums and public libraries (but **not** trade catalogues); liturgical books such as prayer books and hymn books (**other than** music hymn books of **heading 49.04**); children's books (**other than** children's picture, drawing or colouring books of **heading 49.03**). Such books may be bound (in paper or with soft or stiff covers) in one or more volumes, or may be in the form of printed sheets comprising the whole or a part of the complete work and designed for binding.

Dust covers, clasps, book-marks and other minor accessories supplied with the books are regarded as forming part of the book.

(B) **Brochures, pamphlets and leaflets**, whether consisting of several sheets of reading matter fastened together (e.g., stapled), or of unfastened sheets, or even of single sheets.

These include publications such as : shorter scientific theses and monographs, instruction notices, etc., issued by government departments or other bodies, tracts, hymn sheets, etc.

This group **excludes** printed cards bearing personal greetings, messages or announcements (**heading 49.09**), and printed forms which require the insertion of certain additional information for completion (**heading 49.11**).

(C) **Textual matter in the form of sheets for binding in loose-leaf binders.**

The heading also covers :

(1) Newspapers, journals and periodicals bound otherwise than in paper, and sets of newspapers, journals or periodicals comprising more than one number under a single cover, whether or not containing advertising material.

(2) Bound picture books (**other than** children's picture books of **heading 49.03**).

(3) A collection of printed reproductions of works of art, drawings, etc., with a relative text (for example, a biography of the artist), put up with numbered pages and forming a whole suitable for binding.

(4) A pictorial supplement accompanying, and subsidiary to, a bound volume containing the relative text.

Other pictorial publications are **excluded** and generally fall in **heading 49.11**.

Subject to Chapter Note 3, the heading also **excludes** all publications essentially devoted to advertising (including tourist propaganda) and those which are published by or on behalf of a trader for publicity purposes, even though those of the latter kind may consist of matter not of direct advertising value. Such advertising publications include, for example, trade catalogues, year books published by trade associations containing a certain amount of informative matter, together with a substantial number of advertisements by members of the association and publications drawing attention to the products or services supplied by the publisher. The heading also does not cover publications containing indirect or concealed publicity, i.e., publications which, though essentially devoted to advertising, are so presented as to make it seem that advertising is not the intended purpose.

On the other hand, such publications as scientific theses published by or for industrial firms and those publications merely describing trends or progress or activity in a particular branch of commerce or industry, but not having direct or indirect publicity value may fall in this heading.

The heading further **excludes** :

(a) Copying and transfer papers, bearing texts or designs for reproduction, bound in sequence (**heading 48.16**).

(b) Diaries and other stationery books of **heading 48.20**, that is those which are essentially for completion in manuscript or typescript.

(c) Newspapers, journals and periodicals in single copies, unbound or bound only in paper (**heading 49.02**).

(d) Children's workbooks consisting essentially of pictures with complementary texts, for writing or other exercises (**heading 49.03**).

(e) Music books (**heading 49.04**).

(f) Atlases (**heading 49.05**).

(g) Parts of books, whether in the form of signatures or separate sheets, consisting of pictorial matter without a printed text (**heading 49.11**).

4901.10

- In single sheets, whether or not folded

4901.9

- Other :

4901.91

-- Dictionaries and encyclopaedias, and serial instalments thereof

4901.99

-- Other

CLASSIFICATION OPINIONS

1. **Brochures,** not illustrated, issued free of charge to garages, repair shops, etc., to provide the technical information required for the maintenance and repair of various marks of motor vehicles distributed by the same manufacturer, containing no advertising material. *Adoption : 1966*

2. **Publication,** issued to the subscribers of a telephone company, consisting mainly of "yellow pages", i.e., yellow coloured pages indicating telephone numbers and addresses of firms listed by business categories with advertisements in boxes that contain descriptions of goods and services, addresses and telephone and fax numbers of advertisers. *Adoption : 1998*

Heading 4902

Newspapers, journals and periodicals, whether or not illustrated or containing advertising material.

EXPLANATORY NOTES

49.02 - Newspapers, journals and periodicals, whether or not illustrated or containing advertising material.

4902.10 - Appearing at least four times a week

4902.90 - Other

The distinguishing feature of the publications of this heading is that they constitute one issue in a continuous series under the same title published at regular intervals, each issue being dated (even by merely indicating the period of the year, e.g., “Spring 1996”) and also frequently numbered. They may be unbound or bound in paper, but if otherwise bound or if consisting of more than one issue under a single cover, they are **excluded** (**heading 49.01**). These publications usually consist essentially of reading matter but they may also be profusely illustrated and may even consist mainly of pictorial matter. They may also contain advertising material.

The types of publications covered by the heading include :

(1) **Newspapers**, daily or weekly, in the form of unbound sheets of printed matter consisting mainly of current news of general interest, together usually with literary articles on subjects of current, historical, biographical, etc., interest. They also generally devote a considerable amount of space to illustrations and advertisements.

(2) **Journals and other periodicals**, issued weekly, fortnightly, monthly, quarterly or half-yearly, either in the form of newspapers or as paperbound publications. They may be mainly devoted to

the publication of intelligence on subjects of a specialised nature or sectional interest (e.g., legal, medical, financial, commercial, fashion or sporting), in which case they are frequently published by or for organisations of the interests concerned. Or they may be of more general interest, such as the ordinary fiction magazine. These include periodicals published by or for named industrial concerns (e.g., motor car manufacturers) to promote interest in their products, staff journals normally having circulation only within the industrial, etc., organisations concerned and periodicals such as fashion magazines which may be issued by a trader or an association for publicity purposes.

Parts of large works (such as books of reference) sometimes published in weekly, fortnightly, etc., instalments over a limited and predetermined period are not regarded as periodicals but are classified in **heading 49.01**.

Supplements such as pictures, patterns, etc., issued with newspapers or periodicals and normally sold therewith, are regarded as forming part of the publication.

Waste paper consisting of old newspapers, journals or periodicals falls in **heading 47.07**.

4902.10

- Appearing at least four times a week

4902.90

- Other

Heading 4903

Children's picture, drawing or colouring books.

EXPLANATORY NOTES

49.03 - Children’s picture, drawing or colouring books.

This heading is **restricted** to those picture books clearly compiled for the interest or amusement of children or for guidance in their first steps of primary education, **provided** the pictures form the principal interest and are not subsidiary to the text (see Note 6 to this Chapter).

This category includes, for example, pictorial alphabet books and books of the kind in which the sense of stories is conveyed by a series of episodal pictures accompanied by captions or summary narratives related to the individual pictures. It also includes children’s workbooks consisting essentially of pictures with complementary texts, for writing or other exercises.

It **does not include** books, even profusely illustrated, written in the form of continuous narratives with illustrations of selected episodes. These fall in **heading 49.01**.

The books of this heading may be printed on paper, textile, etc., and include children’s rag books.

A child’s picture book incorporating “stand-up” or movable figures also falls in this heading but if the article is essentially a toy it is **excluded** (**Chapter 95**). Similarly, a child’s picture book containing pictures or models for cutting out remains in this heading **provided** the “cut-out” portions are a minor feature, but if more than half the pages (including covers) are designed for cutting out, whether wholly or in part, the article, even if also containing a certain amount of text, is regarded as a toy (**Chapter 95**).

This heading also includes children's drawing or colouring books. These consist mainly of bound pages (sometimes in the form of detachable postcards) containing simple pictures for copying, or outlines of pictures, with or without printed instructions, for completion by drawing or colouring; sometimes coloured illustrations for guidance are incorporated. They also include similar books with "invisible" outlines or colour which can be made visible by rubbing with a pencil or applying water with a paint brush, and also books in which the small amounts of water colour required for colouring are contained in the book (e.g., in the form of a palette).

4903.00

Children's picture, drawing or colouring books.

Heading 4904

Music, printed or in manuscript, whether or not bound or illustrated.

EXPLANATORY NOTES

49.04 - Music, printed or in manuscript, whether or not bound or illustrated.

This heading covers music of all kinds, instrumental or vocal, printed or in manuscript, whether or not bound or illustrated, and whatever the system of notation (e.g., tonic sol-fa, staff notation, numerical symbols, Braille music).

The music in this heading may be printed or written on paper or other material and may be in the form of separate sheets (including paperboards), bound books, etc., whether or not illustrated or with accompanying words.

In addition to the more common forms of printed or manuscript music, this heading includes such productions as music hymn books, scores (including miniature) and music instruction books (tutors), **provided** they contain practice pieces and exercises as well as an instructional text.

Dust covers supplied with such music are regarded as forming a part thereof.

This heading **does not include** :

(a) Printed books, catalogues, etc., containing musical notation which is merely subsidiary or illustrative of the text, e.g., a particular theme or motif referred to in the text of a book (**headings 49.01** or **49.11**).

(b) Cards, discs and rolls for mechanical instruments (**heading 92.09**).

4904.00

Music, printed or in manuscript, whether or not bound or illustrated.

Heading 4905

Maps and hydrographic or similar charts of all kinds, including atlases, wall maps, topographical plans and globes, printed.

EXPLANATORY NOTES

49.05 - Maps and hydrographic or similar charts of all kinds, including atlases, wall maps, topographical plans and globes, printed.

4905.20 - In book form

4905.90 - Other

This heading covers all printed globes (for example, terrestrial, lunar or celestial), maps, charts and plans designed to represent the natural or artificial features of countries, towns, seas, the heavens, etc., conventional signs being used to indicate contours, etc. Maps and charts incorporating advertising matter remain classified in this heading.

These products may be printed on paper or other material (e.g., cloth), reinforced or not, and may be in the form of single or folded sheets, or consist of a collection of such sheets bound together in book form (e.g., an atlas). The articles may be fitted with movable indicators and rollers, and may have transparent protective coverings or other accessories.

The heading includes, *inter alia* :

Geographical maps (including sectors for globes), road maps, wall maps, atlases, hydrographic, geographical and astronomical charts, geological surveys, topographical plans (e.g., plans of towns or districts).

It also covers printed globes with internal lighting, **provided** they are not merely toys.

The heading **does not include** :

(a) Books containing maps or plans as a subsidiary feature (**heading 49.01**).

(b) Hand-drawn maps, plans, etc., their carbon copies and their photographic reproductions (**heading 49.06**).

(c) Aerial survey or landscape photographs, whether or not topographically accurate, **provided** that they are not prepared as finished maps, charts or plans (**heading 49.11**).

(d) Schematic maps designed to show by suitable illustrations the particular industrial, tourist or other activities, the outline of railway systems, etc., of a country or district (**heading 49.11**).

(e) Textile articles, e.g., scarves or handkerchiefs, containing prints of maps for ornamental or decorative purposes (**Section XI**).

(f) Maps, plans and globes, in relief, whether or not printed (**heading 90.23**).

4905.20

- In book form

4905.90

- Other

Heading 4906

Plans and drawings for architectural, engineering, industrial, commercial, topographical or similar purposes, being originals drawn by hand; hand-written texts; photographic reproductions on sensitised paper and carbon copies of the foregoing.

EXPLANATORY NOTES

49.06 - Plans and drawings for architectural, engineering, industrial, commercial, topographical or similar purposes, being originals drawn by hand; hand-written texts; photographic reproductions on sensitised paper and carbon copies of the foregoing.

This heading covers industrial plans and drawings the purpose of which, generally, is to indicate the position and relation of parts or features of buildings, machinery or other constructions either as they exist, or for the guidance of builders or manufacturers in their construction (e.g., architects' or engineers' plans and drawings). The plans and drawings may include specifications, directions, etc., printed or not.

This heading also includes drawings and sketches for publicity purposes (e.g., fashion drawings, poster designs, designs for pottery, wallpaper, jewellery, furniture).

It should be noted that such products fall in the heading **only** if consisting of originals drawn or written by hand, or of photographic reproductions on sensitised paper or of carbon copies of such originals.

Maps, charts and topographical plans which, when printed, fall in heading 49.05, are included in this heading if they are the hand-drawn originals or their carbon copies or photographic reproductions on sensitised paper.

Hand-written texts (including shorthand but **not including** music), and also their carbon copies or photographic reproductions on sensitised paper of such texts, are also included in this heading whether bound or not.

The heading **does not cover** :

(a) Copying and transfer papers, bearing written or typed texts for reproduction (**heading 48.16**).

(b) Printed plans and drawings (**headings 49.05** or **49.11**).

(c) Typescripts (including carbon copies) and copies of manuscripts or typescripts obtained by duplicating machines (**headings 49.01** or **49.11**).

4906.00

Plans and drawings for architectural, engineering, industrial, commercial, topographical or similar purposes, being originals drawn by hand; hand-written texts; photographic reproductions on sensitised paper and carbon copies of the foregoing.

Heading 4907

Unused postage, revenue or similar stamps of current or new issue in the country in which they have, or will have, a recognised face value; stamp-impressed paper; banknotes; cheque forms; stock, share or bond certificates and similar documents of title.

EXPLANATORY NOTES

49.07 - Unused postage, revenue or similar stamps of current or new issue in the country in which they have, or will have, a recognised face value; stamp-impressed paper; banknotes; cheque forms; stock, share or bond certificates and similar documents of title.

The characteristic of the products of this heading is that on being issued (if necessary, after completion and validation) by the appropriate authority, they have a fiduciary value in excess of the intrinsic value.

These products comprise :

(A) **Printed stamps** if unused (i.e., uncancelled) and of a kind in current or new issue in the country in which they have, or will have, a recognised face value.

The stamps in this heading are printed on paper, usually gummed, in various designs and colours, and bear printed indications of their value and sometimes of the particular use or uses for which they are intended.

They include :

(1) **Postage stamps**, normally used in prepayment of postal transmission fees but in some countries also usable as revenue stamps (e.g., for receipts or certificates). "Postage due" stamps for surcharging understamped letters, etc., are also included.

(2) **Revenue stamps** used for affixing to documents of various kinds, legal, commercial, etc., and sometimes to goods as evidence of payment of government taxes or duties to the amount indicated by the value of the stamps. Revenue stamps in the form of labels for attachment to certain kinds of dutiable goods, as evidence of the payment of the duties, fall in this heading.

(3) **Other stamps**, for example those for purchase by the public as a means of making payments, compulsory or voluntary, to the State or other public authorities, e.g., as contributions to State welfare or other social service schemes or as national savings.

This heading **does not include** :

(a) Vouchers in the form of stamps sometimes issued by retailers to their customers as a rebate on purchases, religious stamps of a kind issued to school children, stamps issued by charitable organisations, etc., as a means of raising funds or obtaining publicity, and "savings stamps" issued by private or commercial bodies to customers (**heading 49.11**).

(b) Used stamps, and unused stamps not of current or new issue in the country of destination (**heading 97.04**).

(B) **Stamped envelopes, letter cards, postcards, etc.**, bearing uncancelled prints or impressions of postage stamps of the kind described above and of current or new issue in the country in which they have, or will have, a recognised face value, or with "reply paid" postal marking.

(C) **Other stamp-impressed paper** such as official forms, blank forms (e.g., for legal documents subject to revenue stamp duties), printed or embossed with revenue stamps.

(D) **Banknotes**. This term covers promissory notes of all denominations issued by the State or approved issuing banks for use as currency or legal tender either in the country of issue or elsewhere. It includes banknotes which, at the time of presentation, are not yet or are no longer legal tender in any country. However, banknotes which are collectors' pieces or which form a collection, are classified in **heading 97.05**.

(E) **Cheque forms** are stamped or unstamped blank cheque forms, frequently found in paper covers, in booklet form, and issued by banks, including Post Office banks in some countries, for use by their customers.

(F) **Stock, share or bond certificates and similar documents of title**. These are formal documents issued, or for issue, by public or private bodies conferring ownership of, or entitlement to, certain financial interests, goods or benefits named therein. Apart from the certificates mentioned, these documents include letters of credit, bills of exchange, travellers' cheques, bills of lading, title deeds and dividend coupons. They usually require completion and validation.

Banknotes, cheque forms, and stock, etc., certificates are generally printed on special paper bearing special watermarkings or other marks, and are usually serially numbered. Lottery tickets printed on special security paper and serially numbered are, however, **excluded** from this heading and are generally classified in **heading 49.11**.

Products of the kinds described fall in this heading when in quantity as a commercial transaction, usually by the issuing authority, whether or not the documents (e.g., share certificates) require completion and validation.

4907.00

Unused postage, revenue or similar stamps of current or new issue in the country in which they have, or will have, a recognised face value; stamp-impressed paper; banknotes; cheque forms; stock, share or bond certificates and similar documents of title.

Heading 4908

Transfers (decalcomanias).

EXPLANATORY NOTES

49.08 - Transfers (decalcomanias).

4908.10 - Transfers (decalcomanias), vitrifiable

4908.90 - Other

Transfers (decalcomanias) consist of pictures, designs or lettering in single or multiple colours, lithographed or otherwise printed on absorbent, lightweight paper (or sometimes thin transparent sheeting of plastics), coated with a preparation, such as of starch and gum, to receive the imprint which is itself coated with an adhesive. This paper is often backed with a supporting paper of heavier quality. The designs are sometimes printed against a background of metal leaf.

When the printed paper is moistened and applied with slight pressure to a permanent surface (e.g., glass, pottery, wood, metal, stone or paper), the coating printed with the picture, etc., is transferred to the permanent surface.

This heading also covers vitrifiable transfers, i.e. transfers printed with vitrifiable preparations of heading 32.07.

Transfers may be used for decoration or utility purposes, e.g., for decorating pottery or glass, or for marking various articles such as vehicles, machines and instruments.

Transfers produced and supplied mainly for the amusement of children are also covered by this heading, as are also articles such as embroidery or hosier transfers which consist of papers on which designs are outlined in pigment which is transferred, usually to a textile surface, by pressure with a heated smoothing iron.

The articles described above should not be confused with the products known as window transparencies, which fall in **headings 48.14** or **49.11** (see the Explanatory Note to the former heading).

The heading also **excludes** transfer paper of the types known as stamping foils or blocking foils, prepared with a coating of metal, metal powder or pigment, and used for printing book covers, hat bands, etc. (**heading 32.12**). Other transfer papers, as used in lithographic work, fall in **headings 48.09** or **48.16** as appropriate.

4908.10

- Transfers (decalcomanias), vitrifiable

4908.90

- Other

Heading 4909

Printed or illustrated postcards; printed cards bearing personal greetings, messages or announcements, whether or not illustrated, with or without envelopes or trimmings.

EXPLANATORY NOTES

49.09 - Printed or illustrated postcards; printed cards bearing personal greetings, messages or announcements, whether or not illustrated, with or without envelopes or trimmings.

This heading covers :

(i) Printed or illustrated postcards regardless of whether they are for private, commercial or advertising purposes, and

(ii) Printed cards bearing personal greetings, messages or announcements for any occasion. Such printed cards may be illustrated or not and may be with or without envelopes or trimmings.

These products comprise particularly :

(1) **Picture postcards**, i.e., cards which have printed indications of their use as postcards, and in which the whole or greater part of one side is devoted to pictorial matter of any kind. Similar products not having such indications of use are classified as pictures in **heading 49.11**. These picture postcards may be in sheet or booklet form. Printed postcards in which the pictorial matter does not form the principal feature (e.g., certain postcards with advertising matter or small pictures) also fall in this heading. However, such postcards, if printed or embossed with postage stamps, are **excluded** (**heading 49.07**). Plain postcards where printing is merely subsidiary to their primary use are also **excluded** (**heading 48.17**).

(2) **Christmas, New Year, birthday or similar cards**. These may be in the form of picture postcards, or consist of two or more folded leaves fastened together, one face or more being devoted to pictorial matter. The term “similar cards” is to be taken to include cards used to announce births or christenings, or for conveying congratulations or thanks. The printed cards may incorporate

trimmings such as ribbons, cords, tassels and embroidery, or novelty features such as pull-out views, or be decorated with glass powder, etc.

The products of this heading are sometimes printed on materials other than paper, e.g., plastics or gelatin.

The heading **does not cover** :

(a) Picture postcards put up in the form of children's picture, drawing or colouring books (**heading 49.03**).

(b) Christmas or New Year cards, etc., in the form of calendars (**heading 49.10**).

4909.00

Printed or illustrated postcards; printed cards bearing personal greetings, messages or announcements, whether or not illustrated, with or without envelopes or trimmings.

Heading 4910

Calendars of any kind, printed, including calendar blocks.

EXPLANATORY NOTES

49.10 - Calendars of any kind, printed, including calendar blocks.

This heading relates to calendars of any kind whether they are printed on paper, paperboard, woven fabric or any other material, **provided** that the printing gives the article its essential character. They may contain, in addition to the normal sequence of dates, days of the week, etc., various other items of information, such as notes of important events, festivals, astronomical and other data, verses and proverbs. They may also incorporate pictorial or advertising matter. However, publications sometimes improperly called calendars which, although dated, are published essentially to give information concerning public or private events, etc., are classified in **heading 49.01** (unless falling in **heading 49.11** as publicity matter).

The heading also covers calendars of the "perpetual" type or with replaceable blocks mounted on bases of materials other than paper of paperboard (e.g., wood, plastics or metal).

The heading further includes calendar blocks. These consist of a number of slips of paper each printed with particulars of a separate day of the year and assembled in chronological order in the form of a block from which the separate slips are removed daily. These blocks are generally used for mounting on a base of paperboard, or for annual replacement in calendars with bases of a more permanent nature.

The heading, however, **does not cover** articles whose essential character is not determined by the presence of a calendar.

The heading also **excludes** :

(a) Memorandum pads incorporating calendars and diaries (including so-called engagement calendars) (**heading 48.20**).

(b) Printed calendar backs not incorporating calendar blocks (**heading 49.11**).

4910.00

Calendars of any kind, printed, including calendar blocks.

Heading 4911

Other printed matter, including printed pictures and photographs.

EXPLANATORY NOTES

49.11 - Other printed matter, including printed pictures and photographs.

4911.10 - Trade advertising material, commercial catalogues and the like

- Other :

4911.91 - - Pictures, designs and photographs

4911.99 - - Other

This heading covers all printed matter (including photographs and printed pictures) of this Chapter (see the General Explanatory Note above) but not more particularly covered by any of the preceding headings of the Chapter.

Framed pictures and photographs remain classified in this heading when the essential character of the whole is given by the pictures or photographs; in other cases such articles are to be classified in the heading appropriate to the frames, as articles of wood, metal, etc.

Certain printed articles may be intended for completion in manuscript or typescript at the time of use but remain in this heading **provided** they are essentially printed matter (see Note 12 to Chapter 48). Thus, printed forms (e.g., magazine subscription forms), blank multi-coupon travel (e.g., air, rail and coach) tickets, circular letters, identity documents and cards and other articles printed with messages, notices, etc., requiring only the insertion of particulars (e.g., dates and names) are classified in this heading. Stock, share or bond certificates and similar documents of title and cheque forms, which also require completion and validation are, however, classified in **heading 49.07**.

On the other hand, certain articles of stationery with printing which is merely subsidiary to their primary use for writing or typing are classified in **Chapter 48** (see Note 12 to Chapter 48 and in particular the Explanatory Notes to **headings 48.17 and 48.20**).

The heading includes the following in addition to the more obvious products :

(1) Advertising matter (including posters), year books and similar publications devoted essentially to advertising, trade catalogues of all kinds (including book or music publishers' lists, and catalogues of works of art) and tourist propaganda. Newspapers, periodicals and journals, whether or not containing advertising material, are however **excluded** (**headings 49.01** or **49.02**, as appropriate).

(2) Brochures containing the programme of a circus, sporting event, opera, play or similar presentation.

(3) Printed calendar backs with or without illustrations.

(4) Schematic maps.

(5) Anatomical, botanical, etc., instructional charts and diagrams.

(6) Tickets for admission to places of entertainment (e.g., cinemas, theatres and concerts), tickets for travel by public or private transport and other similar tickets.

(7) Microcopies on opaque bases of the articles of this Chapter.

(8) Screens made by printing a film of plastics with letters or symbols to be cut out for use in design work.

Such screens simply printed with dots, lines or squares are **excluded** (**Chapter 39**).

(9) Maximum cards and illustrated first-day covers not bearing postage stamps (see also Part (D) of the Explanatory Note to **heading 97.04**).

(10) Self-adhesive printed stickers designed to be used, for example, for publicity, advertising or mere decoration, e.g., “comic stickers” and “window stickers”.

(11) Lottery tickets, “scratch cards”, raffle tickets and tombola tickets.

The following articles, in particular, are also **excluded** from this heading :

(a) Photographic negatives or positives on films or plates (**heading 37.05**).

(b) Goods of **headings 39.18**, **39.19**, **48.14** or **48.21** or printed paper products of **Chapter 48** in which the printed characters or pictures are merely subsidiary to the primary use of the products.

(c) Letters, numbers, sign-plates and similar motifs for shop signs and shop windows, bearing a printed picture or text, of ceramics, of glass, or of base metal, which are classifiable in **headings 69.14**, **70.20** and **83.10** respectively, or in **heading 94.05** if illuminated.

(d) Decorative glass mirrors, whether or not framed, with printed illustrations on one surface (**headings 70.09** or **70.13**).

(e) Printed “smart cards” (including proximity cards or tags) as defined in Note 6 (b) to Chapter 85 (**heading 85.23**).

(f) Printed dials of instruments or apparatus of **Chapters 90** or **91**.

(g) Printed paper toys (e.g., children’s cut-out sheets), playing cards and the like, and other printed games (**Chapter 95**).

(h) Original engravings, prints and lithographs, of **heading 97.02**, that is, impressions produced directly, in black and white or in colour, of one or of several plates wholly executed by hand by the artist, irrespective of the process or of the material employed by him, but not including any mechanical or photo-mechanical process.

4911.10

- Trade advertising material, commercial catalogues and the like

CLASSIFICATION OPINIONS

1. Separate printed sheets with text and pictures, constituting identifiable parts of periodicals.
Adoption : 1961

4911.9

- Other :

4911.91

-- Pictures, designs and photographs

CLASSIFICATION OPINIONS

1. Separate printed sheets with text and pictures, constituting identifiable parts of periodicals.
Adoption : 1961

4911.99

-- Other

CLASSIFICATION OPINIONS

1. Separate printed sheets with text and pictures, constituting identifiable parts of periodicals.
Adoption : 1961

1. Tickets for travel by air, rail, road, etc., consisting of printed coupons which have not yet been filled in with the details necessary for their use (name, destination, date, etc.), and printed cover pages, assembled in booklet form.
Adoption : 1995

2. Labels of aluminium foil on a paper backing, printed with texts and illustrations identifying the object to which they refer.
Adoption : 1998

Section XII

FOOTWEAR, HEADGEAR, UMBRELLAS, SUN UMBRELLAS, WALKING-STICKS, SEAT-STICKS, WHIPS, RIDING-CROPS AND PARTSTHEREOF; PREPARED FEATHERS AND ARTICLES MADE THEREWITH; ARTIFICIAL FLOWERS; ARTICLES OF HUMAN HAIR

EXPLANATORY NOTES

Section XII

FOOTWEAR, HEADGEAR, UMBRELLAS, SUN UMBRELLAS, WALKING-STICKS,SEAT-STICKS, WHIPS, RIDING-CROPS AND PARTS THEREOF; PREPARED FEATHERS AND ARTICLES MADE THEREWITH; ARTIFICIAL FLOWERS; ARTICLES OF HUMAN HAIR

Chapter 64

Footwear, gaiters and the like; parts of such articles

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Disposable foot or shoe coverings of flimsy material (for example, paper, sheeting of plastics) without applied soles. These products are classified according to their constituent material;

(b) Footwear of textile material, without an outer sole glued, sewn or otherwise affixed or applied to the upper (Section XI);

(c) Worn footwear of heading 63.09;

(d) Articles of asbestos (heading 68.12);

(e) Orthopaedic footwear or other orthopaedic appliances, or parts thereof (heading 90.21); or

(f) Toy footwear or skating boots with ice or roller skates attached; shin-guards or similar protective sportswear (Chapter 95).

2.- For the purposes of heading 64.06, the term “parts” does not include pegs, protectors, eyelets, hooks, buckles, ornaments, braid, laces, pompons or other trimmings (which are to be classified in their appropriate headings) or buttons or other goods of heading 96.06.

3.- For the purposes of this Chapter :

(a) the terms “rubber” and “plastics” include woven fabrics or other textile products with an external layer of rubber or plastics being visible to the naked eye; for the purpose of this provision, no account should be taken of any resulting change of colour; and

(b) the term “leather” refers to the goods of headings 41.07 and 41.12 to 41.14.

4.- Subject to Note 3 to this Chapter :

(a) The material of the upper shall be taken to be the constituent material having the greatest external surface area, no account being taken of accessories or reinforcements such as ankle patches, edging, ornamentation, buckles, tabs, eyelet stays or similar attachments;

(b) The constituent material of the outer sole shall be taken to be the material having the greatest surface area in contact with the ground, no account being taken of accessories or reinforcements such as spikes, bars, nails, protectors or similar attachments.

Subheading Note.

1.- For the purposes of subheadings 6402.12, 6402.19, 6403.12, 6403.19 and 6404.11, the expression “sports footwear” applies only to :

(a) Footwear which is designed for a sporting activity and has, or has provision for the attachment of, spikes, sprigs, stops, clips, bars or the like;

(b) Skating boots, ski-boots and cross-country ski footwear, snowboard boots, wrestling boots, boxing boots and cycling shoes.

EXPLANATORY NOTES

Chapter 64

Footwear, gaiters and the like; parts of such articles

Notes.

1.- This Chapter does not cover :

(a) Disposable foot or shoe coverings of flimsy material (for example, paper, sheeting of plastics) without applied soles. These products are classified according to their constituent material;

(b) Footwear of textile material, without an outer sole glued, sewn or otherwise affixed or applied to the upper (Section XI);

(c) Worn footwear of heading 63.09;

(d) Articles of asbestos (heading 68.12);

(e) Orthopaedic footwear or other orthopaedic appliances, or parts thereof (heading 90.21); or

(f) Toy footwear or skating boots with ice or roller skates attached; shin-guards or similar protective sportswear (Chapter 95).

2.- For the purposes of heading 64.06, the term “parts” does not include pegs, protectors, eyelets, hooks, buckles, ornaments, braid, laces, pompons or other trimmings (which are to be classified in their appropriate headings) or buttons or other goods of heading 96.06.

3.- For the purposes of this Chapter :

(a) the terms “rubber” and “plastics” include woven fabrics or other textile products with an external layer of rubber or plastics being visible to the naked eye; for the purpose of this provision, no account should be taken of any resulting change of colour; and

(b) the term “leather” refers to the goods of headings 41.07 and 41.12 to 41.14.

4.- Subject to Note 3 to this Chapter :

(a) The material of the upper shall be taken to be the constituent material having the greatest external surface area, no account being taken of accessories or reinforcements such as ankle patches, edging, ornamentation, buckles, tabs, eyelet stays or similar attachments;

(b) The constituent material of the outer sole shall be taken to be the material having the greatest surface area in contact with the ground, no account being taken of accessories or reinforcements such as spikes, bars, nails, protectors or similar attachments.

Subheading Note.

1.- For the purposes of subheadings 6402.12, 6402.19, 6403.12, 6403.19 and 6404.11, the expression “sports footwear” applies only to :

(a) Footwear which is designed for a sporting activity and has, or has provision for the attachment of, spikes, sprigs, stops, clips, bars or the like;

(b) Skating boots, ski-boots and cross-country ski footwear, snowboard boots, wrestling boots, boxing boots and cycling shoes.

GENERAL

With certain **exceptions** (see particularly those mentioned at the end of this General Note) this Chapter covers, under headings 64.01 to 64.05, various types of footwear (including overshoes) irrespective of their shape and size, the particular use for which they are designed, their method of manufacture or the materials of which they are made.

For the purposes of this Chapter, the term “footwear” **does not**, however, **include** disposable foot or shoe coverings of flimsy material (paper, sheeting of plastics, etc.) without applied soles. These products are classified according to their constituent material.

(A) Footwear may range from sandals with uppers consisting simply of adjustable laces or ribbons to thigh-boots (the uppers of which cover the leg and thigh, and which may have straps, etc., for fastening the uppers to the waist for better support). The Chapter includes :

(1) Flat or high-heeled shoes for ordinary indoor or outdoor wear.

(2) Ankle-boots, half-boots, knee-boots and thigh-boots.

(3) Sandals of various types, “espadrilles” (shoes with canvas uppers and soles of plaited vegetable material), tennis shoes, jogging shoes, bathing slippers and other casual footwear.

(4) Special sports footwear which is designed for a sporting activity and has, or has provision for, the attachment of spikes, sprigs, stops, clips, bars or the like and skating boots, ski-boots and cross-country ski footwear, snowboard boots, wrestling boots, boxing boots and cycling shoes (see Subheading Note 1 to the Chapter).

Roller-skating or ice-skating boots with skates fixed to the soles, are, however, **excluded** (**heading 95.06**).

(5) Dancing slippers.

(6) House footwear (e.g., bedroom slippers).

(7) Footwear obtained in a single piece, particularly by moulding rubber or plastics or by carving from a solid piece of wood.

(8) Other footwear specially designed to protect against oil, grease, chemicals or cold.

(9) Overshoes worn over other footwear; in some cases, they are heel-less.

(10) Disposable footwear, with applied soles, generally designed to be used only once.

(B) The footwear covered by this Chapter may be of any material (rubber, leather, plastics, wood, cork, textiles including felt and nonwovens, furskin, plaiting materials, etc.) **except** asbestos, and may contain, in any proportion, the materials of Chapter 71.

Within the limits of the Chapter itself, however, it is the constituent material of the outer sole and of the upper which determines classification in headings 64.01 to 64.05.

(C) The term "outer sole" as used in headings 64.01 to 64.05 means that part of the footwear (other than an attached heel) which, when in use, is in contact with the ground. The constituent material of the outer sole for purposes of classification shall be taken to be the material having the greatest surface area in contact with the ground. In determining the constituent material of the outer sole, no account should be taken of attached accessories or reinforcements which partly cover the sole (see Note 4 (b) to this Chapter). These accessories or reinforcements include spikes, bars, nails, protectors or similar attachments (including a thin layer of textile flocking (e.g., for creating a design) or a detachable textile material, applied to but not embedded in the sole).

In the case of footwear made in a single piece (e.g., clogs) without applied soles, no separate outer sole is required; such footwear is classified with reference to the constituent material of its lower surface.

(D) For the purposes of the classification of footwear in this Chapter, the constituent material of the uppers must also be taken into account. The upper is the part of the shoe or boot above the sole. However, in certain footwear with plastic moulded soles or in shoes of the American Indian moccasin type, a single piece of material is used to form the sole and either the whole or part of the upper, thus making it difficult to identify the demarcation between the outer sole and the upper. In such cases, the upper shall be considered to be that portion of the shoe which covers the sides and top of the foot. The size of the uppers varies very much between different types of footwear, from those covering the foot and the whole leg, including the thigh (for example, fishermen's boots), to those which consist simply of straps or thongs (for example, sandals).

If the upper consists of two or more materials, classification is determined by the constituent material which has the greatest external surface area, no account being taken of accessories or reinforcements such as ankle patches, protective or ornamental strips or edging, other ornamentation (e.g., tassels, pompons or braid), buckles, tabs, eyelet stays, laces or slide fasteners. The constituent material of any lining has no effect on classification.

(E) It should be noted that for the purposes of this Chapter, the terms "rubber" and "plastics" include woven fabrics or other textile products with an external layer of rubber or plastics being visible to the naked eye, no account being taken of any resulting change of colour.

(F) Subject to the provisions of (E) above, for the purposes of this Chapter the expression “textile materials” covers the fibres, yarns, fabrics, felts, nonwovens, twine, cordage, ropes, cables, etc., of Chapters 50 to 60.

(G) For the purposes of this Chapter, the term “leather” refers to the goods of headings 41.07 and 41.12 to 41.14.

(H) Boot or shoe bottoms, consisting of an outer sole affixed to an incomplete or unfinished upper, which do not cover the ankle are to be regarded as footwear (and not as parts of footwear). These articles may be finished simply by trimming their top edge with a border and adding a fastening device.

This Chapter also **excludes** :

(a) Footwear of textile material, without an outer sole glued, sewn or otherwise affixed or applied to the upper (**Section XI**).

(b) Footwear showing signs of appreciable wear and presented in bulk or in bales, sacks or similar packings (**heading 63.09**).

(c) Footwear of asbestos (**heading 68.12**).

(d) Orthopaedic footwear (**heading 90.21**).

(e) Toy footwear and skating boots with ice or roller skates attached; shin-guards and similar protective sportswear (**Chapter 95**).

Heading 6401

Waterproof footwear with outer soles and uppers of rubber or of plastics, the uppers of which are neither fixed to the sole nor assembled by stitching, riveting, nailing, screwing, plugging or similar processes.

EXPLANATORY NOTES

64.01 - Waterproof footwear with outer soles and uppers of rubber or of plastics, the uppers of which are neither fixed to the sole nor assembled by stitching, riveting, nailing, screwing, plugging or similar processes.

6401.10 - Footwear incorporating a protective metal toe-cap

- Other footwear :

6401.92 - - Covering the ankle but not covering the knee

6401.99 - - Other

This heading covers waterproof footwear with both the outer soles and the uppers (see General Explanatory Note, paragraphs (C) and (D)), of rubber (as defined in Note 1 to Chapter 40), plastics or textile material with an external layer of rubber or plastics being visible to the naked eye (see Note 3

(a) to this Chapter), **provided** the uppers are neither fixed to the sole nor assembled by the processes named in the heading.

The heading includes footwear constructed to protect against penetration by water or other liquids and would include, *inter alia*, certain snow-boots, galoshes, overshoes and ski-boots.

Footwear remains in this heading even if it is made partly of one and partly of another of the specified materials (e.g., the soles may be of rubber and the uppers of woven fabric with an external layer of plastics being visible to the naked eye; for the purpose of this provision no account should be taken of any resulting change of colour).

The heading covers, *inter alia*, footwear obtained by any of the processes described below :

(1) **Press moulding**

In this process, a core, sometimes covered by a textile “sock” which later forms the lining of the article, is placed in a mould with either preforms or granules.

The mould is closed and placed between the platens of a press, which are heated to a high temperature.

Under the influence of the heat, the preforms or granules acquire a certain degree of viscosity and completely fill the space between the core and the walls of the mould; the excess material escapes through vents. The material then vulcanises (rubber) or gels (poly(vinyl chloride)).

When the moulding process is complete, the shoe is taken out of the mould and the core is removed.

(2) **Injection moulding**

This process is similar to press moulding, except that the preforms or granules used in the press moulding process are replaced by a rubber-based or poly(vinyl chloride)-based mix, preheated to give it the viscosity required for injection into the mould.

(3) **Slush moulding**

In this process, poly(vinyl chloride) or polystyrene paste is injected into a mould to form a complete coating which gels, excess material escaping through vents.

(4) **Rotational casting**

This process is similar to slush moulding, except that the coating is formed by rotating the paste in a closed mould.

(5) **“Dip moulding”**

In this process, a hot mould is dipped into the paste (this process is rarely used in the footwear industry).

(6) **Assembly by vulcanising**

In this process, the raw material (usually rubber or thermoplastics) is prepared with sulphur powder and passed through a press to produce a flat sheet. The sheet is cut (and sometimes calendered) into the shape of the various parts of the outer sole and upper (i.e., vamps, quarters, counters, toe pieces, etc.). The parts are slightly heated to make the material tacky and are then assembled on a last, the shape of which conforms to the shape of the footwear. The assembled footwear is pressed against the last, so that the parts adhere to one another, and then vulcanised. Footwear obtained by this process is known in the trade as “built-up footwear”.

(7) **Bonding and vulcanising**

This process is used for moulding and vulcanising an outer sole and heel of rubber on a **preassembled upper** in one operation. The sole is firmly bonded to the upper with cement which hardens during vulcanisation.

(8) **High frequency welding**

In this process, materials are bonded by heat and pressure, without the use of cement.

(9) **Cementing**

In this process, **soles which have been previously moulded** or cut from a sheet are stuck to the uppers **with an adhesive**; **pressure** is applied, and the article is left to **dry**. Although pressure may be applied at a raised temperature, the material used for the sole is in its final form before the sole is stuck to the upper, and its physical qualities are in no way modified by this operation.

6401.10

- Footwear incorporating a protective metal toe-cap

6401.9

- Other footwear :

6401.92

-- Covering the ankle but not covering the knee

6401.99

-- Other

Heading 6402

Other footwear with outer soles and uppers of rubber or plastics.

EXPLANATORY NOTES

64.02 - Other footwear with outer soles and uppers of rubber or plastics.

- Sports footwear :

6402.12 - - Ski-boots, cross-country ski footwear and snowboard boots

6402.19 - - Other

6402.20 - Footwear with upper straps or thongs assembled to the sole by means of plugs

- Other footwear :

6402.91 - - Covering the ankle

6402.99 - - Other

This heading covers footwear with outer soles and uppers of rubber or plastics, **other than** those of **heading 64.01**.

Footwear remains in this heading even if it is made partly of one and partly of another of the specified materials (e.g., the soles may be of rubber and the uppers of woven fabric with an external layer of plastics being visible to the naked eye; for the purpose of this provision no account should be taken of any resulting change of colour).

The heading covers, *inter alia* :

(a) Ski-boots consisting of several moulded parts hinged on rivets or similar devices;

(b) Clogs without quarter or counter, the uppers of which are produced in one piece usually attached to the base or platform by riveting;

(c) Slippers or mules without quarter or counter, the uppers of which, being produced in one piece or assembled other than by stitching, are attached to the sole by stitching;

(d) Sandals consisting of straps across the instep and of counter or heelstrap attached to the sole by any process;

(e) *Thong-type* sandals in which the thongs are attached to the sole by plugs which lock into holes in the sole;

(f) Non-waterproof footwear produced in one piece (for example, bathing slippers).

6402.1

- Sports footwear :

6402.12

-- Ski-boots, cross-country ski footwear and snowboard boots

6402.19

-- Other

6402.20

- Footwear with upper straps or thongs assembled to the sole by means of plugs

6402.9

- Other footwear :

6402.91

-- Covering the ankle

6402.99

-- Other

Heading 6403

Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of leather.
EXPLANATORY NOTES

64.03 - Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of leather.

- Sports footwear :

6403.12 - - Ski-boots, cross-country ski footwear and snowboard boots

6403.19 - - Other

6403.20 - Footwear with outer soles of leather, and uppers which consist of leather straps across the instep and around the big toe

6403.40 - Other footwear, incorporating a protective metal toe-cap

- Other footwear with outer soles of leather :

6403.51 - - Covering the ankle

6403.59 - - Other

- Other footwear :

6403.91 - - Covering the ankle

6403.99 - - Other

This heading covers footwear with uppers (see General Explanatory Note, Part (D)) made of leather and with outer soles (see General Explanatory Note, Part (C)) made of :

(1) Rubber (as defined in Note 1 to Chapter 40).

(2) Plastics.

(3) Woven fabrics or other textile products with an external layer of rubber or plastics being visible to the naked eye, no account being taken of any resulting change of colour (see Note 3 (a) to this Chapter and General Explanatory Note, Part (E)).

(4) Leather (see Note 3 (b) to this Chapter).

(5) Composition leather (by virtue of Note 3 to Chapter 41, “composition leather” is restricted to substances with a basis of leather or leather fibre).

6403.1

- Sports footwear :
6403.12

-- Ski-boots, cross-country ski footwear and snowboard boots
6403.19
-- Other
6403.20
- Footwear with outer soles of leather, and uppers which consist of leather straps across the instep and around the big toe
6403.40
- Other footwear, incorporating a protective metal toe-cap
6403.5
- Other footwear with outer soles of leather :
6403.51
-- Covering the ankle
6403.59
-- Other
6403.9
- Other footwear :
6403.91
-- Covering the ankle
6403.99
-- Other

Heading 6404

Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of textile materials.

EXPLANATORY NOTES

64.04 - Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of textile materials.

- Footwear with outer soles of rubber or plastics :

6404.11 - - Sports footwear; tennis shoes, basketball shoes, gym shoes, training shoes and the like

6404.19 - - Other

6404.20 - Footwear with outer soles of leather or composition leather

This heading covers footwear with uppers (see General Explanatory Note, Part (D)) made of textile materials and with outer soles (see General Explanatory Note, Part (C)) made of the same materials as the footwear of heading 64.03 (see the Explanatory Note to that heading).

6404.1
- Footwear with outer soles of rubber or plastics :
6404.11

-- Sports footwear; tennis shoes, basketball shoes, gym shoes, training shoes and the like

6404.19

-- Other

6404.20

- Footwear with outer soles of leather or composition leather

Heading 6405

Other footwear.

EXPLANATORY NOTES

64.05 - Other footwear.

6405.10 - With uppers of leather or composition leather

6405.20 - With uppers of textile materials

6405.90 - Other

Subject to Notes 1 and 4 to this Chapter, this heading covers all footwear having outer soles and uppers of a material or combination of materials not referred to in the preceding headings of this Chapter.

The heading includes in particular :

(1) Footwear, with outer soles of rubber or plastics, and the uppers made of material other than rubber, plastics, leather or textile material;

(2) Footwear with outer soles of leather or of composition leather, and the uppers made of material other than leather or textile material;

(3) Footwear with outer soles of wood, cork, twine or rope, paperboard, furskin, textile fabric, felt, nonwovens, linoleum, raffia, straw, loofah, etc. The uppers of such footwear may be of any material.

The heading **excludes** assemblies of parts (e.g., uppers, whether or not affixed to an inner sole) not yet constituting nor having the essential character of footwear as described in headings 64.01 to 64.05 (**heading 64.06**).

6405.10

- With uppers of leather or composition leather

6405.20

- With uppers of textile materials

CLASSIFICATION OPINIONS

1. **Shoe** with a textile upper and an outer sole of rubber, mainly covered with textile flock partially embedded in the rubber. This textile material covers approximately 52 % of the outer sole in contact with the ground compared to 48 % covered by rubber. **Application of GIRs 1 (Note 4 (b) of Chapter 64) and 6.** *Adoption : 2005*

A Textile flock partially embedded in the rubber**B** Limit**C** Rubber**D** Textile flock partially embedded in the rubber**E** Limit**F** Rubber

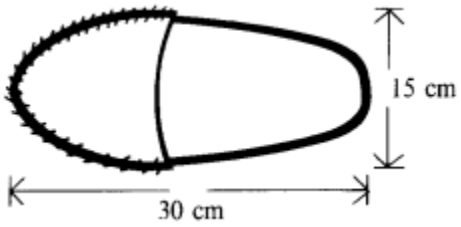


6405.90

- Other

CLASSIFICATION OPINIONS

1. Light-weight slippers, the outer sole and the upper of which are made of two pieces of ribbed kraft paper (crêpe) sewn together at the edges. These slippers are worn in hotels, in hospitals, etc. *Adoption : 1986*



Heading 6406

Parts of footwear (including uppers whether or not attached to soles other than outer soles); removable in-soles, heel cushions and similar articles; gaiters, leggings and similar articles, and parts thereof.

EXPLANATORY NOTES

64.06 - Parts of footwear (including uppers whether or not attached to soles other than outer soles); removable in-soles, heel cushions and similar articles; gaiters, leggings and similar articles, and parts thereof.

6406.10 - Uppers and parts thereof, other than stiffeners

6406.20 - Outer soles and heels, of rubber or plastics

6406.90 - Other

(I) PARTS OF FOOTWEAR (INCLUDING UPPERS WHETHER OR NOT ATTACHED TO SOLES OTHER THAN OUTER SOLES); REMOVABLE IN-SOLES, HEEL CUSHIONS AND SIMILAR ARTICLES

This heading covers :

(A) The various component parts of footwear; these parts may be of any materials **except** asbestos.

Parts of footwear may vary in shape according to the types or styles of footwear for which they are intended. They include :

(1) Parts of uppers (e.g., vamps, toecaps, quarters, legs, linings and clog straps), including pieces of leather for making footwear cut to the approximate shape of uppers.

(2) Stiffeners. These may be inserted between the quarters and lining, or between the toecap and lining, to give firmness and solidity at these parts of the footwear.

(3) Inner, middle and outer soles, including half soles or patins; also in-soles for glueing on the surface of the inner soles.

(4) Arch supports or shanks and shank pieces (generally of wood, leather, fibreboard or plastics) for incorporation in the sole to form the curved arch of the footwear.

(5) Various types of heels made of wood, rubber, etc., including glue-on, nail-on and screw-on types; parts of heels (e.g., top pieces).

(6) Studs, spikes, etc., for sports footwear.

(7) Assemblies of parts (e.g., uppers, whether or not affixed to an inner sole) not yet constituting nor having the essential character of footwear as described in headings 64.01 to 64.05.

(B) The following fittings (of any material **except** asbestos) which may be worn inside the footwear : removable in-soles, hose protectors (of rubber, rubberised fabric, etc.) and removable interior heel cushions.

(II) GAITERS, LEGGINGS, AND SIMILAR ARTICLES, AND PARTS THEREOF

These articles are designed to cover the whole or part of the leg and in some cases part of the foot (e.g., the ankle and instep). They differ from socks and stockings, however, in that they do not cover the entire foot.

They may be made of any material (leather, canvas, felt, knitted or crocheted fabrics, etc.) **except** asbestos.

They include gaiters, leggings, spats, puttees, “mountain stockings” without feet, leg warmers and similar articles.

Certain of these articles may have a retaining strap or elastic band which fits under the arch of the foot.

The heading also covers identifiable parts of the above articles.

*

* *

The heading also **excludes** :

(a) Welts in the length of leather or composition leather (**heading 42.05**), of plastics (**Chapter 39**) or of rubber (**Chapter 40**).

(b) Knee and ankle supports (such as those consisting of elastic fabric designed simply to support or sustain weak joints); these are classified in their own appropriate headings according to the material of which they are made.

(c) One-piece leggings (tights) of the kind worn by very young children; these are garments which reach the waist, and fit closely round the leg and sometimes cover the entire foot (**Chapter 61** or **62**).

(d) Footwear parts and accessories of asbestos (**heading 68.12**).

(e) Special in-soles for arch supporting, made to measure, and orthopaedic appliances (**heading 90.21**).

(f) Cricket pads, shin-guards, knee-caps and other protective articles for sports activities (**heading 95.06**).

(g) Pegs, nails, eyelets, hooks, buckles, protectors, braid, pompons, laces, which are classified in their appropriate headings, buttons, snap-fasteners, press-studs, push-buttons (**heading 96.06**) and slide fasteners (zippers) (**heading 96.07**).

6406.10

- Uppers and parts thereof, other than stiffeners

6406.20

- Outer soles and heels, of rubber or plastics

6406.90

- Other

Chapter 65

Headgear and parts thereof

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Worn headgear of heading 63.09;

(b) Asbestos headgear (heading 68.12); or

(c) Dolls' hats, other toy hats or carnival articles of Chapter 95.

2.- Heading 65.02 does not cover hat-shapes made by sewing other than those obtained simply by sewing strips in spirals.

EXPLANATORY NOTES

Chapter 65

Headgear and parts thereof

Notes.

1.- This Chapter does not cover :

(a) Worn headgear of heading 63.09;

(b) Asbestos headgear (heading 68.12); or

(c) Dolls' hats, other toy hats or carnival articles of Chapter 95.

2.- Heading 65.02 does not cover hat-shapes made by sewing other than those obtained simply by sewing strips in spirals.

GENERAL

With the **exception** of the articles listed below this Chapter covers hat-shapes, hat-forms, hat bodies and hoods, and hats and other headgear of all kinds, irrespective of the materials of which they are made and of their intended use (daily wear, theatre, disguise, protection, etc.).

It also covers hair-nets of any material and certain specified fittings for headgear.

The hats and other headgear of this Chapter may incorporate trimmings of various kinds and of any material, including trimmings made of the materials of Chapter 71.

This Chapter **does not include** :

(a) Headgear for animals (**heading 42.01**).

(b) Shawls, scarves, mantillas, veils and the like (**heading 61.17** or **62.14**).

(c) Headgear showing signs of appreciable wear and presented in bulk, bales, sacks or similar bulk packings (**heading 63.09**).

(d) Wigs and the like (**heading 67.04**).

(e) Asbestos headgear (**heading 68.12**).

(f) Dolls' hats, other toy hats or carnival articles (**Chapter 95**).

(g) Various articles used as hat trimmings (buckles, clasps, badges, feathers, artificial flowers, etc.) when not incorporated in headgear (appropriate headings).

Heading 6501

Hat-forms, hat bodies and hoods of felt, neither blocked to shape nor with made brims; plateaux and manchons (including slit manchons), of felt.

EXPLANATORY NOTES

65.01 - Hat-forms, hat bodies and hoods of felt, neither blocked to shape nor with made brims; plateaux and manchons (including slit manchons), of felt.

(A) **Hat-forms, hat bodies and hoods of felt, neither blocked to shape nor with made brims**.

Fur-felt hat-forms, hat bodies and hoods are usually made from the fur of the rabbit, hare, musk-rat, nutria or beaver; wool-felt hat-forms, etc., are usually of wool or the hair of the vicuna, camel (including dromedary), etc. In some cases felts are made of mixtures of these materials, sometimes mixed with man-made fibres.

After suitable processing the fur is applied evenly to a cone-shaped former by suction and, in the case of wool, by entwining the carded fibres on a double cone. (This latter form when cut in two at the widest part provides two cone-shaped hat-forms.) After spraying with hot water or steam, the shaped forms are removed from the cones. These forms, which are still in a loosely-felted state (not normally found in international trade), undergo a series of hardening and shrinking processes to produce fully-felted, approximately cone-shaped hat bodies.

The heading also covers hat bodies which have been tip-stretched to form rounded crowns, sometimes with parallel sides but more usually with sloping sides and an incipient brim. These latter may be distinguished from blocked hoods because, when placed upright on a flat surface, the brim does not project from the crown at approximately a right angle (see heading 65.05). Certain of these unblocked hat bodies, hoods, etc., of this heading are sometimes described as half capelines. (The articles known as full capelines, however, have been subjected to a blocking process and fall in **heading 65.05**.)

Classification in this heading is not affected by processes such as pouncing, dyeing or stiffening.

The heading includes certain very light and thin hoods known as “chemises” or handkerchief felts, used for fixing to rigid hat foundations.

(B) The heading also includes :

(1) **Felt plateaux** made initially in the form of wide-based cones, and then stretched to the form of flat discs about 60 cm in diameter. These felt discs are often cut into pieces and then sewn into the shape of a hat or cap. Military or other uniform dress caps are sewn from this type of felt.

(2) **Felt manchons** usually made of fur on a cylindrical form (between 40 and 50 cm in height and about 100 cm in circumference) by a suction process similar to that used for making fur-felt cones. They are normally used by milliners, and are classified in this heading whether in cylinders or slit into rectangular form. The rectangular-formed felt is cut into pieces to be used as trimmings or sewn together into the shape of a hat or cap.

6501.00

Hat-forms, hat bodies and hoods of felt, neither blocked to shape nor with made brims; plateaux and manchons (including slit manchons), of felt.

Heading 6502

Hat-shapes, plaited or made by assembling strips of any material, neither blocked to shape, nor with made brims, nor lined, nor trimmed.

EXPLANATORY NOTES

65.02 - Hat-shapes, plaited or made by assembling strips of any material, neither blocked to shape, nor with made brims, nor lined, nor trimmed.

This heading covers **hat-shapes, neither blocked to shape nor with made brims, nor lined, nor trimmed, made either** :

(1) Directly by plaiting from fibres or strips of any material (particularly straw, reeds, palm fibres, raffia, sisal, strips of paper, strips of plastics or strips of wood). These materials may be plaited by various methods including “plaiting” by arranging one set of fibres or strips so that they radiate from the centre of the crown and interlacing them with other fibres or strips wound spirally. Additional radial fibres or strips are introduced in the “plaiting” as the distance from the centre increases.

or

(2) Subject to Note 2 to this Chapter, by assembling strips (usually not more than 5 cm in width) of any material (e.g., plaited or other strips of felt or other textile fabric, monofilament or plastics), usually by sewing the strips spirally together, starting from the crown, in such a manner that each spiral overlaps the previous one, or by arranging plaits spirally so that the serrated edges intermesh and assembling them by threading.

Because of the method of plaiting or assembling the strips, the hat-shapes of this heading, unlike the articles of **heading 65.01**, frequently have a distinct line of demarcation between the crown and the brim which may sometimes be at approximately right angles to each other. Hat-shapes of this kind are

sometimes worn as such (e.g., for beach or country wear), but as they are **not** blocked to shape nor with made brims they remain in this heading **provided** they are not lined or trimmed.

They can generally be distinguished from blocked shapes in that the latter usually have, as a result of blocking, an oval-shaped crown (see Explanatory Note to heading 65.04).

Classification in this heading is not affected by processes such as dyeing, bleaching, clipping or fixing the protruding ends of plaits, nor by minor processes designed simply to restore the original shape (e.g., round opening) of the article after bleaching, dyeing, etc.

It should be noted, however, that unblocked hat-shapes of the kind falling in this heading are classified as hats under **heading 65.04** if they have been lined or trimmed.

6502.00

Hat-shapes, plaited or made by assembling strips of any material, neither blocked to shape, nor with made brims, nor lined, nor trimmed.

Heading 6504

Hats and other headgear, plaited or made by assembling strips of any material, whether or not lined or trimmed.

EXPLANATORY NOTES

65.04 - Hats and other headgear, plaited or made by assembling strips of any material, whether or not lined or trimmed.

This heading covers essentially hats and other headgear made from the hat-shapes of heading 65.02 after they have been blocked to shape, have had their brim made or have been lined or trimmed.

The hat-shapes are blocked by pressing or ironing on a matrice, usually after having been stiffened by application of gelatin, size, gum, etc. In the process of blocking, the crown opening is given an oval shape of the required size and at the same time the brim becomes more clearly defined.

After blocking, the brim is fashioned to the required shape.

Hat-shapes which have been blocked should not be confused with shapes which have not been blocked (**heading 65.02**), notwithstanding that these latter are sometimes worn as such untrimmed (e.g., for beach or country wear).

After blocking and, where applicable, brim-shaping, hats and headgear may be subjected to further finishing operations (e.g., fitted with linings, head-bands, hat-bands, chinstraps, decorative accessories such as artificial flowers, fruit or foliage, pins and feathers).

In addition to the articles described above, the heading also covers :

(1) Hats and other headgear, in a variety of forms, made by milliners from the hat-shapes of heading 65.02, neither blocked nor with made brims.

(2) Hats and other headgear made directly by assembling strips (**other than** hat forms of **heading 65.02** assembled by sewing in spirals, which may be worn directly as hats) of any material.

(3) Hat-shapes of heading 65.02, simply blocked or with made brims, and hat-shapes neither blocked to shape nor with made brims but lined or trimmed (with ribbon, cord, etc.).

6504.00

Hats and other headgear, plaited or made by assembling strips of any material, whether or not lined or trimmed.

Heading 6505

Hats and other headgear, knitted or crocheted, or made up from lace, felt or other textile fabric, in the piece (but not in strips), whether or not lined or trimmed; hair-nets of any material, whether or not lined or trimmed.

EXPLANATORY NOTES

65.05 - Hats and other headgear, knitted or crocheted, or made up from lace, felt or other textile fabric, in the piece (but not in strips), whether or not lined or trimmed; hair-nets of any material, whether or not lined or trimmed.

This heading covers hats and headgear (whether or not lined or trimmed) made directly by knitting or crocheting (whether or not fulled or felted), or made up from lace, felt or other textile fabric in the piece, whether or not the fabric has been oiled, waxed, rubberised or otherwise impregnated or coated.

It also includes hat-shapes made by sewing, but **not** hat-shapes or headgear made by sewing or otherwise assembling plaits or strips (**heading 65.04**). This heading also covers felt and other felt headgear, made from the hat bodies, hoods or plateaux (felt discs) of **heading 65.01**, including hoods which have simply been blocked to shape and hoods with made brims.

The articles are classified here whether or not they have been lined or trimmed.

They include :

(1) Hats, whether or not trimmed with ribbons, hat pins, buckles, artificial flowers, foliage or fruit, feathers or other trimmings of any material.

Headgear of feathers or artificial flowers is **excluded** (**heading 65.06**).

(2) Berets, bonnets, skull-caps and the like. These are usually made directly by knitting or crocheting, and are frequently fulled (e.g., basque berets).

(3) Certain oriental headgear (e.g., fezzes). These are usually made directly by knitting or crocheting, and are frequently fulled .

(4) Peaked caps of various kinds (uniform caps, etc.).

(5) Professional and ecclesiastical headgear (mitres, birettas, mortar-boards, etc.).

(6) Headgear made up from woven fabric, lace, net fabric, etc., such as chefs' hats, nuns' head-dresses, nurses' or waitresses' caps, etc., having clearly the character of headgear.

(7) Cork or pith helmets, covered with textile fabric.

(8) Sou'westers.

(9) Hoods.

Detachable hoods for capes, cloaks, etc., presented with the garments to which they belong, are, however, **excluded** and are classified with the garments according to their constituent materials.

(10) Top hats and opera hats.

This heading also includes hair-nets, snoods and the like. These are of any material, generally of tulle or other net, knitted or crocheted fabric or of human hair.

6505.00

Hats and other headgear, knitted or crocheted, or made up from lace, felt or other textile fabric, in the piece (but not in strips), whether or not lined or trimmed; hair-nets of any material, whether or not lined or trimmed.

Heading 6506

Other headgear, whether or not lined or trimmed.

EXPLANATORY NOTES

65.06 - Other headgear, whether or not lined or trimmed.

6506.10 - Safety headgear

- Other :

6506.91 - - Of rubber or of plastics

6506.99 - - Of other materials

This heading covers all hats and headgear not classified in the preceding headings of this Chapter or in Chapter 63, 68 or 95. It covers, in particular safety headgear (e.g., for sporting activities, military or firemen's helmets, motor-cyclists', miners' or construction workers' helmets), whether or not fitted with protective padding or, in the case of certain helmets, with microphones or earphones.

The heading also covers :

(1) Hats and headgear of rubber or plastics (e.g., bathing caps, hoods).

(2) Hats and headgear of leather or composition leather.

(3) Hats and headgear of furskin or artificial fur.

(4) Hats and headgear of feathers or artificial flowers.

(5) Hats and headgear of metal.

6506.10

- Safety headgear

6506.9

- Other :

6506.91

-- Of rubber or of plastics

6506.99

-- Of other materials

Heading 6507

Head-bands, linings, covers, hat foundations, hat frames, peaks and chinstraps, for headgear.

EXPLANATORY NOTES

65.07 - Head-bands, linings, covers, hat foundations, hat frames, peaks and chinstraps, for headgear.

This heading covers **only** the following fittings for headgear :

(1) **Head-bands** for fitting on the inside edge of the crown. These are usually of leather, but may also be of composition leather, of oiled cloth or other coated fabric, etc. They are classified in this heading **only** when cut to length or otherwise ready for incorporation in the headgear. They frequently bear an inscription of the hat-maker's name, etc.

(2) **Linings and part linings** normally made of textile material but sometimes of plastics, leather, etc. These also usually bear a printed indication of the hat-maker's name, etc.

It should be noted that labels of the kind used for attaching to the inside crown of the hat, etc., are **not included** in this heading.

(3) **Covers**, generally of textile fabric or plastics.

(4) **Hat foundations**; these may consist of stiffened fabric (e.g., buckram), of paperboard, papier maché, cork, pith, metal, etc.

(5) **Hat frames**, e.g., wire frames (sometimes gimped with textile or other material) and spring frames for opera hats.

(6) **Peaks** (e.g., for uniform or other caps). Peaks designed for wear mainly as eyeshades are classified as headgear if they incorporate a head piece (crown) of any kind, otherwise they are classified according to their constituent material.

(7) **Chinstraps**; narrow strips or bands (including plaited strips) of leather, textile fabric, plastics, etc. They are usually made so that they may be adjusted to the required length. They may also serve as an ornamental trimming. Chinstraps are included in this heading **only** if they are ready for incorporation in headgear.

6507.00

Head-bands, linings, covers, hat foundations, hat frames, peaks and chinstraps, for headgear.

Chapter 66

Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Measure walking-sticks or the like (heading 90.17);

(b) Firearm-sticks, sword-sticks, loaded walking-sticks or the like (Chapter 93); or

(c) Goods of Chapter 95 (for example, toy umbrellas, toy sun umbrellas).

2.- Heading 66.03 does not cover parts, trimmings or accessories of textile material, or covers, tassels, thongs, umbrella cases or the like, of any material. Such goods presented with, but not fitted to, articles of heading 66.01 or 66.02 are to be classified separately and are not to be treated as forming part of those articles.

EXPLANATORY NOTES

Chapter 66

Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops, and parts thereof

Notes.

1.- This Chapter does not cover :

(a) Measure walking-sticks or the like (heading 90.17);

(b) Firearm-sticks, sword-sticks, loaded walking-sticks or the like (Chapter 93); or

(c) Goods of Chapter 95 (for example, toy umbrellas, toy sun umbrellas).

2.- Heading 66.03 does not cover parts, trimmings or accessories of textile material, or covers, tassels, thongs, umbrella cases or the like, of any material. Such goods presented with, but not fitted to, articles of heading 66.01 or 66.02 are to be classified separately and are not to be treated as forming part of those articles.

Heading 6601

Umbrellas and sun umbrellas (including walking-stick umbrellas, garden umbrellas and similar umbrellas).

EXPLANATORY NOTES

66.01 - Umbrellas and sun umbrellas (including walking-stick umbrellas, garden umbrellas and similar umbrellas) (+).

6601.10 - Garden or similar umbrellas

- Other :

6601.91 - - Having a telescopic shaft

6601.99 - - Other

With the **exception** of umbrellas and sun umbrellas of a kind clearly designed for use as toys or as carnival articles (**Chapter 95**), this heading covers umbrellas and sun umbrellas of all kinds (e.g., “ceremonial” umbrellas, umbrella tents, walking-stick and seat-stick umbrellas, café, market, garden and similar umbrellas), regardless of the materials of which the various components (including fitted accessories and trimmings) are made. Thus the covers may be of any textile fabric, plastics, paper, etc., and they may be embroidered, trimmed with lace, fringed or otherwise decorated.

Walking-stick umbrellas are umbrellas with a rigid cover which gives the article the appearance of a walking-stick.

Umbrella tents consist of large umbrellas provided with a “curtain surround” which may be affixed to the ground (e.g., by means of pegs in the manner of a bell tent, or anchored by means of sand pockets on the inside of the “surround”).

Umbrella shafts (sticks) are usually of wood, cane, plastics or metal. The handles may be of the same materials as the shafts (sticks), or they may consist wholly or partly of precious metal or metal clad with precious metal, ivory, horn, bone, amber, tortoise-shell, mother of pearl, etc., and they may incorporate precious or semi-precious stones (natural, synthetic or reconstructed), etc. The handles may also be covered with leather or other material, and may be furnished with tassels or sword-knots.

This heading **does not include** :

(a) Cases for umbrellas or similar articles, whether or not presented with, but not fitted to the articles. (These are classified in their appropriate headings.)

(b) Beach tents not having the character of umbrellas or umbrella tents (**heading 63.06**).

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Subheading Explanatory Note.

Subheading 6601.10

Umbrellas which are designed not to be hand-held but to be fixed (e.g., to the ground, to a table or to a stand) are to be regarded as “garden or similar umbrellas”. This subheading therefore includes umbrellas for outdoor seats, easels, garden tables, surveyors’ tables, etc., and umbrella tents.

6601.10

- Garden or similar umbrellas

6601.9

- Other :

6601.91

-- Having a telescopic shaft

6601.99

-- Other

Heading 6602

Walking-sticks, seat-sticks, whips, riding-crops and the like.

EXPLANATORY NOTES

66.02 - Walking-sticks, seat-sticks, whips, riding-crops and the like.

With the **exception** of the goods mentioned in the exclusions below, this heading covers walking-sticks, canes, whips (including whip-leads), riding-crops and similar articles irrespective of the materials of which they are made.

(A) **Walking-sticks, seat-sticks and similar articles**.

In addition to ordinary walking-sticks, this group also includes seat-sticks (with handles designed to open out to form a seat), walking-sticks specially designed for disabled persons and senior citizens, boy scouts' poles, shepherds' crooks.

The group also includes unfinished walking-sticks of cane or wood which have been turned, bent or otherwise worked; but it **excludes** cane or wood suitable for the manufacture of walking-sticks which has been simply roughly trimmed or rounded (**heading 14.01** or **Chapter 44**). The heading also **excludes** blanks identifiable as unfinished handles (**heading 66.03**).

The handle and shaft (stick) portions of walking-sticks, etc., may be made of various materials and may incorporate precious metal or metal clad with precious metal, precious or semi-precious stones (natural, synthetic or reconstructed). They may also be wholly or partly covered with leather or other materials.

(B) **Whips, riding-crops and similar articles.**

This group includes :

(1) Whips of all kinds generally consisting of combined stocks and lashes.

(2) Riding-crops consisting of stocks with, generally, a short leather loop in place of a lash.

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All these articles may be fitted with sword-knots or other accessories of any material.

This heading **excludes** :

(a) Measure walking-sticks, gauging sticks and the like (**heading 90.17**).

(b) Crutches and crutch sticks (**heading 90.21**).

(c) Firearm-sticks, sword-sticks, loaded walking-sticks and the like (**Chapter 93**).

(d) Articles of **Chapter 95** (e.g., golf clubs, hockey sticks, ski sticks, alpine ice-axes).

6602.00

Walking-sticks, seat-sticks, whips, riding-crops and the like.

Heading 6603

Parts, trimmings and accessories of articles of heading 66.01 or 66.02.

EXPLANATORY NOTES

66.03 - Parts, trimmings and accessories of articles of heading 66.01 or 66.02.

6603.20 - Umbrella frames, including frames mounted on shafts (sticks)

6603.90 - Other

This heading **excludes** parts, trimmings and accessories, of textile material, and covers, tassels, thongs, umbrella cases and the like of any material; these are classified separately even when presented with, but not fitted to, umbrellas, sun umbrellas, walking-sticks, etc. (see Note 2 to this Chapter). With these **exceptions**, the heading covers identifiable parts, fittings and accessories for articles of heading 66.01 or 66.02.

These remain classified here regardless of their constituent material (including precious metal or metal clad with precious metal or natural, synthetic or reconstructed precious or semi-precious stones). They include :

(1) Handles (including blanks identifiable as unfinished handles) and knobs for umbrellas, sun umbrellas, walking-sticks, whips, etc.

(2) Frames, including frames mounted on sticks, and ribs and stretchers for frames.

(3) Shafts (sticks), whether or not combined with handles or knobs, for umbrellas or sun umbrellas.

(4) Stocks for whips or riding-crops.

(5) Runners, rib tips, open cups and tip cups, ferrules, springs, collars, tilting devices for adjusting the top of the umbrella at an angle to the mast, spikes, ground plates for seat-sticks and the like, etc.

This heading **does not include** :

(a) Unfinished walking-sticks (see Explanatory Note to **heading 66.02**).

(b) Iron or steel tubes, and iron or steel sections for ribs or stretchers, simply cut to length (**Chapter 72** or **73**).

6603.20

- Umbrella frames, including frames mounted on shafts (sticks)

6603.90

- Other

Chapter 67

Prepared feathers and down and articles made of feathers or of down; artificial flowers; articles of human hair

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Filtering and straining cloth of human hair (heading 59.11);

(b) Floral motifs of lace, of embroidery or other textile fabric (Section XI);

(c) Footwear (Chapter 64);

(d) Headgear or hair-nets (Chapter 65);

(e) Toys, sports requisites or carnival articles (Chapter 95); or

(f) Feather dusters, powder-puffs or hair sieves (Chapter 96).

2.- Heading 67.01 does not cover :

(a) Articles in which feathers or down constitute only filling or padding (for example, bedding of heading 94.04);

(b) Articles of apparel or clothing accessories in which feathers or down constitute no more than mere trimming or padding; or

(c) Artificial flowers or foliage or parts thereof or made up articles of heading 67.02.

3.- Heading 67.02 does not cover :

(a) Articles of glass (Chapter 70); or

(b) Artificial flowers, foliage or fruit of pottery, stone, metal, wood or other materials, obtained in one piece by moulding, forging, carving, stamping or other process, or consisting of parts assembled otherwise than by binding, glueing, fitting into one another or similar methods.

EXPLANATORY NOTES

Chapter 67

Prepared feathers and down and articles made of feathers or of down; artificial flowers; articles of human hair

Notes.

1.- This Chapter does not cover :

(a) Filtering and straining cloth of human hair (heading 59.11);

(b) Floral motifs of lace, of embroidery or other textile fabric (Section XI);

(c) Footwear (Chapter 64);

(d) Headgear or hair-nets (Chapter 65);

(e) Toys, sports requisites or carnival articles (Chapter 95); or

(f) Feather dusters, powder-puffs or hair sieves (Chapter 96).

2.- Heading 67.01 does not cover :

(a) Articles in which feathers or down constitute only filling or padding (for example, bedding of heading 94.04);

(b) Articles of apparel or clothing accessories in which feathers or down constitute no more than mere trimming or padding; or

(c) Artificial flowers or foliage or parts thereof or made up articles of heading 67.02.

3.- Heading 67.02 does not cover :

(a) Articles of glass (Chapter 70); or

(b) Artificial flowers, foliage or fruit of pottery, stone, metal, wood or other materials, obtained in one piece by moulding, forging, carving, stamping or other process, or consisting of parts assembled otherwise than by binding, glueing, fitting into one another or similar methods.

Heading 6701

Skins and other parts of birds with their feathers or down, feathers, parts of feathers, down and articles thereof (other than goods of heading 05.05 and worked quills and scapes).

EXPLANATORY NOTES

67.01 - Skins and other parts of birds with their feathers or down, feathers, parts of feathers, down and articles thereof (other than goods of heading 05.05 and worked quills and scapes).

With the **exception** of certain goods more specifically mentioned or included elsewhere and listed in the exclusions below, this heading covers :

(A) Skins and other parts of birds with their feathers or down, feathers and down, and parts of feathers, which though not yet constituting made up articles, have undergone a process **other than** a simple treatment of cleaning, disinfection or preservation (see Explanatory Note to **heading 05.05**); the goods of this heading may, for example, be bleached, dyed, curled or waved.

(B) Articles made of skins or of other parts of birds with their feathers or down, articles made of feathers, of down or of parts of feathers, even if the feathers or down, etc., are unworked or merely cleaned, but **not including** articles made of scapes or quills. The heading therefore includes :

(1) Single feathers the quills of which have been wired or bound for use as, for example, millinery mounts, and also single composite feathers assembled from different elements.

(2) Feathers assembled in the form of clusters, and feathers or down assembled by glueing or fixing on textile fabric or other base.

(3) Trimmings made of birds, parts of birds, of feathers or down, for hats, boas, collars, capes or other articles of apparel or clothing accessories.

(4) Fans made of ornamental feathers, with frames of any material. However, fans with frames of precious metal are classified in **heading 71.13**.

The heading **does not**, however, **include** articles of apparel and clothing accessories in which feathers or down constitute no more than mere trimmings or padding.

The heading also **excludes** :

(a) Footwear of feathers or down (**Chapter 64**).

(b) Headgear of feathers or down (**Chapter 65**).

(c) Articles of **heading 67.02**.

(d) Articles of bedding, etc., in which feathers or down constitute only filling or padding (**heading 94.04**).

(e) Articles of **Chapter 95** (e.g., shuttlecocks, feather darts or angling floats).

(f) Worked quills and scapes (e.g., toothpicks, **heading 96.01**), feather dusters (**heading 96.03**), and powder-puffs and pads of down for the application of cosmetics or toilet preparations (**heading 96.16**).

(g) Collectors' pieces (**heading 97.05**).

6701.00

Skins and other parts of birds with their feathers or down, feathers, parts of feathers, down and articles thereof (other than goods of heading 05.05 and worked quills and scapes).

Heading 6702

Artificial flowers, foliage and fruit and parts thereof; articles made of artificial flowers, foliage or fruit.

EXPLANATORY NOTES

67.02 - Artificial flowers, foliage and fruit and parts thereof; articles made of artificial flowers, foliage or fruit.

6702.10 - Of plastics

6702.90 - Of other materials

This heading covers :

(1) Artificial flowers, foliage and fruit in forms resembling the natural products, made by assembling various parts (by binding, glueing, assembling by fitting into one another or similar methods). This category also includes conventional representations of flowers, foliage or fruit made up in the manner of artificial flowers, etc.

(2) Parts of artificial flowers, foliage or fruit (e.g., pistils, stamens, ovaries, petals, calyces, leaves and stems).

(3) Articles made of artificial flowers, foliage or fruit (e.g., bouquets, garlands, wreaths, plants), and other articles, for use as trimmings or as ornaments, made by assembling artificial flowers, foliage or fruit.

The heading includes artificial flowers, foliage or fruit fitted with a pin or other minor fastening device.

The articles of this heading are mainly used for decoration (e.g., in houses or churches), or as ornaments for hats, apparel, etc.

Subject to the **exclusions** listed below, these goods may be made of textile materials, felt, paper, plastics, rubber, leather, metal foil, feathers, shells or of other materials of animal origin (for example, artificial foliage of marine animal origin, specially prepared and dyed, consisting of the limp remains of the bodies of hydrozoa or bryozoa), etc. **Provided** they meet the specifications of the preceding paragraphs, all such articles fall in this heading irrespective of their degree of finish.

This heading **does not include** :

(a) Natural flowers and foliage of **heading 06.03** or **06.04** (e.g., dyed, silvered or gilded).

(b) Floral motifs of lace, of embroidery or of other textile fabric, which though they can be used as trimmings for apparel, are not made up in the manner of artificial flowers (i.e. by assembly of the various parts (petals, stamens, stems, etc.) by binding with wire, textile material, paper, rubber, etc., or by glueing or similar methods) (**Section XI**).

(c) Headgear of artificial flowers or foliage (**Chapter 65**).

(d) Articles of glass (**Chapter 70**).

(e) Artificial flowers, foliage or fruit, of pottery, stone, metal, wood, etc., obtained in one piece by moulding, forging, carving, stamping or other process, or consisting of parts assembled otherwise than by binding, glueing, fitting into one another or similar methods.

(f) Wire simply cut to length and covered with textile material, paper, etc., for making stems for artificial flowers, etc. (**Section XV**).

(g) Articles clearly identifiable as toys or carnival articles (**Chapter 95**).

6702.10

- Of plastics

6702.90

- Of other materials

CLASSIFICATION OPINIONS

1. Bouquet, about 15 cm high, consisting essentially of several types of artificial flowers of textile material and containing small quantities of plants mounted on wire, the whole arrangement being supported by stiff, fancy paper imitating lace, and decorated with a velvet bow. *See also Opinion 0604.90/1.*
Adoption : 1985

2. Small wreath, about 6 cm in diameter, consisting of flowers of textile material, wire wound spirally, beads of plastics and (the only vegetable material) cloves. Each item is individually mounted on wire, the wire ends being stranded into a circular support. *See also Opinion 0604.90/1*
Adoption : 1985

Heading 6703

Human hair, dressed, thinned, bleached or otherwise worked; wool or other animal hair or other textile materials, prepared for use in making wigs or the like.

EXPLANATORY NOTES

67.03 - Human hair, dressed, thinned, bleached or otherwise worked; wool or other animal hair or other textile materials, prepared for use in making wigs or the like.

With the **exception** of human hair which has been simply washed, scoured or sorted to length (but **not** arranged so that the root ends and tips respectively are together) and waste of human hair (**heading 05.01**), this heading covers human hair which has been dressed or otherwise worked (for example, thinned, bleached, dyed, waved or curled) for use in postiche (e.g., manufacture of wigs, curls or switches) or for other purposes.

The expression “dressed” includes hair, the separate filaments of which have been arranged so that the root ends and tip ends are respectively together.

This heading also includes wool, other animal hair (e.g., the hair of the yak, angora or Tibetan goat) and other textile materials (e.g., man-made fibres), prepared for use in making wigs and the like, or dolls’ hair. Products prepared for the above purposes include, in particular :

(1) Articles consisting of a sliver, generally of wool or other animal hair, interlaced on two parallel strings and having the appearance of a plait. These articles (known as “crape”) are normally presented in long lengths and weigh about 1 kg.

(2) Waved (curled) slivers of textile fibres put up in small bundles each containing a length of 14 to 15 m and weighing about 500 g.

(3) “Wefts” consisting of man-made fibres dyed in the mass, folded in two to form tufts which are bound together, at the folded ends, by a machine-made plait of textile yarns approximately 2 mm wide. These “wefts” have the appearance of a fringe in the length.

Wool, other animal hair or other textile fibres in the mass, in the form of tow or prepared for spinning fall in **Section XI**.

6703.00

Human hair, dressed, thinned, bleached or otherwise worked; wool or other animal hair or other textile materials, prepared for use in making wigs or the like.

Heading 6704

Wigs, false beards, eyebrows and eyelashes, switches and the like, of human or animal hair or of textile materials; articles of human hair not elsewhere specified or included.

EXPLANATORY NOTES

67.04 - Wigs, false beards, eyebrows and eyelashes, switches and the like, of human or animal hair or of textile materials; articles of human hair not elsewhere specified or included.

- Of synthetic textile materials :

6704.11 - - Complete wigs

6704.19 - - Other

6704.20 - Of human hair

6704.90 - Of other materials

This heading covers :

(1) **Made up articles of postiche of all kinds manufactured of human or animal hair or of textile materials**. These articles include wigs, beards, eyebrows and eyelashes, switches, curls, chignons, moustaches and the like. They are usually of high-class workmanship intended for use either as aids to personal toilet or for professional work (e.g., theatrical wigs).

This category **does not include** :

(a) Dolls’ wigs (**heading 95.03**).

(b) Carnival articles, generally of inferior material and finish (**heading 95.05**).

(2) **Articles of human hair, not elsewhere specified or included**, in particular certain lightweight woven material of human hair.

This category **does not include** :

(a) Hair filtering or straining cloth of **heading 59.11**.

(b) Hair-nets (**heading 65.05**).

(c) Hair hand sieves (**heading 96.04**).

6704.1

- Of synthetic textile materials :

6704.11

-- Complete wigs

6704.19

-- Other

6704.20

- Of human hair

6704.90

- Of other materials

Section XIII

ARTICLES OF STONE, PLASTER, CEMENT, ASBESTOS, MICA OR SIMILAR MATERIALS; CERAMIC PRODUCTS; GLASS AND GLASSWARE

EXPLANATORY NOTES

Section XIII

ARTICLES OF STONE, PLASTER, CEMENT, ASBESTOS, MICA OR SIMILAR MATERIALS; CERAMIC PRODUCTS; GLASS AND GLASSWARE

Chapter 68

Articles of stone, plaster, cement, asbestos, mica or similar materials

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Goods of Chapter 25;

(b) Coated, impregnated or covered paper and paperboard of heading 48.10 or 48.11 (for example, paper and paperboard coated with mica powder or graphite, bituminised or asphalted paper and paperboard);

(c) Coated, impregnated or covered textile fabric of Chapter 56 or 59 (for example, fabric coated or covered with mica powder, bituminised or asphalted fabric);

(d) Articles of Chapter 71;

(e) Tools or parts of tools, of Chapter 82;

(f) Lithographic stones of heading 84.42;

(g) Electrical insulators (heading 85.46) or fittings of insulating material of heading 85.47;

(h) Dental burrs (heading 90.18);

(ij) Articles of Chapter 91 (for example, clocks and clock cases);

(k) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings, prefabricated buildings);

(l) Articles of Chapter 95 (for example, toys, games and sports requisites);

(m) Articles of heading 96.02, if made of materials specified in Note 2 (b) to Chapter 96, or of heading 96.06 (for example, buttons), of heading 96.09 (for example, slate pencils), heading 96.10 (for example, drawing slates) or of heading 96.20 (monopods, bipods, tripods and similar articles); or

(n) Articles of Chapter 97 (for example, works of art).

2.- In heading 68.02 the expression “worked monumental or building stone” applies not only to the varieties of stone referred to in heading 25.15 or 25.16 but also to all other natural stone (for example, quartzite, flint, dolomite and steatite) similarly worked; it does not, however, apply to slate.

EXPLANATORY NOTES

Articles of stone, plaster, cement, asbestos, mica or similar materials

Notes.

1.- This Chapter does not cover :

(a) Goods of Chapter 25;

(b) Coated, impregnated or covered paper and paperboard of heading 48.10 or 48.11 (for example, paper and paperboard coated with mica powder or graphite, bituminised or asphalted paper and paperboard);

(c) Coated, impregnated or covered textile fabric of Chapter 56 or 59 (for example, fabric coated or covered with mica powder, bituminised or asphalted fabric);

(d) Articles of Chapter 71;

(e) Tools or parts of tools, of Chapter 82;

(f) Lithographic stones of heading 84.42;

(g) Electrical insulators (heading 85.46) or fittings of insulating material of heading 85.47;

(h) Dental burrs (heading 90.18);

(ij) Articles of Chapter 91 (for example, clocks and clock cases);

(k) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings, prefabricated buildings);

(l) Articles of Chapter 95 (for example, toys, games and sports requisites);

(m) Articles of heading 96.02, if made of materials specified in Note 2 (b) to Chapter 96, or of heading 96.06 (for example, buttons), of heading 96.09 (for example, slate pencils), heading 96.10 (for example, drawing slates) or of heading 96.20 (monopods, bipods, tripods and similar articles); or

(n) Articles of Chapter 97 (for example, works of art).

2.- In heading 68.02 the expression “worked monumental or building stone” applies not only to the varieties of stone referred to in heading 25.15 or 25.16 but also to all other natural stone (for example, quartzite, flint, dolomite and steatite) similarly worked; it does not, however, apply to slate.

GENERAL

This Chapter covers :

(A) Various products of Chapter 25 worked to a degree **beyond** that permitted by Note 1 to that Chapter.

(B) The products **excluded** from Chapter 25 by Note 2 (f) to that Chapter.

(C) Certain goods made from mineral materials of Section V.

(D) Goods made from certain of the materials of Chapter 28 (e.g., the artificial abrasives).

Some of the goods in category (C) or (D) may be agglomerated by means of binders, contain fillers, be reinforced, or in the case of products such as abrasives or mica be put up on a backing or support of textile material, paper, paperboard or other materials.

Most of these products and finished articles are obtained by operations (e.g., shaping, moulding), which alter the form rather than the nature of the constituent material. Some are obtained by agglomeration (e.g., articles of asphalt, or certain goods such as grinding wheels which are agglomerated by vitrification of the binding material); others may have been hardened in autoclaves (sand-lime bricks). The Chapter also includes certain goods obtained by processes involving a more radical transformation of the original raw material (e.g., fusion to produce slag wool, fused basalt, etc.).

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* *

Articles obtained by firing previously shaped earths (i.e., ceramic articles) generally fall in **Chapter 69**, **except** in the case of ceramic abrasive articles of **heading 68.04**. Glass and glassware, including articles of glass-ceramics, fused quartz or other fused silica, are classified in **Chapter 70**.

The Chapter further **excludes**, in addition to certain goods separately referred to in **exclusions** to the following Explanatory Notes, the following :

(a) Diamonds, other precious stones and semi-precious stones (natural, synthetic or reconstructed), articles thereof and all other articles of **Chapter 71**.

(b) Lithographic stones of **heading 84.42**.

(c) Panels (e.g., of slate, marble, asbestos-cement) drilled or otherwise clearly prepared as control panels (**heading 85.38**); also insulators and fittings of insulating material, of **heading 85.46** or **85.47**.

(d) Articles of **Chapter 94** (e.g., furniture, luminaires and lighting fittings, prefabricated buildings).

(e) Toys, games and sports requisites (**Chapter 95**).

(f) Mineral carving materials specified in Note 2 (b) to Chapter 96, worked or in the form of articles (**heading 96.02**).

(g) Original sculptures and statuary, collectors' pieces and antiques of **Chapter 97**.

Heading 6801

Setts, curbstones and flagstones, of natural stone (except slate).

EXPLANATORY NOTES

68.01 - Setts, curbstones and flagstones, of natural stone (except slate).

This heading covers natural stone **other than** slate (e.g., sandstone, granite and porphyry) worked into the shapes commonly used for paving or bordering roads, pavements or the like; such stones remain in this heading even if they are also suitable for other uses. Shingle, pebbles and similar unshaped road metalling fall in **heading 25.17**.

The products of this heading are obtained by splitting, rough hewing or shaping quarry-stone, by hand or machine. Setts and flagstones usually have rectangular (including square) faces, but whereas flagstones are thin in relation to their length and width, setts are roughly cubical or take the form of truncated pyramids. Curbstones may be straight or curved; they are normally of rectangular (other than square) cross-section.

The heading includes stone in shapes identifiable as setts, curbstones or flagstones, even if obtained simply by splitting, sawing or roughly squaring; it also covers those which have been dressed, bushed, sand dressed, ground, rounded at the edges, chamfered, tenoned and mortised or specially worked for particular road uses (curbstones shaped to allow for road drainage or garage exits).

The heading **excludes** curbstones, etc., of concrete or artificial stone (**heading 68.10**) and ceramic flagstones (**Chapter 69**).

6801.00

Setts, curbstones and flagstones, of natural stone (except slate).

Heading 6802

Worked monumental or building stone (except slate) and articles thereof, other than goods of heading 68.01; mosaic cubes and the like, of natural stone (including slate), whether or not on a backing; artificially coloured granules, chippings and powder, of natural stone (including slate).

EXPLANATORY NOTES

68.02 - Worked monumental or building stone (except slate) and articles thereof, other than goods of heading 68.01; mosaic cubes and the like, of natural stone (including slate), whether or not on a backing; artificially coloured granules, chippings and powder, of natural stone (including slate).

6802.10 - Tiles, cubes and similar articles, whether or not rectangular (including square), the largest face of which is capable of being enclosed in a square the side of which is less than 7 cm; artificially coloured granules, chippings and powder

- Other monumental or building stone and articles thereof, simply cut or sawn, with a flat or even surface :

6802.21 - - Marble, travertine and alabaster

6802.23 - - Granite

6802.29 - - Other stone

- Other :

6802.91 - - Marble, travertine and alabaster

6802.92 - - Other calcareous stone

6802.93 - - Granite

6802.99 - - Other stone

This heading covers natural monumental or building stone (**except** slate) which has been worked **beyond** the stage of the normal quarry products of Chapter 25. There are, however, certain **exceptions** where goods are covered more specifically by other headings of the Nomenclature and examples of these are given at the end of this Explanatory Note and in the General Note to the Chapter.

The heading therefore covers stone which has been **further processed** than mere shaping into blocks, sheets or slabs by splitting, roughly cutting or squaring, or squaring by sawing (square or rectangular faces).

The heading thus covers stone in the forms produced by the stone-mason, sculptor, etc., viz. :

(A) Roughly sawn blanks; also non-rectangular sheets (one or more faces triangular, hexagonal, trapezoidal, circular, etc.).

(B) Stone of any shape (including blocks, slabs or sheets), whether or not in the form of finished articles, which has been bossed (i.e., stone which has been given a “rock faced” finish by smoothing along the edges while leaving rough protuberant faces), dressed with the pick, bushing hammer, or chisel, etc., furrowed with the drag-comb, etc., planed, sand dressed, ground, polished, chamfered, moulded, turned, ornamented, carved, etc.

The heading therefore includes not only constructional stone (including facing slabs) worked as above, but also articles such as steps, cornices, pediments, balustrades, corbels and supports; door or window frames and lintels; thresholds; mantelpieces; window sills; doorsteps; tombstones; boundary stones and milestones, bollards; panoramic indicators (enamelled or not); guard posts and fenders; sinks, troughs, fountain basins; balls for crushing mills; flower pots; columns, bases and capitals for columns; statues, statuettes, pedestals; high or low reliefs; crosses; figures of animals; bowls, vases, cups; cachou boxes; writing-sets; ashtrays; paper weights; artificial fruit and foliage, etc. Ornamental goods of stone combined with other materials may be classified as jewellery or imitation jewellery, or as goldsmiths’ or silversmiths’ wares (see the Explanatory Note to Chapter 71); other ornamental goods essentially of stone are, in general, classified in this heading.

Stone slabs forming the tops of articles of furniture (sideboards, washstands, tables, etc.) are classified in **Chapter 94** if presented with the pieces of furniture (whether or not assembled) and clearly intended as parts thereof, but such furniture tops presented separately remain in this heading.

Articles of worked monumental or building stone are usually obtained from the stones of heading 25.15 or 25.16, but may also be obtained from any other natural stone **except** slate (e.g., quartzite, dolomite,

flint, steatite). Steatite, for example, is used for industrial structural work where resistance to heat or chemical corrosion is required (e.g., in recuperative furnaces). It is also used in paper pulping and chemical plant.

The heading also covers small prepared mosaic cubes and the like of marble, etc., for various floor or wall coverings, etc., whether or not backed with paper or other materials. It further includes artificially coloured granules, chippings and powder of marble or of other natural stones (including slate) (e.g., for shop window displays), but untreated pebbles, granules, chippings and coloured natural sands fall in **Chapter 25**.

Articles such as slabs, tiles, etc., obtained by agglomerating pieces of natural stone with cement or other binders (e.g., plastics), and statuettes, pillars, cups, etc., made of moulded and agglomerated stone powder or granules, are classified as artificial stone articles in **heading 68.10**.

The heading also **excludes** :

(a) Worked slate and articles of slate, other than mosaic cubes and the like (**headings 68.03**, **96.09** and **96.10**).

(b) Articles of fused basalt (**heading 68.15**).

(c) Articles of fired steatite (**Chapter 69** or **Chapter 85**).

(d) Imitation jewellery (**heading 71.17**).

(e) Articles of **Chapter 91** (e.g., clocks and clock cases and parts thereof).

(f) Luminaires, lighting fittings and parts thereof (**heading 94.05**).

(g) Stone buttons (**heading 96.06**) and chalks of **heading 95.04** or **96.09**.

(h) Original sculptures and statuary (**heading 97.03**).

6802.10

- Tiles, cubes and similar articles, whether or not rectangular (including square), the largest face of which is capable of being enclosed in a square the side of which is less than 7 cm; artificially coloured granules, chippings and powder

6802.2

- Other monumental or building stone and articles thereof, simply cut or sawn, with a flat or even surface :

6802.21

-- Marble, travertine and alabaster

6802.23

-- Granite

6802.29

-- Other stone

6802.9

- Other :

6802.91

-- Marble, travertine and alabaster

6802.92

-- Other calcareous stone

6802.93

-- Granite

6802.99

-- Other stone

CLASSIFICATION OPINIONS

1. Boxes made of steatite (soapstone) used as ornaments. The boxes are decorated with a painted motif and have not been fired. **Application of GIRs 1 and 6.** *Adoption : 2012*



Heading 6803

Worked slate and articles of slate or of agglomerated slate.

EXPLANATORY NOTES

68.03 - Worked slate and articles of slate or of agglomerated slate.

Natural slate falls in **heading 25.14** when in the mass, or in the form of blocks, slabs or sheets obtained by splitting, rough cutting or squaring or squaring by sawing. This heading covers similar products more highly processed (e.g., sawn or cut **otherwise** than rectangular (including square), ground, polished, chamfered, drilled, varnished, enamelled, moulded or otherwise ornamented).

It includes, *inter alia*, articles polished or otherwise worked such as wall tiles, flags and slabs (for paving, for buildings, for chemical installations, etc.); troughs, reservoirs, basins, sinks; guttering stones; mantelpieces.

The heading also covers identifiable roofing, facing and damp course slates, not only of special shapes (polygonal, rounded, etc.), but also in rectangular (including square) form.

The heading also includes articles of agglomerated slate.

The heading **excludes** :

(a) Granules, chippings and powder of slate, not artificially coloured (**heading 25.14**).

(b) Mosaic cubes and the like, artificially coloured granules, chippings and powder of slate (**heading 68.02**).

(c) Slate pencils (**heading 96.09**), writing or drawing slates, ready for use, and boards, framed or not (**heading 96.10**).

6803.00

Worked slate and articles of slate or of agglomerated slate.

Heading 6804

Millstones, grindstones, grinding wheels and the like, without frameworks, for grinding, sharpening, polishing, trueing or cutting, hand sharpening or polishing stones, and parts thereof, of natural stone, of agglomerated natural or artificial abrasives, or of ceramics, with or without parts of other materials.

EXPLANATORY NOTES

68.04 - Millstones, grindstones, grinding wheels and the like, without frameworks, for grinding, sharpening, polishing, trueing or cutting, hand sharpening or polishing stones, and parts thereof, of natural stone, of agglomerated natural or artificial abrasives, or of ceramics, with or without parts of other materials (+).

6804.10 - Millstones and grindstones for milling, grinding or pulping

- Other millstones, grindstones, grinding wheels and the like :

6804.21 - - Of agglomerated synthetic or natural diamond

6804.22 - - Of other agglomerated abrasives or of ceramics

6804.23 - - Of natural stone

6804.30 - Hand sharpening or polishing stones

This heading covers, in particular :

(1) **Millstones and grindstones**, often of considerable size, **for crushing, grinding, pulping,** etc., (e.g., for milling grain (upper or lower stones); pulping wood, asbestos, etc.; paper-makers' or paint mixers' grindstones).

(2) **Grindstones for sharpening cutlery, tools, etc.**, and designed for mounting on hand, pedal or power operated machines.

The grindstones and millstones described in the two categories above are usually flat, cylindrical or in the shape of truncated cones.

(3) **Grinding wheels, heads, discs, points, etc.**, as used on machine-tools, electro-mechanical or pneumatic hand tools, for the trimming, polishing, sharpening, trueing or sometimes for the cutting of metals, stone, glass, plastics, ceramics, rubber, leather, mother of pearl, ivory, etc.

Except for some cutting discs, which may be of considerable diameter, these goods are usually much smaller than those described above, and they may be of any shape, (e.g., flat, conical, spherical, dished, ring-shaped, recessed or stepped); they may also be planed or profiled at the edges.

The heading covers such tools not only when they are predominantly of abrasive materials, but also when they consist of only a very small abrasive head on a metal shank, or of a centre or core of rigid material (metal, wood, plastics, cork, etc.) on to which compact layers of agglomerated abrasive have been permanently bonded (e.g., cutting discs of metal, etc., fitted with rims or with a series of peripheral inserts of abrasive material). The heading also covers abrasive elements for hones, whether or not they are mounted in the carriers required for their fixation in the body of the hone.

It should, however, be noted that certain abrasive tools are **excluded** and fall in **Chapter 82**. The latter Chapter, however, covers **only** those tools with cutting teeth, flutes, grooves, etc., which retain their identity and function even after application of the abrasive material (i.e., tools which, unlike those of this heading, could be put to use even if the abrasive had not been applied). Saws with cutting teeth covered with abrasive therefore remain in **heading 82.02**. Similarly crown drills as used for cutting discs from sheets of glass, quartz, etc., are classified in this heading if the working edge is smooth apart from the abrasive coating, but in **heading 82.07** if toothed (whether or not coated with abrasive).

(4) **Polishing stones, whetstones, oilstones, hones and the like**, with or without handles, **used directly in the hand for sharpening, whetting, scouring or polishing** metals or other materials.

They may be of various shapes (e.g., rectangular, trapezoidal, sectors or segments of a circle, in the form of a knife blade, oblong with tapered ends), and may be square, triangular, round, half round, etc., in cross-section. They may also consist of prismatic plates, generally of agglomerated boron carbide, used in the hand, for whetting or sharpening grindstones of artificial abrasives, and, as a secondary use, for sharpening metal tools.

These stones are used, in particular, for sharpening tools and cutting instruments (e.g., cutlery, blades for harvesting machines, sickles, scythes, mowers, etc.), or for polishing metal, etc.

Tools with a fine cutting edge (e.g., razors or surgical instruments) are sharpened with oilstones or hones made of specially fine-grain stone or slate; these stones are usually moistened with water or oil before use. Certain stones (e.g., pumice) are also used for toilet, manicure and pedicure purposes, and also for the cleaning up, polishing, etc., of metals, etc.

Grinding stones, grinding wheels, etc., **must** be made essentially of natural stone, agglomerated or not, (e.g., sandstone, granite, lava, flint, molasse, dolomite, quartz, trachyte), of agglomerated natural or artificial abrasives (e.g., emery, pumice, tripoli, kieselguhr, crushed glass, corundum, silicon carbide, garnet, diamond, boron carbide) or of ceramics (of fired or refractory earths, or of porcelain).

Agglomerated grinding wheels, etc., are made by mixing ground abrasive or stone with binders such as ceramic materials (for example, powdered clay or kaolin, sometimes with added feldspar), sodium

silicate, cement (especially magnesian cement) or less rigid cementing materials (such as rubber, shellac or plastics). Textile fibres such as cotton, nylon or flax are sometimes incorporated in the mixtures. The mixtures are moulded to shape, dried, and then heated (if necessary to the stage of vitrification in the case of ceramic binders) or cured (in the case of the rubber, plastics, etc., binders). The articles are then trimmed to size and shape.

In making certain polishing stones (oil stones), washed abrasive powders are used.

Grinding stones of this heading, and especially those for granary use or for pulping, sometimes have a ribbed surface. They may be in one piece or made up of assembled segments, be fitted with sockets, internal or external hoops, balancing weights or cavities; they may also be fitted with axles or spindles, but they must be **without** frameworks. Grinding stones with frameworks are classified in **heading 82.05** if hand or pedal operated or in **Chapter 84** or **85** if power operated.

In addition to the complete millstones, grindstones, etc., described above, the heading also covers identifiable blanks; segments and finished parts of such goods, if essentially of stone, agglomerated abrasives or ceramics are also included.

The heading **does not include** :

(a) Perfumed pumice stone put up in blocks, tablets or similar prepared forms of **heading 33.04**.

(b) Natural or artificial abrasive powder or grain coated on to textile material, paper, paperboard or other materials (**heading 68.05**), whether or not the textile material, paper, etc., is subsequently glued on to supports such as discs or strips of wood (buff-sticks for use in the clock and watch industry, mechanical engineering, etc.).

(c) Dental burrs (**heading 90.18**).

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Subheading Explanatory Note.

Subheading 6804.10

The products of this subheading are designed for use in reducing the particle size of materials such as grain, pulp, pigments, etc., as opposed to trimming, polishing, sharpening, trueing or other discriminate removal of material.

Millstones and grindstones for milling or grinding

These products are generally put up in pairs and have a conical surface (one stone is concave and the other convex) which is channelled towards the centre to allow crushed grain to flow via the centre of the stone.

Millstones and grindstones for pulping

These products are of considerable size generally weighing several tonnes and manufactured either in a single piece or from several blocks assembled together by glueing. They exceed 1,200 mm in diameter **and** 500 mm in thickness.

6804.10

- Millstones and grindstones for milling, grinding or pulping

6804.2

- Other millstones, grindstones, grinding wheels and the like :

6804.21

-- Of agglomerated synthetic or natural diamond

6804.22

-- Of other agglomerated abrasives or of ceramics

6804.23

-- Of natural stone

6804.30

- Hand sharpening or polishing stones

Heading 6805

Natural or artificial abrasive powder or grain, on a base of textile material, of paper, of paperboard or of other materials, whether or not cut to shape or sewn or otherwise made up.

EXPLANATORY NOTES

68.05 - Natural or artificial abrasive powder or grain, on a base of textile material, of paper, of paperboard or of other materials, whether or not cut to shape or sewn or otherwise made up.

6805.10 - On a base of woven textile fabric only

6805.20 - On a base of paper or paperboard only

6805.30 - On a base of other materials

This heading covers textile material, paper, paperboard, vulcanised fibre, leather or other materials, in rolls or cut to shape (sheets, bands, strips, discs, segments, etc.), or in threads or cords, on to which crushed natural or artificial abrasives have been coated, usually by means of glue or plastics. The heading also covers similar products of nonwovens, in which abrasives are uniformly dispersed throughout the mass and fixed on to textile fibres by the bonding substance. The abrasives used include emery, corundum, silicon carbide, garnet, pumice, flint, quartz, sand and glass powder. The bands, discs, etc., may be sewn, stapled, glued or otherwise made up; the heading includes, for example, tools such as buff-sticks, made by permanently fixing abrasive paper or cloth onto blocks or strips of wood, etc. But the heading **excludes** grinding wheels composed of a rigid support (e.g., of paperboard, wood, metal) fitted with a compact agglomerated layer, rather than powder or grain, of abrasive, and similarly constituted hand tools (**heading 68.04**).

The goods of this heading are mainly used (by hand or mechanically) for smoothing or cleaning up metal, wood, cork, glass, leather, rubber (hardened or not) or plastics; also for smoothing or polishing varnished or lacquered surfaces, or for sharpening card clothing.

6805.10

- On a base of woven textile fabric only
6805.20

- On a base of paper or paperboard only
6805.30

- On a base of other materials
Heading 6806

Slag wool, rock wool and similar mineral wools; exfoliated vermiculite, expanded clays, foamed slag and similar expanded mineral materials; mixtures and articles of heat-insulating, sound-insulating or sound-absorbing mineral materials, other than those of heading 68.11 or 68.12 or of Chapter 69.

EXPLANATORY NOTES

68.06 - Slag wool, rock wool and similar mineral wools; exfoliated vermiculite, expanded clays, foamed slag and similar expanded mineral materials; mixtures and articles of heat-insulating, sound-insulating or sound-absorbing mineral materials, other than those of heading 68.11 or 68.12 or of Chapter 69.

6806.10 - Slag wool, rock wool and similar mineral wools (including intermixtures thereof), in bulk, sheets or rolls

6806.20 - Exfoliated vermiculite, expanded clays, foamed slag and similar expanded mineral materials (including intermixtures thereof)

6806.90 - Other

Slag wool and rock wool (e.g., of granite, basalt, limestone or dolomite) are obtained by melting one or more of these constituents and converting a stream of the resulting liquid into fibres, usually by centrifugal action and stream or air blast.

This heading also includes a class of “alumino-silicates” known as “ceramic fibres”. They are formed by fusing a blend of alumina and silica, in varying proportions, sometimes with the addition of small amounts of other oxides such as zirconia, chromia or boric oxide, and by blowing or extruding the melt into a mass of fibres.

The mineral wools of this heading, like the glass wool of heading 70.19, have a flocculent or fibrous appearance. They differ from the latter by their chemical composition (see Note 4 to Chapter 70), while their fibres are generally shorter and not as white in colour.

Expanded or **exfoliated vermiculite** is obtained from vermiculite (heading 25.30) by heat treatment which causes a very large expansion of the material, sometimes up to 35 times its original volume.

The heading also includes the expanded forms of perlite, chlorites, obsidian, etc., similarly obtained by heat treatment. These generally consist of very lightweight spheroidal grains. Perlite activated by heat treatment is in the form of shiny white microlamellar powder and is classified in **heading 38.02**.

Expanded clays are made either by calcining specially selected clays, or by calcining a mixture of clays with other materials (e.g., sulphite lye). **Foamed slag** is made by adding small amounts of water to molten slag, and should not be confused with granulated slag which has a much higher density; the latter is made by pouring molten slag into water and is classified in **heading 26.18**.

All the above materials are incombustible and excellent heat-insulating, sound-insulating, or sound-absorbing products. The heading includes them even when in bulk.

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Subject to the tolerances concerning the asbestos content (referred to below), this heading also covers **heat-insulating**, **sound-insulating** or **sound-absorbing mixtures of mineral materials** in bulk, e.g., mixtures composed essentially of kieselguhr, siliceous fossil meals, magnesium carbonate, etc., often with added plaster, slag, powdered cork, sawdust or wood shavings, textile fibres, etc. The mineral wools described above may also form part of such mixtures which, in the mass, are used as packing materials, in the insulation of ceilings, roofs, walls, etc.

The heading includes articles, usually of low density, made from the above products or mixtures (e.g., blocks, sheets, bricks, tiles, tubes, cylinder shells, cords, pads). These articles may be artificially coloured in the mass, impregnated with fireproof substances, faced with paper, or reinforced with metal.

The mixtures and articles classified here may contain a small quantity of asbestos fibres, in particular to facilitate use. The proportion of asbestos added is generally not more than 5 % by weight. The heading **excludes** articles of asbestos-cement (**heading 68.11**) and mixtures with a basis of asbestos or of asbestos and magnesium carbonate (and articles thereof) (**heading 68.12**).

The heading also covers diatomite or other siliceous earths sawn into blocks or other shapes.

Articles of lightweight concrete (including concrete made with an aggregate of exfoliated vermiculite, expanded clay or the like) are **excluded** (**heading 68.10**).

Articles obtained by firing fall in **Chapter 69**.

6806.10

- Slag wool, rock wool and similar mineral wools (including intermixtures thereof), in bulk, sheets or rolls

6806.20

- Exfoliated vermiculite, expanded clays, foamed slag and similar expanded mineral materials (including intermixtures thereof)

6806.90

- Other

CLASSIFICATION OPINIONS

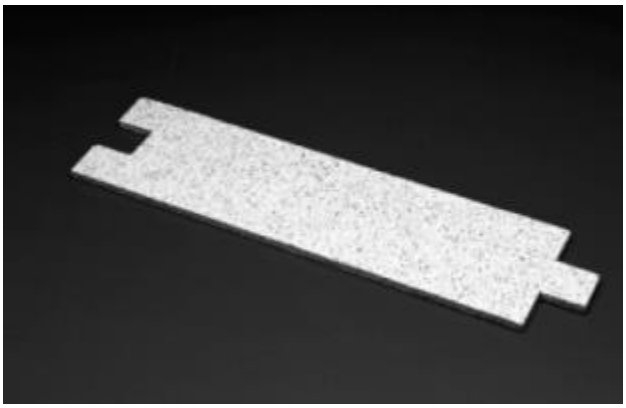
1. **Intumescent heat expandable mineral material mat**, presented either in rolls or sheets, which, when expanded, provides pressure to hold the ceramic monolith of a motor vehicle exhaust catalytic converter in place in the converter while providing sound insulation at the same time. The mat consists of three basic raw materials :

- Non-woven ceramic fibres (alumino-silicates) (30 to 45 % by weight), providing high temperature resiliency and containing vermiculite;

- Unexpanded vermiculite (45 to 60 % by weight), providing the intumescent property;

- Organic binder (5 to 9 % by weight), providing strength to the product during manufacture.

Application of GIRs 1 and 6 (application of GIR 1 at subheading level). *Adoption : 2007*



Heading 6807

Articles of asphalt or of similar material (for example, petroleum bitumen or coal tar pitch).

EXPLANATORY NOTES

68.07 - Articles of asphalt or of similar material (for example, petroleum bitumen or coal tar pitch).

6807.10 - In rolls

6807.90 - Other

This heading covers articles made from natural asphalt or bitumen, coal tar pitch, petroleum bitumen, bituminous mixtures, etc. (see heading 27.08, 27.13, 27.14 or 27.15). These articles usually contain fillers such as sand, slag, chalk, plaster, cement, talc, sulphur, asbestos fibre, wood fibre, sawdust, waste cork and natural resins.

Asphalt, bitumen, pitch, etc., in blocks of the kind remelted before use are **excluded** (**Chapter 27**) whether or not the materials have been refined or dehydrated, or mixed with other materials; the goods of this heading must, on the other hand, be identifiable as particular articles.

The heading includes :

(1) Plates, bricks, tiles, flagstones, obtained by pressing or moulding and used for roofing, facing, tiling or paving.

(2) Roofing boards consisting of a substrate (e.g., of paperboard, of web or fabric of glass fibre, of fabric of man-made fibre or jute, or of aluminium foil) completely enveloped in, or covered on both sides by, a layer of asphalt or similar material.

(3) Building board made of one or more layers of textile fabric or paper completely enveloped in asphalt or similar material.

(4) Cast or moulded tubes and containers.

Asphalt tubes and containers covered or reinforced with metal are classified as metal or asphalt articles according to which of the components gives the goods their essential character.

Metal tubes and containers (e.g., of cast iron or steel) coated with asphalt, bitumen, etc., remain classified as metal articles.

The heading further **excludes** :

(a) Paper merely coated, impregnated or covered with tar or similar material, intended for use as, for example, wrapping paper (**heading 48.11**).

(b) Textile fabrics coated, impregnated or covered, for example, with bitumen or asphalt (**Chapter 56** or **59**).

(c) Articles made essentially of asbestos-cement with added asphalt (**heading 68.11**).

(d) Fabrics or webs, etc., of glass fibre, simply coated or impregnated with bitumen or asphalt (**heading 70.19**).

6807.10

- In rolls

6807.90

- Other

CLASSIFICATION OPINIONS

1. Roofing boards consisting of a substrate (of paperboard or of web or fabric of, e.g., glass fibre, man-made fibre or jute) completely enveloped in, or covered on both sides by, a layer of asphalt, the whole being covered on one side with copper or aluminium foil. *See also Opinions 4811.10/2 and 6807.90/2. Adoption : 1971*

2. Roofing boards comprising :

(i) on the upper side, a weatherproofing element consisting of a sheet of paper board covered on both sides with bitumen or similar material;

(ii) on the underside, an element called a "vapour shield" or "steam barrier" consisting of a sheet of paperboard or aluminium foil also covered on both sides with bitumen or similar material;

(iii) in the centre, between the two above elements, an expanded polystyrene core of a thickness of 20 mm, forming a heat and sound insulating layer.

See also Opinions 4811.10/2 and 6807.90/1. Adoption : 1971

Heading 6808

Panels, boards, tiles, blocks and similar articles of vegetable fibre, of straw or of shavings, chips, particles, sawdust or other waste, of wood, agglomerated with cement, plaster or other mineral binders.

EXPLANATORY NOTES

68.08 - Panels, boards, tiles, blocks and similar articles of vegetable fibre, of straw or of shavings, chips, particles, sawdust or other waste, of wood, agglomerated with cement, plaster or other mineral binders.

This heading covers building or heat- or sound-insulating or sound-absorbing panels, boards, tiles, blocks, etc., made of vegetable materials (such as cellulose fibre, wood fibre, wood wool, wood chips, shavings or other wood waste, sawdust, straw, reeds, rushes or *crin végétal*), agglomerated or moulded with mineral binders such as cement (including magnesium oxychloride cement), plaster, lime or sodium silicate. They may also contain mineral fillers (such as siliceous fossil earths, magnesite, sand or asbestos), or be reinforced with metal.

The types of boards, panels, etc., of this heading are all relatively light but rigid, and the vegetable materials retain their own identity in the body of the binder.

As they must be agglomerated with mineral binders, they should not be confused with particle board of **heading 44.10** nor with fibreboard of **heading 44.11** since these must be agglomerated with organic binders. The heading also **excludes** agglomerated cork (**heading 45.04**) and articles of **heading 68.11**.

6808.00

Panels, boards, tiles, blocks and similar articles of vegetable fibre, of straw or of shavings, chips, particles, sawdust or other waste, of wood, agglomerated with cement, plaster or other mineral binders.

Heading 6809

Articles of plaster or of compositions based on plaster.

EXPLANATORY NOTES

68.09 - Articles of plaster or of compositions based on plaster.

- Boards, sheets, panels, tiles and similar articles, not ornamented :

6809.11 - - Faced or reinforced with paper or paperboard only

6809.19 - - Other

6809.90 - Other articles

This heading covers articles of plaster or of plastering materials, coloured or not, such as stucco (plaster mixed with a solution of glue, and which, after moulding, often has the superficial appearance of marble), fibrous plaster (plaster reinforced with wisps of tow, etc., and generally mixed with a solution of gelatin or glue), alumed plaster (also called Keene's cement or English cement), and similar

preparations which may contain textile fibres, wood fibre, sawdust, sand, lime, slag, phosphates, etc., but in which plaster is the essential element.

These articles may be dyed, varnished, waxed, lacquered, bronzed, gilded or silvered (by any process), or sometimes coated with asphalt; they may also be reinforced. The heading includes panels, boards, sheets or tiles, sometimes faced with paperboard, used in the building industry; and moulded articles such as casts, statues, statuettes, rosettes, columns, bowls, vases, ornamental goods, industrial moulds.

The heading **excludes** :

(a) Plaster-coated fracture bandages put up for retail sale (**heading 30.05**), and plaster fracture splints (**heading 90.21**).

(b) Panels, etc., agglomerated with plaster, of **heading 68.06** or **68.08**.

(c) Anatomical models, models of crystals, geometric models, relief maps and other models, designed solely for demonstrational purposes, of **heading 90.23**.

(d) Tailor's dummies, etc. (**heading 96.18**).

(e) Original sculptures and statuary (**heading 97.03**).

6809.1

- Boards, sheets, panels, tiles and similar articles, not ornamented :

6809.11

-- Faced or reinforced with paper or paperboard only

6809.19

-- Other

CLASSIFICATION OPINIONS

1. Panels, square, 3 cm thick, consisting of a plaster panel with a perforated outer surface and two rectangular hollows filled with strips of mineral wool, the under side being faced with paper-backed aluminium foil, for covering walls and ceilings and providing sound and heat insulation.
Adoption : 1965

6809.90

- Other articles

Heading 6810

Articles of cement, of concrete or of artificial stone, whether or not reinforced.

EXPLANATORY NOTES

68.10 - Articles of cement, of concrete or of artificial stone, whether or not reinforced (+).

- Tiles, flagstones, bricks and similar articles :

6810.11 - - Building blocks and bricks

6810.19 - - Other

- Other articles :

6810.91 - - Prefabricated structural components for building or civil engineering

6810.99 - - Other

This heading covers moulded, pressed or centrifuged articles (e.g., certain pipes) of cement (including slag cement), of concrete or of artificial stone, **other than** those of **heading 68.06** or **68.08** (in which cement is merely a binder), or **heading 68.11** (articles of asbestos-cement).

This heading also covers prefabricated structural components for building or civil engineering.

Artificial stone is an imitation of natural stone obtained by agglomerating pieces of natural stone or crushed or powdered natural stone (limestone, marble, granite, porphyry, serpentine, etc.) with lime or cement or other binders (e.g., plastics). Articles of artificial stone include those of “terrazzo”, “granito”, etc.

This heading also covers articles of slag cement.

The heading includes, *inter alia*, blocks, bricks, tiles; ceiling or wall mesh or lath (consisting of a wire framework combined with a **predominating** proportion of concrete); flagstones; beams; hollow flooring slabs and other constructional goods; pillars, posts, boundary stones; curbstones; piping; stair treads; railings; baths, sinks, water closet pans (bowls), troughs, vats, reservoirs; fountain basins; tombstones; standards, poles; railway sleepers; hovertrain guide-track sections; door or window frames; mantelpieces, window sills, door steps; friezes, cornices; vases, flower-pots, architectural or garden ornaments; statues, statuettes, animal figures; ornamental goods.

The heading also covers bricks, tiles, and other sandlime articles made from a pasty mixture of sand, lime and water; after pressure-moulding, these articles are steam-treated for several hours under high pressure in horizontal autoclaves, at a temperature of around 140 °C. These products, which may be white or artificially coloured, are used for much the same purposes as ordinary bricks, tiles, etc.

When lumps of quartz of various sizes are introduced into the mixture, artificial stone type products are obtained. Lightweight and porous sand-lime sheets for insulating purposes are also made by adding a metallic powder to the mixture, so that gases are given off; such sheets, however, are not pressure-moulded, but cast before insertion in the autoclave.

*

* *

The articles of this heading may be bushed, ground, polished, varnished, bronzed, enamelled, made to imitate slate, moulded or otherwise ornamented, coloured in the mass, reinforced with metal, etc. (e.g., reinforced or pre-stressed concrete), or fitted with accessories of other materials (e.g., hinges, etc.).

The heading **does not include** :

(a) Broken pieces of concrete (**heading 25.30**).

(b) Articles made of agglomerated slate (**heading 68.03**).

°

° °

Subheading Explanatory Note.

Subheading 6810.91

This subheading covers prefabricated structural components for building or for civil engineering, such as facing panels, interior walls, floor or ceiling sections, foundation components, pilings, tunnel sections, components for lock-gates or dams, gangways, cornices. These components, generally of concrete, usually have devices for facilitating their assembly.

6810.1

- Tiles, flagstones, bricks and similar articles :
6810.11

-- Building blocks and bricks
6810.19

-- Other
6810.9

- Other articles :
6810.91

-- Prefabricated structural components for building or civil engineering
6810.99

-- Other
Heading 6811

Articles of asbestos-cement, of cellulose fibre-cement or the like.
EXPLANATORY NOTES

68.11 - Articles of asbestos-cement, of cellulose fibre-cement or the like.

6811.40 - Containing asbestos

- Not containing asbestos :

6811.81 - - Corrugated sheets

6811.82 - - Other sheets, panels, tiles and similar articles

6811.89 - - Other articles

This heading covers hardened articles consisting essentially of an intimate mixture of fibres (for example, asbestos, cellulose or other vegetable fibres, synthetic polymer, glass or metallic fibres) and cement or other hydraulic binders, the fibres acting as strengthening agents. These articles may also contain asphalt, tar, etc.

These products are generally manufactured by pressing together thin layers of a mixture of fibres, cement and water or by moulding (possibly under pressure), by pressing or by extruding.

The heading includes sheets of all sizes and thicknesses, obtained as described above, and also articles made by cutting these sheets or by pressing, moulding or bending them before they have set, e.g., roofing, facing or partition sheets and tiles; sheets for making furniture; window sills; sign-plates, letters and numbers; barrier bars; corrugated sheets; reservoirs, troughs, basins, sinks; tubing joints; packing washers and joints; panels imitating carving; ridge tiles, gutters, window frames; flower-pots; ventilation or other tubing, cable conduits; chimney cowls, etc.

All these articles may be coloured in the mass, varnished, printed, enamelled, decorated, drilled, filed, planed, smoothed, polished or otherwise worked; they may also be reinforced with metal, etc.

6811.40

- Containing asbestos

6811.8

- Not containing asbestos :

6811.81

-- Corrugated sheets

6811.82

-- Other sheets, panels, tiles and similar articles

6811.89

-- Other articles

Heading 6812

Fabricated asbestos fibres; mixtures with a basis of asbestos or with a basis of asbestos and magnesium carbonate; articles of such mixtures or of asbestos (for example, thread, woven fabric, clothing, headgear, footwear, gaskets), whether or not reinforced, other than goods of heading 68.11 or 68.13.

EXPLANATORY NOTES

68.12 - Fabricated asbestos fibres; mixtures with a basis of asbestos or with a basis of asbestos and magnesium carbonate; articles of such mixtures or of asbestos (for example, thread, woven fabric, clothing, headgear, footwear, gaskets), whether or not reinforced, other than goods of heading 68.11 or 68.13.

6812.80 - Of crocidolite

- Other :

6812.91 - - Clothing, clothing accessories, footwear and headgear

6812.99 - - Other

This heading covers asbestos fibres **further worked** than beaten, cleaned, sorted or graded (e.g., carded fibres and dyed fibres). They may be for any purpose (e.g., for spinning, felting, etc., or for use as filtering, insulating, packing, etc., materials). Crude asbestos fibres or those simply graded according to length, beaten or cleaned are **excluded** (**heading 25.24**).

The heading also includes mixtures of asbestos with magnesium carbonate, cellulose fibres, sawdust, pumice stone, talc, plaster, siliceous fossil earths, slag, aluminium oxide, glass fibres, cork, etc., used as packing for heat-insulation purposes, or as filtering material, or as a basis for moulding asbestos articles.

But in particular the heading covers a range of articles of asbestos, either alone or mixed as in the preceding paragraph and often also with natural resins, plastics, sodium silicate, asphalt or rubber, etc. These articles may be made by felting, spinning, twisting, plaiting, weaving, making up or moulding.

For a description of crocidolite asbestos, see the Explanatory Note to heading 25.24.

Asbestos paper, board and felt are usually obtained by crushing the fibres into pulp which is then formed and pressed into sheets as in the preparation of asbestos-cement sheets (heading 68.11). Boards are also obtained by bonding superimposed layers of asbestos sheets with plastics. These products differ from those of heading 68.11 in that the separate asbestos fibres can be readily distinguished. They may be in rolls, sheets or plates, or may be cut to shape in the form of strips, frames, discs, rings, etc.

In the manufacture of yarn, single or multiple, the asbestos fibres are beaten, carded and then spun. As asbestos fibres cannot be drawn, long fibres are used for spinning, while the shorter fibres are used for the manufacture of board, felt, paper, asbestos cement or asbestos powder.

Other asbestos articles of this heading include cords, plaits, pads; fabric in the piece or cut to shape; strips, sheaths, tubing, conduits, tube joints; containers; rods, slabs, tiles; packing joints (**other than** gaskets and similar joints of metal and asbestos and sets of gaskets and joints of **heading 84.84**); filter blocks; table-mats; protective clothing, headgear and footwear for firemen, industrial, chemical, civil defence workers, etc. (e.g., jackets, trousers, aprons, sleeves, gloves, mitts, gaiters, hoods and masks usually with mica eyepieces, helmets, boots with asbestos uppers or soles); mattresses; firemen's shields, fire-extinguishing sheets, theatre curtains, iron spheres and cones coated with asbestos for fighting fire in gas mains.

All these articles may be reinforced with metal (often with brass or zinc wire), or with some other material (e.g., textile or glass fibres); they may also be coated with grease, talc, graphite or rubber, or be varnished, bronzed, coloured in the mass, polished, drilled, milled or otherwise worked.

In addition to the articles excluded by the General Explanatory Note, the heading also **excludes** :

(a) Asbestos powder or flakes (**heading 25.24**).

(b) Materials and articles essentially of plastics even if containing asbestos as a filler (**Chapter 39**).

(c) Articles of asbestos-cement (**heading 68.11**).

(d) Friction material with a basis of asbestos (**heading 68.13**).

6812.80

- Of crocidolite

6812.9

- Other :

6812.91

-- Clothing, clothing accessories, footwear and headgear

6812.99

-- Other

Heading 6813

Friction material and articles thereof (for example, sheets, rolls, strips, segments, discs, washers, pads), not mounted, for brakes, for clutches or the like, with a basis of asbestos, of other mineral substances or of cellulose, whether or not combined with textile or other materials.

EXPLANATORY NOTES

68.13 - Friction material and articles thereof (for example, sheets, rolls, strips, segments, discs, washers, pads), not mounted, for brakes, for clutches or the like, with a basis of asbestos, of other mineral substances or of cellulose, whether or not combined with textile or other materials.

6813.20 - Containing asbestos

- Not containing asbestos :

6813.81 - - Brake linings and pads

6813.89 - - Other

Asbestos friction material is usually made by high pressure moulding of a mixture of asbestos fibres, plastics etc.; it can also be made by compressing layers of woven or plaited asbestos which have been impregnated with plastics, pitch or rubber. It may be reinforced with brass, zinc or lead wire, or may sometimes be made up from metal wire or cotton yarn covered with asbestos. Owing to its high friction coefficient and its resistance to heat and wear, this material is used for lining brake shoes, clutch discs, etc., for vehicles of all kinds, cranes, dredgers or other machinery. The heading includes similar friction materials with a basis of other mineral materials (e.g., graphite, siliceous fossil earths) or of cellulose fibre.

According to the particular use for which it is intended, friction material of this heading may be in the form of sheets, rolls, strips, segments, discs, rings, washers, pads or cut to any other shape. The friction material may also be assembled by sewing, may be drilled or otherwise worked.

The heading **excludes** :

(a) Friction materials not containing mineral materials or cellulose fibre (e.g., those of cork); these are generally classified according to the constituent material.

(b) Mounted brake linings (including friction material fixed to a metal plate provided with circular cavities, perforated tongues or similar fittings, for disc brakes); these are classified as parts of the machines or vehicles for which they are designed (e.g., **heading 87.08**).

6813.20

- Containing asbestos

6813.8

- Not containing asbestos :

6813.81

-- Brake linings and pads

6813.89

-- Other

Heading 6814

Worked mica and articles of mica, including agglomerated or reconstituted mica, whether or not on a support of paper, paperboard or other materials.

EXPLANATORY NOTES

68.14 - Worked mica and articles of mica, including agglomerated or reconstituted mica, whether or not on a support of paper, paperboard or other materials.

6814.10 - Plates, sheets and strips of agglomerated or reconstituted mica, whether or not on a support

6814.90 - Other

This heading covers natural mica, further worked than merely rifted and trimmed (e.g., cut to shape), and also products consisting of agglomerated (bonded) mica or pulped (reconstituted) mica, and articles made from any of these materials.

Thin sheets and splittings obtained by merely rifting and trimming mica books as mined fall in **heading 25.25**.

The heading covers products obtained by cutting such sheets and splittings. Since they are obtained with a die-punch, their edges are clean cut.

Natural mica is often used as such in the form of sheets or splittings. However, since the small size of the crystals and their poor flexibility, high cost, etc., render natural mica unsuitable for many uses, it is frequently replaced by agglomerated (built-up) mica (e.g., micanite, micafolium), which is obtained by bonding mica splittings one above the other or side by side using shellac, natural resins, plastics, asphalt, etc. Agglomerated mica is made in sheet, plate or strip form, in all thicknesses, often with a fairly large surface area; the sheets, etc., are generally backed on one or (usually) both surfaces with textile fabric, glass fibre fabric, paper or asbestos.

Thin sheets of mica may also be obtained, without employing a binding agent, by submitting powdered and pulped mica waste to a thermal, chemical and mechanical process similar to that used for making paper (reconstituted mica).

These thin sheets are then mounted on to a paper or textile backing using a flexible bonding material; alternatively, they may be used for the manufacture of plates and strip of specified thicknesses by superimposing several thin sheets and bonding them with an organic binder.

The heading covers sheets, strips and rolls in the length; pieces cut to shape for special uses in the form of rectangles (including squares), discs, etc.; moulded articles such as tubes, conduits, etc. All these goods may be coloured in the mass, painted, drilled, milled or otherwise worked.

Owing to its high resistance to heat and its relative translucency, mica is used, *inter alia*, for the manufacture of windows for ovens, stoves, furnaces, etc., of unbreakable lamp “glasses”, and of “glasses” for goggles, etc. But mica is mainly used in the electrical industry because of its excellent dielectric properties (in the manufacture of motors, generators, transformers, capacitors, resistors, etc.). It should, however, be noted that mica insulators and other mica insulating parts of electrical apparatus, even unmounted, fall in **headings 85.46 to 85.48**, and that mica dielectric condensers (capacitors) fall in **heading 85.32**.

This heading further **excludes** :

(a) Powdered mica and mica waste (**heading 25.25**).

(b) Paper or paperboard coated with mica powder (**heading 48.10**, or **48.14**), and woven fabrics coated with mica powder (**heading 59.07**). These products should not be confused with agglomerated or reconstituted mica as described above.

(c) Expanded vermiculite (**heading 68.06**) (see relative Explanatory Note).

(d) Mica goggles and eyepieces therefor (**heading 90.04**).

(e) Mica in the form of Christmas tree decorations (**heading 95.05**).

6814.10

- Plates, sheets and strips of agglomerated or reconstituted mica, whether or not on a support

6814.90

- Other

Heading 6815

Articles of stone or of other mineral substances (including carbon fibres, articles of carbon fibres and articles of peat), not elsewhere specified or included.

EXPLANATORY NOTES

68.15 - Articles of stone or of other mineral substances (including carbon fibres, articles of carbon fibres and articles of peat), not elsewhere specified or included.

- Carbon fibres; articles of carbon fibres for non-electrical uses; other articles of graphite or other carbon for non-electrical uses :

6815.11 - - Carbon fibres

6815.12 - - Fabrics of carbon fibres

6815.13 - - Other articles of carbon fibres

6815.19 - - Other

6815.20 - Articles of peat

- Other articles :

6815.91 - - Containing magnesite, magnesia in the form of periclase, dolomite including in the form of dolime, or chromite

6815.99 - - Other

This heading covers articles of stone or of other mineral substances, **not covered** by the earlier headings of this Chapter and **not included** elsewhere in the Nomenclature; it therefore **excludes**, for example, ceramic products of **Chapter 69**.

The heading covers, *inter alia* :

(1) Non-electrical articles of natural or artificial graphite (including nuclear grade), or other carbons for example : filters; discs; bearings; tubes and sheaths; worked bricks and tiles; moulds for the manufacture of small articles of delicate design (e.g., coins, medals, lead soldiers for collections).

(2) Carbon fibres and articles of carbon fibres. Carbon fibres are commonly produced by carbonising organic polymers in filamentary forms. The products are used, for example, for reinforcement.

(3) Articles made of peat (for example, sheets, cylinder shells, pots for raising plants). Textile articles of peat fibre are, however, **excluded** (**Section XI**).

(4) **Unfired** bricks made of dolomite agglomerated with tar.

(5) Bricks and other shapes (in particular magnesite or chrome-magnesite products), chemically bonded **but not yet fired**. These articles are fired during the first heating of the furnace in which they are installed. Similar products presented after firing are **excluded** (**heading 69.02** or **69.03**).

(6) **Unfired** silica or alumina vats (e.g., as used for melting glass).

(7) Touchstones for testing precious metal; these may be of natural stone (e.g., lydite, a hard, fine-grained dark stone resistant to acids).

(8) Paving blocks and slabs obtained by moulding fused slag without a binder, but **excluding** those having the character of heat-insulating goods of **heading 68.06**.

(9) Filter tubes of finely crushed and agglomerated quartz or flint.

(10) Blocks, slabs, sheets and other articles of fused basalt; these are used, because of their great resistance to wear, as linings for pipes, belt-conveyors, chutes for coke, coal, ores, gravel, stone, etc.

The heading also **excludes** :

(a) Blocks, plates and similar semi-manufactures of artificial graphite or of “other carbon”, mainly used for cutting into electrical brushes (**heading 38.01**) (see corresponding Explanatory Note).

(b) Refractory goods, fired as ceramics, with a basis of carbonaceous substances (graphite, coke, etc.) and coal tar pitch or clay (**heading 69.02** or **69.03**, as the case may be).

(c) Carbons, brushes, electrodes and other parts or articles for electrical uses (**heading 85.45**).

6815.1

- Carbon fibres; articles of carbon fibres for non-electrical uses; other articles of graphite or other carbon for non-electrical uses :

6815.11

-- Carbon fibres

6815.12

-- Fabrics of carbon fibres

6815.13

-- Other articles of carbon fibres

6815.19

-- Other

6815.20

- Articles of peat

6815.9

- Other articles :

6815.91

-- Containing magnesite, magnesia in the form of periclase, dolomite including in the form of dolime, or chromite

CLASSIFICATION OPINIONS

1. Magnesium carbon bricks composed of sintered magnesium oxide, carbon (typically natural graphite), anti-oxidants (typically elemental aluminium, silicon or magnesium) and a resin. Once shaped, these bricks are heated to temperatures as high as 500 °C. During the heating process the resin is cured and then carbonized with the resulting loss of volatile components.
Application of GIRs 1 and 6.
Adoption : 1996

6815.99

-- Other

CLASSIFICATION OPINIONS

1. Ferrite flex (or cord) in the length (outer diameter : 2 mm), put up in rolls and consisting of a tube of ferrite powder (22 % by weight) bound with PVC (64 %) and a core of jute yarn (14 %); used for making anti-interference electric cable.
Adoption : 1968

Chapter 69

Ceramic products

LEGAL NOTES

Notes.

1.- This Chapter applies only to ceramic products which have been fired after shaping :

(a) Headings 69.04 to 69.14 apply only to such products other than those classifiable in headings 69.01 to 69.03;

(b) Articles heated to temperatures less than 800 °C for purposes such as curing of resins, accelerating hydration reactions, or for the removal of water or other volatile components, are not considered to be fired. Such articles are excluded from Chapter 69; and

(c) Ceramic articles are obtained by firing inorganic, non-metallic materials which have been prepared and shaped previously at, in general, room temperature. Raw materials comprise, inter alia, clays, siliceous materials including fused silica, materials with a high melting point, such as oxides, carbides, nitrides, graphite or other carbon, and in some cases binders such as refractory clays or phosphates.

2.- This Chapter does not cover :

(a) Products of heading 28.44;

(b) Articles of heading 68.04;

(c) Articles of Chapter 71 (for example, imitation jewellery);

(d) Cermets of heading 81.13;

(e) Articles of Chapter 82;

(f) Electrical insulators (heading 85.46) or fittings of insulating material of heading 85.47;

(g) Artificial teeth (heading 90.21);

(h) Articles of Chapter 91 (for example, clocks and clock cases);

(ij) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings, prefabricated buildings);

(k) Articles of Chapter 95 (for example, toys, games and sports requisites);

(l) Articles of heading 96.06 (for example, buttons) or of heading 96.14 (for example, smoking pipes); or

(m) Articles of Chapter 97 (for example, works of art).

EXPLANATORY NOTES

Chapter 69

Ceramic products

Notes.

1.- This Chapter applies only to ceramic products which have been fired after shaping :

(a) Headings 69.04 to 69.14 apply only to such products other than those classifiable in headings 69.01 to 69.03;

(b) Articles heated to temperatures less than 800 °C for purposes such as curing of resins, accelerating hydration reactions, or for the removal of water or other volatile components, are not considered to be fired. Such articles are excluded from Chapter 69; and

(c) Ceramic articles are obtained by firing inorganic, non-metallic materials which have been prepared and shaped previously at, in general, room temperature. Raw materials comprise, inter alia, clays, siliceous materials including fused silica, materials with a high melting point, such as oxides, carbides, nitrides, graphite or other carbon, and in some cases binders such as refractory clays or phosphates.

2.- This Chapter does not cover :

(a) Products of heading 28.44;

(b) Articles of heading 68.04;

(c) Articles of Chapter 71 (for example, imitation jewellery);

(d) Cermets of heading 81.13;

(e) Articles of Chapter 82;

(f) Electrical insulators (heading 85.46) or fittings of insulating material of heading 85.47;

(g) Artificial teeth (heading 90.21);

(h) Articles of Chapter 91 (for example, clocks and clock cases);

(ij) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings, prefabricated buildings);

(k) Articles of Chapter 95 (for example, toys, games and sports requisites);

(l) Articles of heading 96.06 (for example, buttons) or of heading 96.14 (for example, smoking pipes); or

(m) Articles of Chapter 97 (for example, works of art).

GENERAL

The term “ceramic products” applies to products obtained :

(A) By firing inorganic, non-metallic materials which have been prepared and shaped previously at, in general, room temperature. Raw materials comprise, inter alia, clays, siliceous materials including fused silica, materials with a high melting point, such as oxides, carbides, nitrides, graphite or other carbon, and in some cases binders such as refractory clays or phosphates.

(B) From rock (e.g., steatite), fired after shaping.

The manufacturing process of the ceramic products referred to in paragraph (A) above (whatever their constituent material) comprises the following main stages :

(i) **Preparation of the paste** (**or body**).

In some cases (e.g., manufacture of sintered alumina articles) the constituent material is used directly in powder form with the addition of a small amount of lubricant. In most cases, however, it is first made into a paste. This involves measuring and mixing the various constituents and, where necessary, milling, sieving, filter-pressing, kneading, maturing and de-airing. Some refractory products are also made from a blend of graded aggregate and fines, along with a small amount of liquid binder, which may be aqueous (e.g., tar, resin materials, phosphoric acid, lignin liquor).

(ii) **Shaping.**

The prepared powder or paste is then shaped as nearly as possible to the desired form.

This is done by extrusion (through an extrusion die), pressing, moulding, casting or hand-shaping, followed in some cases by some degree of machining.

(iii) **Drying** the resulting articles.

(iv) **Firing**.

In this operation, the “green ware” is heated to a temperature of 800 °C or higher according to the nature of the product. After firing, the grains are closely bound together as a result of diffusion, chemical transformation or partial fusion.

Articles heated to temperatures less than 800 °C for purposes such as curing of resins, accelerating hydration reactions, or for the removal of water or other volatile components, are **not considered to be fired** for the purposes of Chapter Note 1. Such articles are **excluded** from **Chapter 69**.

(v) **Finishing**.

The finishing processes depend on the intended use of the ceramic product. Sometimes machine finishing to a high degree of precision is necessary. Finishing may also include marking, metallising or impregnation.

Ceramic products are also very often coloured (either in the body or superficially), decorated or glazed by using, as appropriate, specially prepared colours or opacifiers, vitrifiable enamels or glazes, slips, lustres, etc.

Firing, after shaping, is the essential distinction between the goods of this Chapter and the mineral or stone articles classified in Chapter 68 which are generally not fired, and the glass articles of Chapter 70 in which the vitrifiable compound has undergone complete fusion.

According to the composition and the firing process adopted, the following products are obtained :

I. Goods of siliceous fossil meals or of similar siliceous earths and refractory goods of sub-Chapter I (headings 69.01 to 69.03).

II. Other ceramic products, consisting essentially of common pottery, stoneware, earthenware, porcelain or china, etc. constituting sub-Chapter II (headings 69.04 to 69.14).

This Chapter **excludes** :

(a) Broken pottery and broken pieces of brick (**heading 25.30**).

(b) Products of **heading 28.44**.

(c) Blocks, plates, bars and similar semi-manufactures of graphite or of other carbon, or metallo-graphitic or other grades, used, e.g., for cutting into electrical brushes (**heading 38.01**) (see corresponding Explanatory Note).

(d) Unmounted cut elements of piezo-electric ceramic materials, e.g., of barium titanate or of lead zirconate titanate (**heading 38.24**).

(e) Articles of **heading 68.04**.

(f) Glass-ceramic products (**Chapter 70**).

(g) Sintered mixtures of base metal **powders** and heterogeneous intimate base metal mixtures obtained by melting (**Section XV**).

(h) Cermets of **heading 81.13**.

(ij) Plates, sticks, tips and the like for tools, unmounted, of cermets (**heading 82.09**) and other articles of **Chapter 82**.

Heading 6901

Bricks, blocks, tiles and other ceramic goods of siliceous fossil meals (for example, kieselguhr, tripolite or diatomite) or of similar siliceous earths.

EXPLANATORY NOTES

Sub-chapter I

GOODS OF SILICEOUS FOSSIL MEALS OR OF SIMILAR SILICEOUS EARTHS, AND REFRACTORY GOODS

GENERAL

This sub-Chapter covers, whether or not they contain clay :

(A) **In heading 69.01 ceramic goods** obtained by the firing after shaping of siliceous fossil meals or similar siliceous earths such as kieselguhr, tripolite or diatomite (mostly falling in heading 25.12), or of silica obtained by the incineration of certain vegetable products (e.g., rice boll ash). These materials are usually mixed with binders (such as clay or magnesia) and sometimes with other substances (e.g., asbestos, hair, sawdust, coal dust).

These articles are usually very light weight, and their porous structure makes them excellent heat-insulators for use in building, for the lagging of gas and steam piping. Some of these goods are also used as refractory products in the construction of ovens, industrial furnaces, steam generating boilers or other industrial plant and for other applications where lightness of the material, low thermal conductivity, as well as heat resistance, are desired. Others are used as heat-insulators for working temperatures of less than 1,000 °C.

(B) **In headings 69.02 and 69.03 refractory goods**, i.e., fired articles having the special property of resisting high temperatures as met in metallurgy, the glass industry, etc. (e.g., of the order of 1,500 °C and higher). According to the particular uses for which they are intended, refractory articles may also need to withstand rapid changes of temperature, be either good thermal insulators or conductors, have a low coefficient of thermal expansion, be porous or dense, resist the corrosive effects of products with which they come into contact, have a good mechanical strength and resistance to wear, etc.

However, to fall in heading 69.02 or 69.03 as refractory goods, articles must not only be **capable** of resisting high temperatures, they must also be **designed** for high temperature work. Heading 69.03 would therefore include crucibles of sintered alumina, but textile machine thread guides of the same material would fall in heading 69.09 since they are designed for clearly non-refractory uses.

The main types of refractory goods are :

(1) High alumina refractories based either upon bauxite, mullite or corundum (sometimes mixed with clays) or on kyanite, sillimanite or andalusite (aluminium silicates) mixed with clays, or on sintered alumina.

(2) Alumino-silicate refractories (e.g., based upon fire-clay with some chamotte or grog).

(3) Silica and semi-silica refractories (based upon sand, crushed quartz, flint, etc., and bonded with clay or lime).

(4) Magnesite refractories based upon magnesite (giobertite), sea-water magnesia or dolomite; refractories based upon chromite or chromium oxide; chrome-magnesite refractories.

(5) Refractories based upon silicon carbide.

(6) Zirconium oxide or zirconium silicate refractories, usually agglomerated with clay; refractories based upon beryllium oxide, thorium oxide, cerium oxide, etc.

(7) Refractories based upon graphite or other carbon, usually agglomerated with pitch, tar or clay. (Articles of graphite or other carbon of a kind used for electrical purposes fall in **heading 85.45**.)

(8) Refractories based upon other materials, e.g., silicon nitride, boron nitride, aluminium titanate and related compounds.

Refractory materials are used mainly to line blast furnaces, coke ovens, petroleum cracking plants, glass, ceramic and other industrial furnaces, and in the manufacture of pots, crucibles and other plant for the chemical, glass, cement and aluminium and other metallurgical industries.

But headings 69.02 and 69.03 **do not cover** articles which, though sometimes described as refractory or semi-refractory, are incapable of withstanding industrial temperatures of the type described above. Such articles fall in the appropriate heading of sub-Chapter II.

69.01 - Bricks, blocks, tiles and other ceramic goods of siliceous fossil meals (for example, kieselguhr, tripolite or diatomite) or of similar siliceous earths.

This heading covers all articles made of the materials listed in the heading text, whatever their shape (e.g., bricks, blocks, slabs, panels, tiles, hollow bricks, cylinder shells, pipes), whether or not refractory.

The heading **excludes** :

(a) Light non-refractory bricks not containing siliceous fossil meals or similar siliceous earths (e.g., those made from bodies containing chopped straw, sawdust, peat fibre, etc., the organic matter having been burnt away during the firing process to leave a porous structure) (**heading 69.04**).

(b) Filter plates made from a body containing kieselguhr and quartz (**heading 69.09**).

6901.00

Bricks, blocks, tiles and other ceramic goods of siliceous fossil meals (for example, kieselguhr, tripolite or diatomite) or of similar siliceous earths.

Heading 6902

Refractory bricks, blocks, tiles and similar refractory ceramic constructional goods, other than those of siliceous fossil meals or similar siliceous earths.

EXPLANATORY NOTES

69.02 - Refractory bricks, blocks, tiles and similar refractory ceramic constructional goods, other than those of siliceous fossil meals or similar siliceous earths (+).

6902.10 - Containing by weight, singly or together, more than 50 % of the elements Mg, Ca or Cr, or expressed as MgO, CaO or Cr_2O_3

6902.20 - Containing by weight more than 50 % of alumina (Al_2O_3), of silica (SiO_2) or of a mixture or compound of these products

6902.90 - Other

This heading covers a group of refractory products (**other than** those of **heading 69.01**) normally used in the construction of ovens, kilns, furnaces or other plant for the metallurgical, chemical, ceramic, glass and other industries.

It includes, *inter alia* :

(1) Bricks of all shapes (parallelepiped, wedge shaped, cylindrical, semi-cylindrical, etc.), including keystones and other specially shaped bricks (e.g., runner bricks, concave on one face and rectilinear on the others) even if they are clearly recognisable as being of the kind specially designed for the construction of plant or machinery of Section XVI.

(2) Refractory blocks and tiles for flooring, walls, hearths, etc.

The heading **excludes** tubing, piping (including runways in the form of half-cylinders) and angles, bends and similar tube or pipe fittings of refractory materials (**heading 69.03**).

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Subheading Explanatory Note.

Subheading 6902.10

What has to be determined for the purposes of this subheading is the content of MgO, CaO or Cr_2O_3. This is normally done by determining the contents of the elements present (i.e., Mg, Ca or Cr) and from these amounts the equivalent concentrations in terms of their oxides can be calculated. For example, 40 % Ca is equivalent to 56 % CaO and 24 % Mg is equivalent to 40 % MgO. Thus, a product based on calcium silicate containing 40 % Ca (equivalent to 56 % CaO) would be classified in this subheading.

6902.10

- Containing by weight, singly or together, more than 50 % of the elements Mg, Ca or Cr, expressed as MgO, CaO or Cr2O3

6902.20

- Containing by weight more than 50 % of alumina (Al2O3), of silica (SiO2) or of a mixture or compound of these products

6902.90

- Other

Heading 6903

Other refractory ceramic goods (for example, retorts, crucibles, muffles, nozzles, plugs, supports, cupels, tubes, pipes, sheaths, rods and slide gates), other than those of siliceous fossil meals or of similar siliceous earths.

EXPLANATORY NOTES

69.03 - Other refractory ceramic goods (for example, retorts, crucibles, muffles, nozzles, plugs, supports, cupels, tubes, pipes, sheaths, rods and slide gates), other than those of siliceous fossil meals or of similar siliceous earths (+).

6903.10 - Containing by weight more than 50 % of free carbon

6903.20 - Containing by weight more than 50 % of alumina (Al_2O_3) or of a mixture or compound of alumina and of silica (SiO_2)

6903.90 - Other

This heading covers all refractory goods **not** specified or included in the preceding headings.

These articles include :

(1) Articles which, unlike the refractory products of **heading 69.02**, are in many cases not permanent fixtures, such as retorts, reaction vessels, crucibles, cupels and similar articles for industrial or laboratory use, muffles, nozzles, plugs, burner jets and similar parts of furnaces; saggars, stands and other kiln furniture to support or separate pottery during firing; sheaths and rods; stands for crucibles; ingot moulds; slide gates, rollers, blanks, forming tools, and pots; etc.

(2) Tubing, piping (including runways in the form of half-cylinders) and angles, bends and similar tube or pipe fittings, even if intended for use as permanent fixtures in construction work.

The heading **does not**, however, **include** Seger cones (ceramic firing testers) (see Explanatory Note to **heading 38.24**); these are **not fired after shaping.**

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Subheading Explanatory Note.

Subheading 6903.10

For the purpose of this subheading the term “free carbon” applies to carbon species such as graphite, amorphous carbon (carbon black) and organic carbon (pitch, tar or resin).

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6903.10

- Containing by weight more than 50 % of free carbon

6903.20

- Containing by weight more than 50 % of alumina (Al2O3) or of a mixture or compound of alumina and of silica (SiO2)

CLASSIFICATION OPINIONS

1. Chemically produced "ceramic" oxide fibres (consisting mainly of alumina) produced by extruding and subsequently firing a solution of minerals and a small amount of organic binder (sol process).
Adoption : 1987

6903.90

- Other

CLASSIFICATION OPINIONS

1. Chemically produced "ceramic" zirconium oxide fibres obtained by the pyrolysis and subsequent firing of fibres consisting of a zirconium salt solution supported by a precursor (any organic fibre), this latter being completely destroyed in the process (precursor process).
Adoption : 1987

Heading 6904

Ceramic building bricks, flooring blocks, support or filler tiles and the like.

EXPLANATORY NOTES

Sub-chapter II

OTHER CERAMIC PRODUCTS

GENERAL

This sub-Chapter covers ceramic articles **other than** those of siliceous fossil meals or of similar siliceous earths and refractory goods of sub-Chapter I.

For the purpose of the Nomenclature, these articles are classified according to kind (bricks, tiles, sanitary ware, etc.), and classification is not affected by the nature of the ceramics used in their manufacture, **except** in the case of tableware, kitchenware, other household articles and toilet articles, classified in heading 69.11 when of porcelain or china and in heading 69.12 if of other kinds of ceramics.

(I) PORCELAIN OR CHINA

Porcelain or china means hard porcelain, soft porcelain, biscuit porcelain (including parian) and bone china. All these ceramics are almost completely vitrified, hard, and are essentially impermeable (even if they are not glazed). They are white or artificially coloured, translucent (except when of considerable thickness), and resonant.

Hard porcelain is made from a body composed of kaolin (or kaolinic clays), quartz, feldspar (or feldspathoïds), and sometimes calcium carbonate. It is covered with a colourless transparent glaze fired at the same time as the body and thus fused together.

Soft porcelain contains less alumina but more silica and fluxes (e.g., feldspar). Bone china, which contains less alumina, contains calcium phosphate (e.g., in the form of bone ash); a translucent body is thus obtained at a lower firing temperature than with hard porcelain. The glaze is normally applied by further firing at a lower temperature, thus permitting a greater range of underglaze decoration.

Biscuit porcelain is unglazed porcelain, of which parian-ware (sometimes called Carrara porcelain) is a special, fine-grained, yellowish type containing more feldspar, and often resembling Paros marble in appearance, hence its name.

(II) OTHER CERAMIC PRODUCTS

Ceramic products other than of porcelain or china include :

(A) Ceramics with a porous body which, unlike porcelain, are opaque, permeable to liquids, easily scratched with iron and whose fracture sticks to the tongue. Such ceramics include :

(1) Pottery made from common ferrugineous and calcareous clay (brick earth). It has a dull earthy texture and its colour is generally brown, red or yellow.

(2) A wide range of white or coloured ceramics (earthenware, majolica, delft-ware, etc.). The body is porous and must be glazed to make the articles impermeable (e.g., with transparent or opaque glazes such as white or coloured metallic oxides). Earthenware, etc., is made from finely sieved clays mixed with water. It has a fine-grained body obtained by firing to a higher temperature than in the case of pottery made from common clay; it differs from porcelain or china because it is not completely vitrified.

(B) Stoneware which, though dense and hard enough to resist scratching by a steel point, differs from porcelain because it is opaque and normally only partially vitrified. Stoneware may be a vitreous (impermeable) or semi-vitreous ware. It is usually grey or brownish because of impurities contained in the clay used for its manufacture, and is normally glazed.

(C) Certain so-called “semi-porcelains” or “imitation porcelains”, sometimes prepared, decorated and glazed to give the commercial appearance of porcelain. Without being really opaque like earthenware, or truly translucent like porcelain, these products may be slightly translucent in the thinner parts such as the bottoms of cups. These materials can, however, be distinguished from real porcelain because their fracture is rough-grained, dull and non-vitrified. They are therefore porous beneath the glaze and the fracture clings to the tongue. Further, they are easily scratched with a steel knife, though it should be noted that certain soft chinas may also be scratched by steel. Products of these imitation “porcelains” **are not** considered as porcelain or china.

The sub-Chapter also includes certain goods made by shaping and firing powdered steatite, etc., generally mixed with clay (e.g., kaolins), feldspar, etc., but it should be noted that many articles of these materials are designed for electrical purposes and are therefore classified in **Chapter 85**. This sub-Chapter also covers articles made by firing steatite shaped by sawing.

Certain ceramic articles made of refractory materials (e.g., sintered alumina) may also fall in sub-Chapter II if **not** of a type designed for use as refractory goods (see Explanatory Note to heading 69.09).

69.04 - Ceramic building bricks, flooring blocks, support or filler tiles and the like.

6904.10 - Building bricks

6904.90 - Other

This heading covers non-refractory ceramic bricks (i.e., bricks unable to withstand temperatures of 1,500 °C or higher) of the kinds commonly used for building walls, houses, industrial chimney-stacks, etc. Such bricks remain in the heading even if they can also be used for other purposes (e.g., vitrified bricks which can be used for paving or bridge piling, as well as for the construction of buildings).

Bricks are usually relatively porous (common pottery), but some are more or less vitrified (stoneware or engineering bricks) and are then used in constructional work calling for great mechanical strength or resistance to acids (e.g., in chemical plant).

The heading includes :

(1) Ordinary solid bricks of rectangular shape, with flat or indented surfaces.

(2) Curved bricks, sometimes perforated, for industrial chimney-stacks.

(3) Hollow bricks, perforated bricks; long hollow flooring blocks and constructional slabs used particularly for flooring, ceilings, etc., in combination with structural steelwork, and support or filler tiles (i.e., ceramic fittings designed to support the blocks while encasing the girders).

(4) Facing bricks (e.g., for facing houses or walls, the surrounds of doors or windows, including special bricks for column capitals, borders, friezes or other architectural decoration).

So-called “double” bricks specially perforated lengthwise, ready for splitting before use, remain in this heading **provided** that they retain the character of building bricks after separation.

All these bricks, especially those intended for facing, may be polished, sand-faced (by fusing sand on to the surface during firing), covered with a thin layer of white or coloured slip which hides the colour of the body, smoked or flamed, coloured in the body or on the surface (by adding metallic oxides, by using ferruginous clay, or by heating in a reducing atmosphere with hydrocarbons or carbon), impregnated with tar, or glazed, etc. They may also have moulded, embossed or indented designs on one or two faces.

The heading also includes light bricks made from mixtures containing sawdust, peat fibres, chopped straw, etc., which are burned away during firing, leaving a very porous structure.

The heading **does not cover** :

(a) Bricks of kieselguhr, etc. (**heading 69.01**) and refractory bricks (**heading 69.02**).

(b) Flags and paving, hearth or wall tiles (see the Explanatory Note to **heading 69.07**).

6904.10

- Building bricks

6904.90

- Other

Heading 6905

Roofing tiles, chimney-pots, cowls, chimney liners, architectural ornaments and other ceramic constructional goods.

EXPLANATORY NOTES

69.05 - Roofing tiles, chimney-pots, cowls, chimney liners, architectural ornaments and other ceramic constructional goods.

6905.10 - Roofing tiles

6905.90 - Other

This heading covers a range of non-refractory goods, usually of common pottery but sometimes more or less vitrified, which, like bricks, are used in constructional or building work.

It includes :

(1) Roofing tiles (for roofs, for topping walls, etc.). These are usually provided with nibs, holed for nailing, or may be moulded to interlock, and in this respect differ from the tiles of **heading 69.07**. They may be flat, half cylinders or of special shapes for eaves, ridges, hips or valleys, etc.

(2) Chimney-pots, cowls, chimney liners, flue-blocks, etc.

(3) Architectural ornaments for use on buildings, walls, gates, etc. (e.g., cornices and friezes); gargoyles; pediments, rosettes, balustrades, corbels, capitals; gable-end, eave, ridging and roof ornaments, etc.

(4) Other ceramic constructional goods, e.g., ventilator grills; clay-lath used as support for plaster-work and formed of wire mesh with fired clay crosses or plates at the intersections, the fired clay forming the major constituent.

These articles fall in this heading whether plain, sand-faced, covered with slip, coloured in the mass, impregnated with other substances, glazed, ribbed, channelled, fluted or otherwise decorated by moulding.

The heading **excludes**, *inter alia*, pipes and guttering and the like, such as rain-water drain-pipes (**heading 69.06**), even if used for constructional purposes.

6905.10

- Roofing tiles

6905.90

- Other

Heading 6906

Ceramic pipes, conduits, guttering and pipe fittings.

EXPLANATORY NOTES

69.06 - Ceramic pipes, conduits, guttering and pipe fittings.

This heading applies to non-refractory piping, etc., designed, as a general rule, to interlock and to be used for draining or for the distribution of fluids. They may be of any shape or section (straight, curved, branched, of constant or varying diameter, etc.), and may be glazed.

The heading includes :

(1) Agricultural or horticultural drainage pipes, of porous common pottery, fired at only a low temperature and roughly finished.

(2) Other pipes, conduits and guttering (e.g., rain-water drain-pipes, sewer pipes, conduit tubing to protect electric cables but **not** designed to act as insulators, half tubes in the form of gutters or runways, wall drainage tubes).

These pipes, etc., may be of unglazed common pottery, but are often rendered impermeable by glazing or by vitrification (e.g., chemical piping).

(3) Pipe fittings for connecting or branching (collars, flanges, elbows, T-pieces, clean out traps, etc.).

The heading **does not cover** :

(a) Tubular chimney-parts (e.g., chimney-pots, cowls, chimney liners and flue-blocks) (**heading 69.05**).

(b) Small tubes and tubing (e.g., combustion tubes), usually of porcelain or china, specially designed for laboratories (**heading 69.09**).

(c) Insulating electric conduit tubing and joints, and all tubular fittings designed for electrical uses (**headings 85.46** and **85.47** in particular).

6906.00

Ceramic pipes, conduits, guttering and pipe fittings.

Heading 6907

Ceramic flags and paving, hearth or wall tiles; ceramic mosaic cubes and the like, whether or not on a backing; finishing ceramics.

EXPLANATORY NOTES

69.07 - Ceramic flags and paving, hearth or wall tiles; ceramic mosaic cubes and the like, whether or not on a backing; finishing ceramics (+).

- Flags and paving, hearth or wall tiles, other than those of subheadings 6907.30 and 6907.40 :

6907.21 - - Of a water absorption coefficient by weight not exceeding 0.5 %

6907.22 - - Of a water absorption coefficient by weight exceeding 0.5 % but not exceeding 10 %

6907.23 - - Of a water absorption coefficient by weight exceeding 10 %

6907.30 - Mosaic cubes and the like, other than those of subheading 6907.40

6907.40 - Finishing ceramics

This heading covers ceramic flags and tiles, including quarry tiles, commonly used for paving or for facing walls, hearths, etc.

Flags and paving, hearth or wall tiles are thinner in relation to their surface dimensions than are building bricks. Whereas bricks play an essential part in constructional work, forming the very framework of the building, flags and tiles are more especially intended for fixing by cement, adhesive or by other means to the surface of existing walls, etc. They also differ from roofing tiles in that they are usually flat and do not need to be pierced or provided with nibs or otherwise shaped for interlocking and that they are designed to be placed side by side without overlapping. Flags are larger than tiles and are usually rectangular; tiles may be of other geometric shapes (hexagonal, octagonal, etc.). Tiles are mainly used for facing walls, mantelpieces, hearths, floors and paths; flags are more especially used for paving or flooring, or as hearth slabs. Both categories may be made from clays or other inorganic raw materials, usually shaped by extruding or pressing at room temperature, but can be formed by other processes, then dried and subsequently fired at temperatures sufficient to develop the required properties. However types which have to withstand heavy wear are often vitrified, for example, tiles of stoneware, or porcelain (china) or of fired steatite (e.g., tiles for lining grinding mills, etc.).

The wear resistance and the vitrification rate vary depending on the structure of tile. These structural features are characterized by the absorption capacity of water. A high water absorption level corresponds to a porous structure. A low water absorption level corresponds to a compact (vitrified) structure.

The porosity factor or water absorption coefficient (symbol E) is defined as the percentage of water by mass after saturating the dry sample product (tile) in water.

The determination of the level of water absorption is based on the vacuum method set out in ISO standard 10545-3.

The formula for calculating the water absorption is given by the following equation :

$E = \{(M_f - M_i) / M_i\} x\ 100$ where :

E = Water absorption expressed as a percentage

M_i = The dry mass of the specimen

M_f = The saturated mass of the specimen

Certain ceramic tiles are used solely for paving; unlike bricks, they are usually cubic or in the form of truncated pyramids. In practice, they are normally of stoneware or, exceptionally, of porcelain or china (e.g., flags for pedestrian crossings).

The classification of goods in this heading is therefore determined by their shape and size, rather than by their composition; thus bricks suitable for use both in building and for paving are **excluded** (**heading 69.04**).

Goods of this heading may be coloured in the mass, marbled, ribbed, channelled, fluted, glazed, etc.

Subject to the above conditions, the heading also includes :

(1) Finishing ceramics such as bordering, capping, skirting, frieze, angle, corner or other fitting tile pieces employed as complementary elements for finishing off the facing, paving, etc., work, with or without rounded edges, non flat or 3-dimensional, which give them the character of finishing pieces; that would be the case, in particular, for bordering, skirting, frieze, corner pieces, decorative inserts and other ceramic accessories. In these cases, these pieces need to match with the other basic tiles, so their proper surface usually has the same shade or finish of the normal tiles. They are generally sold by piece or by linear metre.

(2) Double tiles intended for splitting before use.

(3) Terracotta cladding elements used in the building industry for exterior or interior cladding purposes, of various dimensions, with a modular structure, which are attached by, e.g., metal clips to vertical or horizontal metal profiles secured to the walls of the main structure.

(4) Mosaic cubes and the like, whether or not on a paper or other backing, characterized by their small sizes.

On the other hand, this heading **excludes** :

(a) Tiles specially adapted as table mats, etc. (**heading 69.11** or **69.12**).

(b) Ornaments and the like of **heading 69.13**.

(c) Ceramic tiles specially adapted for stoves (**heading 69.14**).

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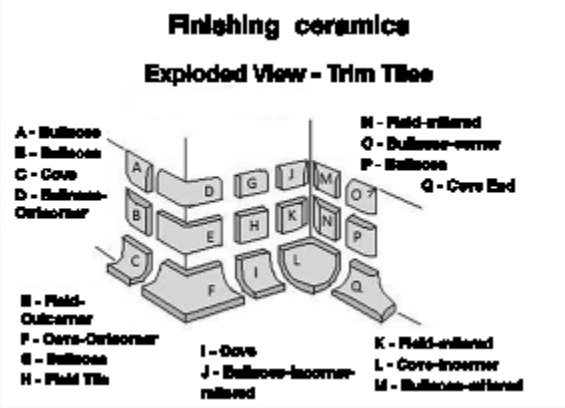
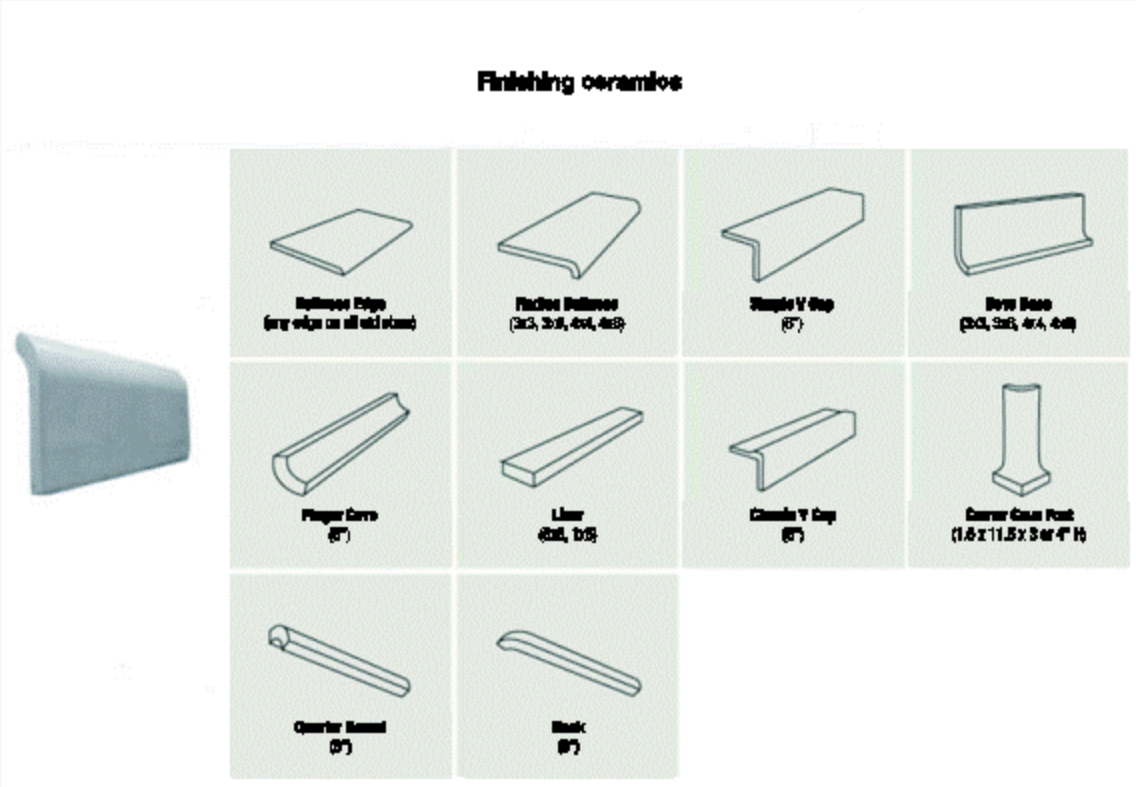
Subheading Explanatory Note.

Subheading 6907.40

Pictures of some of the types of finishing ceramics which are covered by this subheading are reproduced below.





6907.2

- Flags and paving, hearth or wall tiles, other than those of subheadings 6907.30 and 6907.40 :

6907.21

-- Of a water absorption coefficient by weight not exceeding 0.5 %

CLASSIFICATION OPINIONS

1. **Terracotta cladding elements** used for exterior or interior cladding purposes. These elements are of various sizes, ranging from 200 to 245 mm in width, 592 to 1520 mm in length and 15 to 40 mm in thickness. Their structure is modular, and they are available in several colours and with different textures (smoothed, sand-faced, striated, etc.). They are attached by means of special corrosion-resistant metal clips to vertical or horizontal metal profiles secured to the main structure, on which insulation can be positioned. Classification at the subheading level depends upon the water absorption coefficient.

Application of GIRs 1 and 6.
Adoption : 2013



6907.22

-- Of a water absorption coefficient by weight exceeding 0.5 % but not exceeding 10 %

CLASSIFICATION OPINIONS

1. Terracotta cladding elements used for exterior or interior cladding purposes. These elements are of various sizes, ranging from 200 to 245 mm in width, 592 to 1520 mm in length and 15 to 40 mm in thickness. Their structure is modular, and they are available in several colours and with different textures (smoothed, sand-faced, striated, etc.). They are attached by means of special corrosion-resistant metal clips to vertical or horizontal metal profiles secured to the main structure, on which insulation can be positioned. Classification at the subheading level depends upon the water absorption coefficient.
Application of GIRs 1 and 6.
Adoption : 2013



6907.23

-- Of a water absorption coefficient by weight exceeding 10 %

CLASSIFICATION OPINIONS

1. Terracotta cladding elements used for exterior or interior cladding purposes. These elements are of various sizes, ranging from 200 to 245 mm in width, 592 to 1520 mm in length and 15 to 40 mm in thickness. Their structure is modular, and they are available in several colours and with different textures (smoothed, sand-faced, striated, etc.). They are attached by means of special corrosion-resistant metal clips to vertical or horizontal metal profiles secured to the main structure, on which insulation can be positioned. Classification at the subheading level depends upon the water absorption coefficient.
Application of GIRs 1 and 6.
Adoption : 2013



6907.30

- Mosaic cubes and the like, other than those of subheading 6907.40

6907.40

- Finishing ceramics

Heading 6909

Ceramic wares for laboratory, chemical or other technical uses; ceramic troughs, tubs and similar receptacles of a kind used in agriculture; ceramic pots, jars and similar articles of a kind used for the conveyance or packing of goods.

EXPLANATORY NOTES

69.09 - Ceramic wares for laboratory, chemical or other technical uses; ceramic troughs, tubs and similar receptacles of a kind used in agriculture; ceramic pots, jars and similar articles of a kind used for the conveyance or packing of goods (+).

- Ceramic wares for laboratory, chemical or other technical uses :

6909.11 - - Of porcelain or china

6909.12 - - Articles having a hardness equivalent to 9 or more on the Mohs scale

6909.19 - - Other

6909.90 - Other

This heading covers a range of very varied articles usually made from vitrified ceramics (stoneware, porcelain or china, steatite ceramics, etc.), glazed or unglazed. It **does not**, however, **cover** refractory goods of a kind designed for resisting high temperatures as described in the General Explanatory Note to sub-Chapter I. But articles of a type **not designed for high temperature work remain in this heading** even if made of refractory materials (e.g., thread guides, grinding apparatus, etc., of sintered alumina).

The heading covers in particular :

(1) Laboratory wares (e.g., for research or industrial use) such as crucibles and crucible lids, evaporating dishes, combustion boats, cupels; mortars and pestles; spoons for acids, spatulas; supports for filters and catalysts; filter plates, tubes, candles, cones, funnels, etc.; water-baths; beakers, graduated vessels (**other than** graduated kitchen measures); laboratory dishes, mercury troughs; small tubes (e.g., combustion tubes, including analysis tubes for estimation of carbon, sulphur, etc.).

(2) Ceramic wares for other technical uses, such as pumps, valves; retorts, vats, chemical baths and other static containers with single or double walls (e.g., for electroplating, acid storage); taps for acids; coils, fractionating or distillation coils and columns, Raschig rings for petroleum fractionating apparatus; grinding apparatus and balls, etc., for grinding mills; thread guides for textile machinery and dies for extruding man-made textiles; plates, sticks, tips and the like, for tools.

(3) Containers of the kinds used for the commercial transport or packing of goods, e.g., large containers, carboys, etc., for the transport of acids and other chemical products; flagons, jars and pots, for foodstuffs (jam, condiments, meat pastes, liqueurs, etc.), for pharmaceutical products or cosmetics (pomades, ointments, creams, etc.), for inks, etc.

(4) Troughs, tubs and similar containers of the type used in agriculture.

The heading **excludes** :

(a) Articles of **heading 68.04**.

(b) Retorts, crucibles, muffles, cupels and other similar articles of refractory materials (**heading 69.03**).

(c) Kitchen or domestic containers (e.g., tea caddies, bread bins, biscuit barrels) (**heading 69.11** or **69.12**).

(d) General purpose jars and containers for laboratories and display jars for pharmacies, confectioners, etc. (**heading 69.14**).

(e) Articles of cermets (**heading 81.13**).

(f) Electrical apparatus (switches, junction boxes, fuses, etc.) of **headings 85.33 to 85.38**, and electrical insulators, insulating fittings, etc., of **heading 85.46** or **85.47**.

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Subheading Explanatory Note.

Subheading 6909.12

This subheading covers high-performance ceramic articles. These articles are composed of a crystalline ceramic matrix (e.g., of alumina, silicon carbide, zirconia, or nitrides of silicon, boron or aluminium, or of combinations thereof); whiskers or fibres of reinforcing material (e.g., of metal or graphite) may also be dispersed in the matrix to form a composite ceramic material.

These articles are characterized by a matrix which has a very low porosity and in which the grain size is very small; by high resistance to wear, corrosion, fatigue and thermal shock; by high-temperature strength; and by strength-to-weight ratios comparable to or better than those of steel.

They are often used in place of steel or other metal parts in mechanical applications requiring close dimensional tolerances (e.g., engine turbocharger rotors, rolling contact bearings and machine tools).

The Mohs scale mentioned in this subheading rates a material by its ability to scratch the surface of the material below it on the scale. Materials are rated from 1 (for talc) to 10 (for diamond). Most of the high-performance ceramic materials fall near the top of the scale. Silicon carbide and aluminium oxide, both of which are used in high-performance ceramics, fall at 9 or above on the Mohs scale. To distinguish among harder materials, the Mohs scale is sometimes expanded, with talc as 1 and diamond as 15. On the expanded Mohs scale, fused alumina has a hardness equivalent to 12, and silicon carbide has a hardness equivalent to 13.

6909.1

- Ceramic wares for laboratory, chemical or other technical uses :

6909.11

-- Of porcelain or china

6909.12

-- Articles having a hardness equivalent to 9 or more on the Mohs scale

6909.19

-- Other

CLASSIFICATION OPINIONS

1. Elements of soft ferrite, identifiable as parts of a machine, apparatus or instrument of Ch. 84 or 90.

See also Opinions Ch. 85/1 and 8504.90/1.

Adoption : 1958

6909.90

- Other

Heading 6910

Ceramic sinks, wash basins, wash basin pedestals, baths, bidets, water closet pans, flushing cisterns, urinals and similar sanitary fixtures.

EXPLANATORY NOTES

69.10 - Ceramic sinks, wash basins, wash basin pedestals, baths, bidets, water closet pans, flushing cisterns, urinals and similar sanitary fixtures.

6910.10 - Of porcelain or china

6910.90 - Other

This heading covers fittings designed to be **permanently fixed in place**, in houses, etc., normally by connection to the water or sewage systems. They must therefore be made impervious to water by glazing or by prolonged firing (e.g., stoneware, earthenware, fire-clay sanitary ware, imitation porcelain, or vitreous china). In addition to the fittings specified, the heading includes such items as lavatory cisterns.

Ceramic flushing cisterns remain classified in this heading, **whether or not** equipped with their mechanisms.

The heading **does not**, however, **include** small accessory bathroom or sanitary fittings, such as soap dishes, sponge baskets, tooth-brush holders, towel hooks and toilet paper holders, even if of a kind designed for fixing to the wall, nor portable sanitary articles such as bed pans, urinals and chamber-pots; these goods fall in **heading 69.11** or **69.12**.

6910.10

- Of porcelain or china

6910.90

- Other

Heading 6911

Tableware, kitchenware, other household articles and toilet articles, of porcelain or china.

EXPLANATORY NOTES

69.11 - Tableware, kitchenware, other household articles and toilet articles, of porcelain or china.

6911.10 - Tableware and kitchenware

6911.90 - Other

See the Explanatory Note to heading 69.12.

6911.10

- Tableware and kitchenware

6911.90

- Other

CLASSIFICATION OPINIONS

1. Non-ornamental ashtrays, comprising a lower part (bowl) of porcelain or china and an upper part (lid) of steel which consists essentially of a rotating plate operated by pressing a push-button of plastics and of a spiral spring which returns the plate to its original position :
Classification according to the constituent material of the lower part (bowl).
Application of GIR 3 (b).
Adoption : 1963

Heading 6912

Ceramic tableware, kitchenware, other household articles and toilet articles, other than of porcelain or china.

EXPLANATORY NOTES

69.12 - Ceramic tableware, kitchenware, other household articles and toilet articles, other than of porcelain or china.

Tableware, kitchenware, other household articles and toilet articles are classified **in heading 69.11 if of porcelain or china, and in heading 69.12 if of other ceramics** such as stoneware, earthenware, imitation porcelain (see General Explanatory Note to sub-Chapter II).

The headings therefore include :

(A) Tableware such as tea or coffee services, plates, soup tureens, salad bowls, dishes and trays of all kinds, coffee-pots, teapots, sugar bowls, beer mugs, cups, sauce-boats, fruit bowls, cruets, salt cellars, mustard pots, egg-cups, teapot stands, table mats, knife rests, spoons and serviette rings.

(B) Kitchenware such as stew-pans, casseroles of all shapes and sizes, baking or roasting dishes, basins, pastry or jelly moulds, kitchen jugs, preserving jars, storage jars and bins (tea caddies, bread bins, etc.), funnels, ladles, graduated kitchen capacity measures and rolling-pins.

(C) Other household articles such as ash trays, hot water bottles and matchbox holders.

(D) Toilet articles (whether for domestic or non-domestic use) such as toilet sets (ewers, bowls, etc.), sanitary pails, bed pans, urinals, chamber-pots, spittoons, douche cans, eye baths; soap dishes, towel rails, tooth-brush holders, toilet paper holders, towel hooks and similar articles for bathrooms, toilets or kitchens, whether or not designed for fixing to or setting in the wall.

The headings **exclude** :

(a) Carboys, jars, bottles, pots and similar articles of a kind used for the packing or transport of goods (**heading 69.09**).

(b) Baths, bidets, sinks and similar sanitary fittings (**heading 69.10**).

(c) Statuettes and other ornamental articles of **heading 69.13**.

(d) Ceramic ware having more than minor trimmings of precious metal or metal clad with precious metal (**Chapter 71**).

(e) Coffee or spice mills with containers of ceramics and working parts of metal (**heading 82.10**).

(f) Electro-thermic apparatus (for cooking, heating, etc.), including electric heating elements (cooking plates, heating resistors, etc.), of **heading 85.16**.

(g) Articles of **Chapter 91**, including clock cases.

(h) Lighters of **heading 96.13** and scent sprays, etc. (**heading 96.16**).

6912.00

Ceramic tableware, kitchenware, other household articles and toilet articles, other than of porcelain or china.

CLASSIFICATION OPINIONS

1. **Ceramic cup and ceramic saucer**, put up for retail sale in a paperboard box together with soluble coffee (200 g) in a glass jar. The soluble coffee is classified separately in subheading 2101.11.
   Application of GIR 1.
   See also Opinion 2101.11/1.
   Adoption : 2013



2. Laundry ball, with a diameter of approximately 10 cm, consisting of two perforated casings of plastics which are joined together and containing two magnets and four types of small ceramic "pellets" (beads). It is used in a washing machine of the household-type to clean clothes by a physical process.
Application of GIRs 1 and 3 (b).
Adoption : 2016



Heading 6913

Statuettes and other ornamental ceramic articles.
EXPLANATORY NOTES

69.13 - Statuettes and other ornamental ceramic articles.

6913.10 - Of porcelain or china

6913.90 - Other

This heading covers a wide range of ceramic articles of the type designed essentially for the interior decoration of homes, offices, assembly rooms, churches, etc., and outdoor ornaments (e.g., garden ornaments).

The heading **does not include** articles falling in more specific headings of the Nomenclature even if they are suited by reason of their nature or finish for decorative use, e.g. :

(a) Cornices, friezes and similar architectural ornaments (**heading 69.05**).

(b) Goods having more than mere minor fittings of precious metal or metal clad with precious metal (**Chapter 71**).

(c) Imitation jewellery (**heading 71.17**).

(d) Barometers, thermometers and other apparatus of **Chapter 90**.

(e) Clocks and cases therefor, even if the latter are decorated or consist, for example, of statuettes or similar objects clearly designed to act as clock cases (**Chapter 91**).

(f) Luminaires and lighting fittings and parts thereof, of **heading 94.05**.

(g) Toys, games and sports requisites (**Chapter 95**).

(h) Buttons, smoking pipes, table lighters, scent sprays and other articles of **Chapter 96**.

(ij) Paintings, drawings and pastels executed entirely by hand, and original statuary, collectors' pieces and antiques of an age exceeding 100 years (**Chapter 97**).

The heading covers :

(A) **Articles which have no utility value but are wholly ornamental, and articles whose only usefulness is to support or contain other decorative articles or to add to their decorative effect,** e.g. :

(1) Statues, statuettes, busts, haut or bas reliefs, and other figures for interior or exterior decoration; ornaments (including those forming parts of clock sets) for mantelpieces, shelves, etc., (animals, symbolic or allegorical figures, etc.); sporting or art trophies; wall ornaments incorporating fittings for hanging (plaques, trays, plates); medallions; firescreens; artificial flowers, fruit, leaves, etc.; wreaths and similar ornaments for tombs; knick-knacks for shelves or domestic display-cabinets.

(2) Crucifixes and other church or religious ornaments.

(3) Purely ornamental table-bowls, vases, pots, jardinières.

(B) **Tableware and other domestic articles only if the usefulness of the articles is clearly subordinate to their ornamental character**, for example, trays moulded in relief so that their usefulness is virtually nullified, ornaments incorporating a purely incidental tray or container usable as a trinket dish or ashtray, miniatures having no genuine utility value, etc. In general, however, tableware and domestic utensils are designed essentially to serve useful purposes, and any decoration is usually secondary so as not to impair the usefulness. If, therefore, such decorated articles serve a useful purpose no less efficiently than their plainer counterparts, they are classified in **heading 69.11** or **69.12** rather than in this heading.

(C) **Articles, other than tableware and domestic articles, of the kind used for ornamenting or decorating** the household, office, etc. For example, smokers' sets, jewel cases, cachou boxes,

cigarette boxes, perfume burners, ink-stands, book-ends, paperweights and similar desk furnishings and picture frames.

6913.10

- Of porcelain or china

6913.90

- Other

CLASSIFICATION OPINIONS

1. Ceramic container in the form of a brown coloured samovar (approximately 19 cm high), which has no utility value and is wholly ornamental in nature, decorated with painted flowers and equipped with a removable lid, containing black tea put up in a transparent plastic bag (100 g). The tea is classified separately in subheading 0902.30. **Application of GIRs 1 and 6.** *See also Opinion 0902.30 /1. Adoption : 2007*



Heading 6914

Other ceramic articles.

EXPLANATORY NOTES

69.14 - Other ceramic articles.

6914.10 - Of porcelain or china

6914.90 - Other

This heading covers all ceramic articles **not covered** by other headings of this Chapter or in other Chapters of the Nomenclature.

It includes, *inter alia* :

(1) Stoves and other heating apparatus, made essentially of ceramics (generally of earthenware, sometimes of common pottery, etc.); non-refractory firebrick cheeks; ceramic parts of stoves or

fireplaces, ceramic linings for wood burning stoves, including tiles of a kind specially adapted for stoves. Electric heating apparatus is, however, classified in **heading 85.16**.

(2) Non-decorative flower-pots (e.g., for horticulture).

(3) Fittings for doors, windows, etc., such as handles and knobs, finger plates, etc.; knobs, etc., for lavatory chains.

(4) Letters, numbers, sign-plates and similar motifs for shop signs and shop windows, whether or not bearing a printed picture or text, except when illuminated (**heading 94.05**).

(5) Spring lever stoppers, etc., predominantly of ceramics (e.g., for lemonade bottles).

(6) General purpose jars and containers for laboratories and display jars for pharmacies, confectioners, etc.

(7) Various other articles such as knife handles, school inkwells, humidifiers for radiators and bird-cage accessories.

The heading **excludes** :

(a) Artificial teeth of ceramics (**heading 90.21**).

(b) Toys, games and sports requisites (**Chapter 95**).

(c) Buttons, smoking pipes and other articles of **Chapter 96**.

6914.10

- Of porcelain or china

6914.90

- Other

Chapter 70

Glass and glassware

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Goods of heading 32.07 (for example, vitrifiable enamels and glazes, glass frit, other glass in the form of powder, granules or flakes);

(b) Articles of Chapter 71 (for example, imitation jewellery);

(c) Optical fibre cables of heading 85.44, electrical insulators (heading 85.46) or fittings of insulating material of heading 85.47;

(d) Front windscreens (windshields), rear windows and other windows, framed, for vehicles of Chapters 86 to 88;

(e) Front windscreens (windshields), rear windows and other windows, whether or not framed, incorporating heating devices or other electrical or electronic devices, for vehicles of Chapters 86 to 88;

(f) Optical fibres, optically worked optical elements, hypodermic syringes, artificial eyes, thermometers, barometers, hydrometers or other articles of Chapter 90;

(g) Luminaires or lighting fittings, illuminated signs, illuminated name-plates or the like, having a permanently fixed light source, or parts thereof of heading 94.05;

(h) Toys, games, sports requisites, Christmas tree ornaments or other articles of Chapter 95 (excluding glass eyes without mechanisms for dolls or for other articles of Chapter 95); or

(ij) Buttons, fitted vacuum flasks, scent or similar sprays or other articles of Chapter 96.

2.- For the purposes of headings 70.03, 70.04 and 70.05 :

(a) glass is not regarded as “worked” by reason of any process it has undergone before annealing;

(b) cutting to shape does not affect the classification of glass in sheets;

(c) the expression “absorbent, reflecting or non-reflecting layer” means a microscopically thin coating of metal or of a chemical compound (for example, metal oxide) which absorbs, for example, infra-red light or improves the reflecting qualities of the glass while still allowing it to retain a degree of transparency or translucency; or which prevents light from being reflected on the surface of the glass.

3.- The products referred to in heading 70.06 remain classified in that heading whether or not they have the character of articles.

4.- For the purposes of heading 70.19, the expression “glass wool” means :

(a) Mineral wools with a silica (SiO_2) content not less than 60 % by weight;

(b) Mineral wools with a silica (SiO_2) content less than 60 % but with an alkaline oxide (K_2O or Na_2O) content exceeding 5 % by weight or a boric oxide (B_2O_3) content exceeding 2 % by weight.

Mineral wools which do not comply with the above specifications fall in heading 68.06.

5.- Throughout the Nomenclature, the expression “glass” includes fused quartz and other fused silica.

Subheading Note.

1.- For the purposes of subheadings 7013.22, 7013.33, 7013.41 and 7013.91, the expression “lead crystal” means only glass having a minimum lead monoxide (PbO) content by weight of 24 %.

EXPLANATORY NOTES

Chapter 70

Glass and glassware

Notes.

1.- This Chapter does not cover :

(a) Goods of heading 32.07 (for example, vitrifiable enamels and glazes, glass frit, other glass in the form of powder, granules or flakes);

(b) Articles of Chapter 71 (for example, imitation jewellery);

(c) Optical fibre cables of heading 85.44, electrical insulators (heading 85.46) or fittings of insulating material of heading 85.47;

(d) Front windscreens (windshields), rear windows and other windows, framed, for vehicles of Chapters 86 to 88;

(e) Front windscreens (windshields), rear windows and other windows, whether or not framed, incorporating heating devices or other electrical or electronic devices, for vehicles of Chapters 86 to 88;

(f) Optical fibres, optically worked optical elements, hypodermic syringes, artificial eyes, thermometers, barometers, hydrometers or other articles of Chapter 90;

(g) Luminaires or lighting fittings, illuminated signs, illuminated name-plates or the like, having a permanently fixed light source, or parts thereof of heading 94.05;

(h) Toys, games, sports requisites, Christmas tree ornaments or other articles of Chapter 95 (excluding glass eyes without mechanisms for dolls or for other articles of Chapter 95); or

(ij) Buttons, fitted vacuum flasks, scent or similar sprays or other articles of Chapter 96.

2.- For the purposes of headings 70.03, 70.04 and 70.05 :

(a) glass is not regarded as "worked" by reason of any process it has undergone before annealing;

(b) cutting to shape does not affect the classification of glass in sheets;

(c) the expression "absorbent, reflecting or non-reflecting layer" means a microscopically thin coating of metal or of a chemical compound (for example, metal oxide) which absorbs, for example, infra-red light or improves the reflecting qualities of the glass while still allowing it to retain a degree of transparency or translucency; or which prevents light from being reflected on the surface of the glass.

3.- The products referred to in heading 70.06 remain classified in that heading whether or not they have the character of articles.

4.- For the purposes of heading 70.19, the expression "glass wool" means :

(a) Mineral wools with a silica (SiO_2) content not less than 60 % by weight;

(b) Mineral wools with a silica (SiO_2) content less than 60 % but with an alkaline oxide (K_2O or Na_2O) content exceeding 5 % by weight or a boric oxide (B_2O_3) content exceeding 2 % by weight.

Mineral wools which do not comply with the above specifications fall in heading 68.06.

5.- Throughout the Nomenclature, the expression "glass" includes fused quartz and other fused silica.

Subheading Note.

1.- For the purposes of subheadings 7013.22, 7013.33, 7013.41 and 7013.91, the expression "lead crystal" means only glass having a minimum lead monoxide (PbO) content by weight of 24 %.

GENERAL

This Chapter covers glass in all forms and articles of glass (**other than** goods excluded by Note 1 to this Chapter or covered more specifically by other headings of the Nomenclature).

Glass (except fused quartz and other fused silica referred to below) is a fused homogeneous mixture, in varying proportions, of an alkali silicate (of sodium or potassium) with one or more silicates of calcium and lead, and accessorily of barium, aluminium, manganese, magnesium, etc.

There are many varieties of glass according to their composition (e.g., Bohemian glass, crown glass, lead crystal glass, flint glass, strass paste). These various types are non-crystalline (amorphous) and wholly transparent.

The various headings of this Chapter cover the corresponding articles irrespective of the variety of glass of which they consist.

Manufacturing processes vary considerably and include :

(A) **Casting** (e.g., for plate glass).

(B) **Rolling** (e.g., for plate glass or wired glass).

(C) **Floating** (for float glass).

(D) **Moulding**, whether or not combined with pressing, blowing or drawing (e.g., for the manufacture of bottles, tumblers, certain types of optical glass, ashtrays).

(E) **Blowing**, mechanical or non-mechanical, with or without moulds (e.g., for the manufacture of bottles, ampoules, ornaments and sometimes for the manufacture of sheet glass).

(F) **Drawing or extruding** (particularly for sheet glass, rods, tubes and piping, and fibre glass).

(G) **Pressing**, generally with moulds, frequently used as the manufacturing process for e.g., ashtrays, and also in combination with rolling (e.g., for figured rolled glass) or blowing (e.g., for bottles).

(H) **Lampworking**, with the aid of a blow lamp (for the manufacture of ampoules, fancy articles, etc., from glass rod or tubing).

(IJ) **Cutting out** the required articles from blanks, spheres, etc., obtained by any process (articles of fused quartz or other fused silica, in particular, are often obtained from blanks of solid or hollow section).

For **multicellular glass**, see the Explanatory Note to heading 70.16.

In certain cases the method of manufacturing the articles determines their classification in this Chapter. For example, heading 70.03 applies only to cast or rolled glass, and heading 70.04 only to drawn or blown glass.

*

* *

Note 5 to this Chapter provides that the expression “glass” includes fused quartz and other fused silica.

This Chapter also covers :

(1) **Milk or opal glasses** which are translucent and are obtained by adding materials such as fluorspar or bone ash (in the proportion of about 5 %) to the mass of the glass; the added material gives rise to partial crystallisation in the melt on cooling or reheating.

(2) **Special materials known as glass-ceramics**, in which the glass is converted into an almost wholly crystalline material by a process of controlled crystallisation. They are made by adding to

the glass batch nucleating agents which are often metal oxides (such as titanium dioxide and zirconium oxide) or metals (such as copper powder). After the article has been shaped by ordinary glass-making techniques, it is maintained at a temperature such as to ensure crystallisation of the glassy body around the nucleating crystals (devitrification). Glass-ceramics may be opaque or sometimes transparent. They have much better mechanical, electrical and heat-resistant properties than ordinary glass.

(3) **Glass having a low coefficient of expansion**, e.g., borosilicate glass.

Heading 7001

Cullet and other waste and scrap of glass, excluding glass from cathode-ray tubes or other activated glass of heading 85.49; glass in the mass.

EXPLANATORY NOTES

70.01 - Cullet and other waste and scrap of glass, excluding glass from cathode-ray tubes or other activated glass of heading 85.49; glass in the mass.

This heading covers :

(A) **Waste and scrap of glass of all kinds** arising from the manufacture of glass (including glass waste splashed outside the melting pots and subsequently recovered); also broken articles. Waste glass is generally characterised by its sharp edges.

(B) **Glass** (including “enamel” glass), **in the mass** (i.e., in more or less regular blocks), with no particular intended use.

“Enamel” glass is of greater fusibility and higher density than most ordinary varieties of glass. It is usually opaque though occasionally transparent; it may be colourless or of various colours. It falls in this heading when in the mass (in lumps or slabs). It is used for colouring or opacifying other glass, for lampworking into ornaments, etc., and for enamelling pottery, etc.

The heading also includes vitrite in the mass, a type of glass with a low melting point, used for insulating the contact terminals at the base of electric light bulbs. It has a high manganese dioxide content which gives it a blackish colour so that the inner fittings of the base are concealed.

Glass (including vitrite and “enamel” glass) in the form of powder, granules or flakes is **excluded** (**heading 32.07**).

7001.00

Cullet and other waste and scrap of glass, excluding glass from cathode-ray tubes or other activated glass of heading 85.49; glass in the mass.

Heading 7002

Glass in balls (other than microspheres of heading 70.18), rods or tubes, unworked.

EXPLAN ATORY NOTES

70.02 - Glass in balls (other than microspheres of heading 70.18), rods or tubes, unworked.

7002.10 - Balls

7002.20 - Rods

- Tubes :

7002.31 - - Of fused quartz or other fused silica

7002.32 - - Of other glass having a linear coefficient of expansion not exceeding 5×10^{-6} per Kelvin within a temperature range of 0 °C to 300 °C

7002.39 - - Other

This heading covers :

(1) Solid glass balls, which are generally manufactured by moulding or pressing or on double-screw machines, and which may be used, *inter alia*, as raw material for the production of fibre, or for the preparation of lithographic plates.

(2) Glass rods and tubing of various diameters, which are generally obtained by drawing (combined with blowing in the case of tubing); they may be used for many purposes (e.g., for chemical or industrial apparatus; in the textile industry; for further manufacture into thermometers, ampoules, electric or electronic bulbs and valves, or ornaments). Certain tubes for fluorescent lighting (used mainly for advertising purposes) are drawn with partitions running through the length.

This group includes “enamel” glass, in bars, rods or tubes (“enamel” glass is defined in the Explanatory Note to heading 70.01).

Balls of this heading must be unworked; similarly rod and tubing must be unworked (i.e., as obtained direct from the drawing process or merely cut into lengths the ends of which may have been simply smoothed).

The heading **excludes** balls, rod and tubing made into finished articles or parts of finished articles recognisable as such; these are classified under the appropriate heading (e.g., **heading 70.11**, **70.17** or **70.18**, or **Chapter 90**). If worked, but not recognisable as being intended for a particular purpose, they fall in **heading 70.20**.

This heading includes tubes (whether or not cut to length) of glass which has had fluorescent material added to it in the mass. On the other hand, tubes coated inside with fluorescent material, whether or not otherwise worked, are **excluded** (**heading 70.11**).

Glass balls having the character of toys (veined glass marbles put up in any form, and glass balls of any kind put up in packets for the amusement of children) are classified in **heading 95.03**. Glass balls, which have been ground after shaping, used for stoppering certain bottles fall in **heading 70.10**.

The heading also **excludes** the spherical glass grains (microspheres, not exceeding 1 mm in diameter) used, for example, for the manufacture of panels for road signs, reflecting signs or cinema screens, or in the cleaning of aeroplane jet engines or metallic surfaces (**heading 70.18**).

7002.10

- Balls

7002.20

- Rods

7002.3

- Tubes :

7002.31

-- Of fused quartz or other fused silica

7002.32

-- Of other glass having a linear coefficient of expansion not exceeding 5 x 10-6 per Kelvin within a temperature range of 0 °C to 300 °C

7002.39

-- Other

CLASSIFICATION OPINIONS

1. Tubing of standard lead glass as used in the filament lamp and semi-conductor industries, cut to various lengths (longer than the outside diameter of the tube); to be used in the manufacture of diodes.

Adoption : 1968

Heading 7003

Cast glass and rolled glass, in sheets or profiles, whether or not having an absorbent, reflecting or non-reflecting layer, but not otherwise worked.

EXPLANATORY NOTES

70.03 - Cast glass and rolled glass, in sheets or profiles, whether or not having an absorbent, reflecting or non-reflecting layer, but not otherwise worked.

- Non-wired sheets :

7003.12 - - Coloured throughout the mass (body tinted), opacified, flashed or having an absorbent, reflecting or non-reflecting layer

7003.19 - - Other

7003.20 - Wired sheets

7003.30 - Profiles

This heading covers all types of cast glass and rolled glass **provided** it is in sheets (whatever the thickness and whether or not cut to shape), or profiles, whether or not having an absorbent, reflecting or non-reflecting layer, but not otherwise worked.

It includes :

(A) Unworked plate glass. This is generally non-transparent on account of its grained or rough surfaces. It may also be artificially coloured in the mass by means of metallic oxides or other salts. Surface ground or polished plate glass is **excluded** (**heading 70.05**).

(B) A category of non-transparent glass which is more or less opacified in the mass and sometimes completely opaque. It is often made to resemble marble, porcelain (china) or alabaster in appearance. This type of glass is made in white, black and other colours, plain or veined, and is used for facing walls, for the manufacture of tops for washstands, counters, desks, tables, operating tables, etc., of tablets for gravestones, of advertising boards, signs, etc.

This type of glass may be intended for subsequent mechanical polishing on one or both faces, but when so treated it is **excluded** (**heading 70.05**). In the unworked state this glass shows marks resulting from contact with the roller or may bear traces of sand resulting from the casting. Certain opal glass has also one ribbed or rough surface in order to facilitate fixing.

(C) A range of non-transparent glass, with an irregular surface obtained during manufacture. This group includes rough cast glass, cathedral glass, hammered cathedral glass, etc.; figured-rolled glass having one surface impressed with patterns (stripes, diamond patterns, ridges, etc.); corrugated glass and cast so-called antique glass (i.e., glass containing air bubbles, or crackled on the surface, or with other deliberate “defects”). Glass of these types, which may also be coloured in the mass, is used for the windows of factories, warehouses, offices, bathrooms and, in general, all premises where light is required but with varying degrees of obscuration.

Owing to the nature of the processes by which they are made, the types of glass in this category are not rendered plane by further processing.

As already stated, this heading covers **only** cast glass and rolled glass.

In the casting process (which is being replaced, except in the case of large surfaces, by the rolling method), the molten glass is poured on to a fixed table. There are two metal flanges along the sides of the table to determine its thickness. The crucible is emptied in front of a heavy metal roller which runs on the flanges and squeezes the viscous mass of glass to the thickness of the flanges. As soon as the glass reaches the required consistency, it is passed slowly through an annealing tunnel or lehr, where the temperature gradually decreases towards the outlet, which is quite cool. During the casting process, profiles (e.g., U-shaped) can also be obtained by bending a glass ribbon lengthwise while still in a semi-molten state.

In the rolling process, the molten glass is passed between rollers from which it emerges either as a continuous ribbon or in sheets or profiles. It is then carried mechanically into a lehr.

It is during the casting or rolling processes that the surfaces of figured, hammered, etc., glass are impressed. In the casting method, either engraved casting tables or an engraved roller form the patterns in the semi-molten glass. In the rolling method, the desired effects are obtained by means of the final roller, which is engraved.

The types of glass described above may have holes obtained during manufacture, or may be wired. Plate, figured, cathedral and similar types of glass are sometimes wired where protection against the danger of splinters on disintegration or breakage is required, thus making it suitable for building purposes. Wired glass is almost always obtained by embedding a network of steel wire in the soft glass while it is being rolled.

Glass classified in this heading may have been flashed, generally with glass of another colour, during the manufacturing process or may have been coated with an absorbent, reflecting or non-reflecting layer, but **not further worked**.

The heading **excludes** not only cast glass and rolled glass which, by reason of subsequent processing, fall in other headings (e.g., **heading 70.05**, **70.06**, **70.08** or **70.09**), but also safety glass (**heading 70.07**) which may have been subject to rolling during manufacture.

7003.1

- Non-wired sheets :

7003.12

-- Coloured throughout the mass (body tinted), opacified, flashed or having an absorbent, reflecting or non-reflecting layer

7003.19

-- Other

7003.20

- Wired sheets

7003.30

- Profiles

Heading 7004

Drawn glass and blown glass, in sheets, whether or not having an absorbent, reflecting or non-reflecting layer, but not otherwise worked.

EXPLANATORY NOTES

70.04 - Drawn glass and blown glass, in sheets, whether or not having an absorbent, reflecting or non-reflecting layer, but not otherwise worked.

7004.20 - Glass, coloured throughout the mass (body tinted), opacified, flashed or having an absorbent, reflecting or non-reflecting layer

7004.90 - Other glass

This heading is **restricted** to drawn glass and blown glass which **must** be unworked and in sheets (whether or not cut to shape).

The non-mechanical blowing process, now more or less completely discarded (except for certain special types of glass), has been replaced by various mechanical processes consisting essentially of drawing (e.g., the Fourcault, Libbey-Owens or Pittsburgh processes) or of drawing combined with blowing.

The glass of this heading may be of various thicknesses but, in general, is less thick than cast glass of **heading 70.03**. It may be coloured or opacified in the mass, or flashed with glass of another colour during manufacture or may be coated with an absorbent, reflecting or non-reflecting layer.

Drawn glass and blown glass are frequently used in the form in which they are originally produced, without any further working. In addition to their main use as glass for windows, doors, display cases, greenhouses, clocks, pictures, etc., these types of glass are also used as parts of articles of furniture, for photographic plates, plain spectacle glass, etc.

The heading **excludes** drawn glass and blown glass which have been surface ground, polished or otherwise worked (see the Explanatory Notes to **headings 70.05**, **70.06**, **70.09**, etc.).

7004.20

- Glass, coloured throughout the mass (body tinted), opacified, flashed or having an absorbent, reflecting or non-reflecting layer

7004.90

- Other glass

CLASSIFICATION OPINIONS

1. Overflow fusion glass plate. This glass plate is ultra-thin, smooth and even, and is used to protect the screens of mobile devices such as tablets, smartphones and other electronic devices. The production process for this glass plate involves pouring evenly-stirred molten glass into a V-shaped trough, called an “insulated pipe”, until it overflows, forming two even streams of molten glass along the outer surface of the trough. The two streams of glass reconvene at the bottom of the V-shaped trough. Drawn down by the effect of gravity, the sheets of glass are cooled through contact with the air, then cut to the desired shape and packaged appropriately.
Application of GIRs 1, 4 and 6.
Adoption : 2021

Heading 7005

Float glass and surface ground or polished glass, in sheets, whether or not having an absorbent, reflecting or non-reflecting layer, but not otherwise worked.

EXPLANATORY NOTES

70.05 - Float glass and surface ground or polished glass, in sheets, whether or not having an absorbent, reflecting or non-reflecting layer, but not otherwise worked.

7005.10 - Non-wired glass, having an absorbent, reflecting or non-reflecting layer

- Other non-wired glass :

7005.21 - - Coloured throughout the mass (body tinted), opacified, flashed or merely surface ground

7005.29 - - Other

7005.30 - Wired glass

This heading covers float glass in sheets. Its raw materials are melted in a furnace. The molten glass leaves the furnace and is fed on to a float bath of molten metal. On the float bath, the glass acquires the flatness of a liquid pool and later retains the smooth finish of liquid surfaces. Before it reaches the end of the bath, it is cooled to a temperature at which it is hard enough to be passed over rollers without being marked or distorted. From the float bath the glass moves through an annealing lehr, at the end of which it is cooled and can be cut. This glass is not surface ground or polished : it is perfectly flat as a result of the manufacturing process.

The heading also covers the types of glass of headings 70.03 and 70.04, **which have been surface ground or polished** (usually the two processes are combined).

In the surface grinding process the glass is subjected to the action of rotating iron-shod discs which, in conjunction with a flow of water containing abrasives, wears the glass surface down to smoothness.

Transparency is achieved by polishing in a machine with felt-covered discs impregnated with rouge (iron oxide). Surface grinding can be continuous and twin-grinding machines are capable of working both surfaces of the glass simultaneously. A final polishing is sometimes done.

The glass of this heading may be coloured or opacified in the mass, or flashed with glass of another colour during manufacture or may be coated with an absorbent, reflecting or non-reflecting layer.

Glass of this heading is frequently used in windows and doors, motor cars, ships, aircraft, etc., for the manufacture of mirrors, table and desk tops, shelves, display cases, etc., and in the manufacture of safety glass of heading 70.07.

Glass in sheets which has undergone working not provided for in the heading text or in Note 2 (b) to this Chapter, including bent or curved glass, is **excluded** (**headings 70.06**, **70.07**, **70.09**, etc.).

7005.10

- Non-wired glass, having an absorbent, reflecting or non-reflecting layer

7005.2

- Other non-wired glass :

7005.21

-- Coloured throughout the mass (body tinted), opacified, flashed or merely surface ground

7005.29

-- Other

7005.30

- Wired glass

Heading 7006

Glass of heading 70.03, 70.04 or 70.05, bent, edge-worked, engraved, drilled, enamelled or otherwise worked, but not framed or fitted with other materials.

EXPLANATORY NOTES

70.06 - Glass of heading 70.03, 70.04 or 70.05, bent, edge-worked, engraved, drilled, enamelled or otherwise worked, but not framed or fitted with other materials.

This heading covers glass of the types referred to in headings 70.03 to 70.05 which has been subjected to one or more of the processes mentioned below. The heading **does not**, however, **include** safety glass (**heading 70.07**), multiple-walled insulating units of glass (**heading 70.08**) or glass in the form of mirrors (**heading 70.09**).

The heading includes :

(A) **Bent or curved glass** such as the special glass (e.g., for display windows) which is obtained by hot-bending or hot-curving (in a suitable furnace and over moulds) flat glass sheets, **with the exception**, however, of the bent or curved glass of **heading 70.15**.

(B) **Glass with worked edges** (ground, polished, rounded, notched, chamfered, bevelled, profiled, etc.), thus acquiring the character of articles such as slabs for table-tops, for balances or other weighing machinery, for observation slits and the like, for signs of various kinds, fingerplates, glasses for photograph frames, etc., window panes, glass fronts for furniture, etc.

(C) **Glass perforated or fluted** as a subsequent operation, etc.

(D) **Glass which has been surface worked after manufacture**, for example, glass subjected to obscuring processes (sand-blasted glass, or glass rendered dull by treatment with emery or acid); frosted glass; glass engraved or etched by any process; enamelled glass (i.e., glass decorated with enamel or vitrifiable colours); glass bearing designs, decorations, various motifs, etc., produced by any process (hand painting, printing, window transparencies, etc.) and all other glass decorated in any other way, **except** glass hand painted so as to constitute a painting of **heading 97.01**.

This heading covers not only flat glass in the form of semi-finished products (e.g., sheets without any particular purpose), but also articles of flat glass designed for a specific purpose, **subject to** their being neither framed, backed, nor fitted with material other than glass. The heading thus includes, *inter alia*, fingerplates (for doors or switches) made entirely of bevelled or perforated glass and sign-plates, even when bevelled, coloured or bearing designs or other decorations.

On the other hand, glass sheets set in wood or in base metal, designed for framing photographs, pictures, etc., fall in **heading 44.14** or **83.06** respectively; decorative glass mirrors, whether or not framed, with printed illustrations on one surface, fall in **heading 70.09** or **70.13**; serving trays consisting of a glass plate, whether or not coloured, with a frame and handles, etc., fall in **heading 70.13**; advertising panels, sign-plates, address plates, panels, letters, figures and similar motifs backed with paper, paperboard, felt, metal, etc., or framed fall in **heading 70.20** (or in **heading 94.05**, if illuminated). Similarly, glass plates framed or mounted in other materials, and thereby assuming the character of parts of machines or appliances or parts of articles of furniture, are **classified with those machines, appliances or articles of furniture**.

Glass plates for articles of furniture, not framed or mounted in other materials, remain classified in this heading if presented separately, but are classified with the articles of furniture if they are presented at the same time (whether or not assembled) and clearly intended for incorporation therein.

Photographic glass plates (sensitised, exposed or developed) fall in **Chapter 37**. Glass plates bearing electrical circuits consisting of impressed conductive metallic pastes, and heating glass plates bearing metallised strips or designs acting as electrical resistances fall in **Chapter 85**.

7006.00

Glass of heading 70.03, 70.04 or 70.05, bent, edge-worked, engraved, drilled, enamelled or otherwise worked, but not framed or fitted with other materials.

Heading 7007

Safety glass, consisting of toughened (tempered) or laminated glass.

EXPLANATORY NOTES

70.07 - Safety glass, consisting of toughened (tempered) or laminated glass.

- Toughened (tempered) safety glass :

7007.11 - - Of size and shape suitable for incorporation in vehicles, aircraft, spacecraft or vessels

7007.19 - - Other

- Laminated safety glass :

7007.21 - - Of size and shape suitable for incorporation in vehicles, aircraft, spacecraft or vessels

7007.29 - - Other

The term “safety glass” covers **only** the types of glass described below and does **not** refer to protective glass such as ordinary wired glass and selective absorption glasses (e.g., anti-glare glass, X-ray protective glass).

(A) **Toughened (tempered) glass**.

This is :

(1) Glass obtained by reheating pieces of glass until they are soft but not soft enough to lose their shape. The glass is then cooled rapidly by appropriate processes (thermal-toughened glass).

(2) Glass whose strength, durability and flexibility have been substantially increased by a complex physical-chemical treatment (e.g., ion-exchange) which may include a modification of the surface structure (commonly known as “chemically toughened glass”).

This glass cannot be worked after manufacture because of the internal stresses set up by the processing and is therefore always produced in the shapes and sizes required before tempering.

(B) **Laminated glass**.

Safety glass of this type, commonly known as laminated glass, sandwich glass, etc., is made in sandwich form, with one or more interlayers of plastics between two or more sheets of glass. The plastics core usually consists of sheets of cellulose acetate, vinyl or acrylic products. Complete adhesion is obtained by applying considerable heat and pressure, sometimes after spraying the inside surfaces of the glass sheets with a special type of adhesive. Another method is to produce a plastics film directly on the glass sheets; the glass sheets are then sealed together by applying heat and pressure.

A characteristic of toughened safety glass is that under the effect of shock it breaks into small pieces without sharp edges or even disintegrates, thus reducing the danger of injury from flying fragments. Laminated safety glass normally cracks without shattering, but, should the impact be great enough to fracture it, any flying pieces would not usually be sufficiently large to cause severe cuts. For special purposes, wire mesh may be incorporated in the laminated glass, or the plastics interlayers may be coloured.

Because of these qualities these types of glass are used in motor car windscreens and windows, in doors, in ships’ portholes, in protective goggles for industrial workers or drivers, and for eyepieces for gas masks or divers’ helmets. Bullet proof glass is a special type of laminated glass.

This heading makes no distinction between unshaped and shaped (e.g., bent or curved) glass.

However, curved safety glass having the character of clock or watch glasses or of a kind used for sun-glasses is classified in **heading 70.15**. Safety glass incorporated in other articles and thus in the form

of parts of machines, appliances or vehicles is classified with those machines, appliances or vehicles; similarly goggles containing lenses of safety glass fall in **heading 90.04**.

Multiple-walled insulating glass, for example, that composed of a sandwich of two sheets of glass with an interlayer of glass fibre, falls in **heading 70.08**.

Articles of toughened (tempered) glass and glass-ceramics, other than those of a kind used for the purposes mentioned above, are classified according to their individual character (e.g., toughened tumblers, borosilicate baking dishes and glass-ceramic plates in **heading 70.13**).

Plastics used as a substitute for safety glass are classified according to the constituent material (**Chapter 39**).

7007.1

- Toughened (tempered) safety glass :

7007.11

-- Of size and shape suitable for incorporation in vehicles, aircraft, spacecraft or vessels

7007.19

-- Other

7007.2

- Laminated safety glass :

7007.21

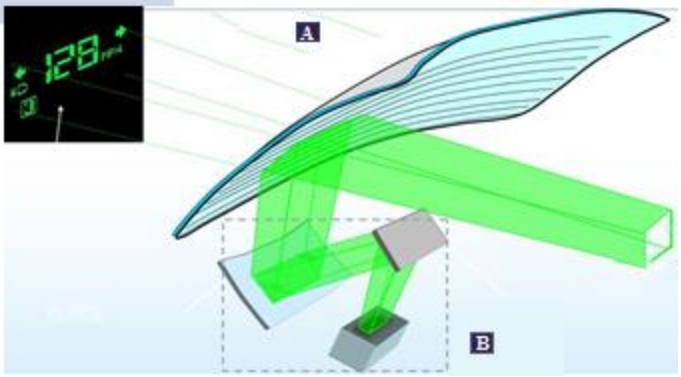
-- Of size and shape suitable for incorporation in vehicles, aircraft, spacecraft or vessels

CLASSIFICATION OPINIONS

1. **Automotive glass for Head Up Display (HUD)**, consisting of laminated glass and plastics, of dimensions and in a format suitable for use as a windscreen (windshield) for motor vehicles. By means of a PVB diaphragm (film consisting primarily of polyvinyl butyral), pressed between two plates of glass, the windscreen serves as a screen onto which selected information from the vehicle's instrument panel is projected and displayed in front of the driver. This article is not framed. **Application of GIRs 1 and 6.** *Adoption : 2018*

A Glass assembly on the vehicle position**B** Mirror projector



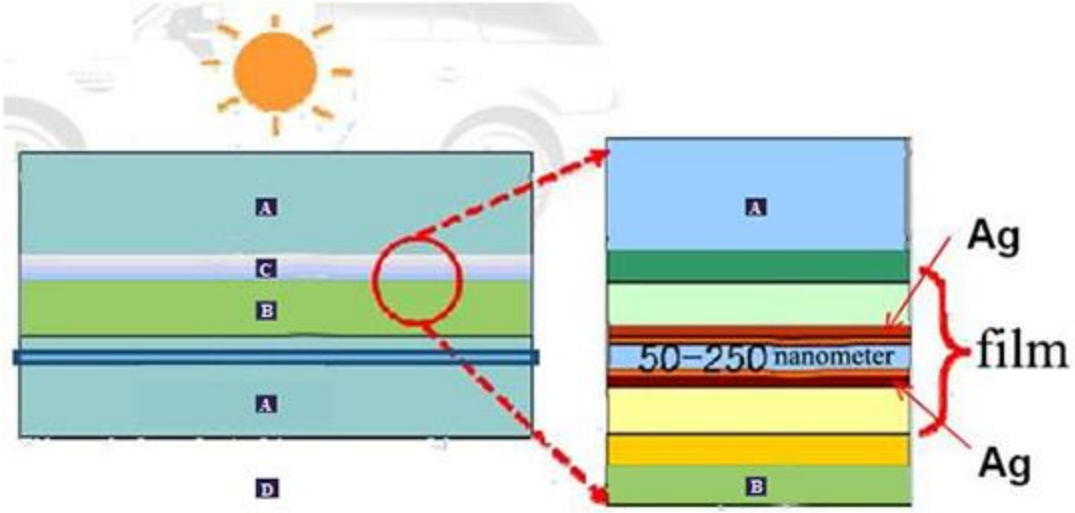


2. Automotive glass with coated heat reflection, of dimensions and in a format suitable for use as a windscreen (windshield) in motor vehicles. It consists of 9 to 14 layers of metal and metal oxide film 50-250 nm thick, applied to the inner surface of glass sheets using vacuum sputtering technology, and an intermediate layer of polyvinyl butyral (PVB). The metal coating facilitates the combined function of the automotive glass, namely heat insulation and solar control.

This article is not framed. **Application of GIRs 1 and 6.** *Adoption : 2018*

A Glass**B** PVB**C** Film**D** Car





7007.29

-- Other

Heading 7008

Multiple-walled insulating units of glass.

EXPLANATORY NOTES

70.08 - Multiple-walled insulating units of glass.

This heading covers multiple-walled insulating units of glass, the most common type of which consists of two or more panels of glass (sheet, plate, float or even such types as hammered or cathedral) separated by a layer of dry air or inert gas, sometimes divided internally into compartments. These sheets are sealed around the edges by a metal, plastic or other joint which makes a completely airtight unit.

Another type of multiple-walled insulating glass consists of a sandwich of two sheets of glass with an interlayer of glass fibre.

These types of glass, which are used for glazing windows, roofs, etc., provide a degree of heat and sound insulation and reduce condensation.

7008.00

Multiple-walled insulating units of glass.

Heading 7009

Glass mirrors, whether or not framed, including rear-view mirrors.

EXPLANATORY NOTES

70.09 - Glass mirrors, whether or not framed, including rear-view mirrors.

7009.10 - Rear-view mirrors for vehicles

- Other :

7009.91 - - Unframed

7009.92 - - Framed

The term “glass mirrors” applies to glass, one surface of which has been coated with metal (usually silver, sometimes platinum or aluminium) to give a clear and brilliant reflection.

In the silvering method a dilute ammoniacal solution of silver nitrate (mixed with a reducing solution based on potassium sodium tartrate or invert sugar) is used. These products are poured on to the surface of the glass after it has been scrupulously cleaned. The reduction of the silver salts forms a lasting and brilliant deposit of metallic silver.

In the platinum deposition process, a compound of platinum chloride is brushed on to the glass, which is then heated almost to softening point. This gives a very adherent coating of metal.

The metal coating (particularly if it is of silver) is given protective coatings, sometimes consisting of one or more coatings of varnish or an electrolytic deposit of copper, itself protected by a coating of varnish.

This heading covers mirrors in sheets, whether or not further worked. It also includes shaped mirrors of any size, for example, mirrors for furniture, for interior decoration, for railway carriages, etc.; toilet mirrors (including hand or hanging mirrors); pocket mirrors (whether or not in a protective case). The heading further includes magnifying or reducing mirrors and rear-view mirrors (e.g., for vehicles). All these mirrors may be backed (with paperboard, fabric, etc.), or framed (with metal, wood, plastics, etc.), and the frame itself may be trimmed with other materials (fabric, shells, mother of pearl, tortoise-shell, etc.). Mirrors designed for placing on the floor or ground (for example, cheval-glasses or swing-mirrors of the type used in tailors’ fitting rooms or in footwear shops) also remain in this heading in accordance with Note 1 (b) to Chapter 94.

This heading also covers mirrors, whether or not framed, bearing printed illustrations on one surface, provided they retain the essential character of mirrors. **However**, once the printing is such as to preclude use as a mirror, these goods are classifiable in **heading 70.13** as decorative articles of glass.

It should be noted, however, that mirrors converted into parts of articles of furniture of **Chapter 94** (e.g., wardrobe doors) are classified with those articles of furniture.

The heading further **excludes** :

(a) Mirrors which have been converted into other articles by the addition of some extra part, e.g., certain serving trays with handles (**heading 70.13**); on the other hand table-centres consisting of a simple mirror remain classified in this heading.

(b) Mirrors the mounts or frames of which contain precious metal or metal clad with precious metal, whether or not with natural or cultured pearls or with diamonds or other precious or semi-precious stones (natural, synthetic or reconstructed) (**other than** as minor trimmings) (**heading 71.14**), or whose mounts or frames otherwise contain natural or cultured pearls or precious or semi-precious stones (natural, synthetic or reconstructed) (**heading 71.16**).

(c) Optically worked glass mirrors (**Chapter 90**) (see corresponding Explanatory Notes).

(d) Mirrors combined with other elements and constituting toys, games or hunting or shooting requisites (e.g., lark mirrors) (**Chapter 95**).

(e) Mirrors of an age exceeding 100 years (**heading 97.06**).

7009.10

- Rear-view mirrors for vehicles

7009.9

- Other :

7009.91

-- Unframed

7009.92

-- Framed

Heading 7010

Carboys, bottles, flasks, jars, pots, phials, ampoules and other containers, of glass, of a kind used for the conveyance or packing of goods; preserving jars of glass; stoppers, lids and other closures, of glass.

EXPLANATORY NOTES

70.10 - Carboys, bottles, flasks, jars, pots, phials, ampoules and other containers, of glass, of a kind used for the conveyance or packing of goods; preserving jars of glass; stoppers, lids and other closures, of glass.

7010.10 - Ampoules

7010.20 - Stoppers, lids and other closures

7010.90 - Other

This heading covers all glass containers of the kinds commonly used commercially for the conveyance or packing of liquids or of solid products (powders, granules, etc.). They include :

(A) Carboys, demijohns, bottles (including syphon vases), phials and similar containers, of all shapes and sizes, used as containers for chemical products (acids, etc.), beverages, oils, meat extracts, perfumery preparations, pharmaceutical products, inks, glues, etc.

These articles, formerly produced by blowing, are now almost invariably manufactured by machines which automatically feed molten glass into moulds where the finished articles are formed by the action of compressed air. They are usually made of ordinary glass (colourless or coloured) although some bottles (e.g., for perfumes) may be made of lead crystal, and certain large carboys are made of fused quartz or other fused silica.

The above-mentioned containers are generally designed for some type of closure; these may take the form of ordinary stoppers (of cork, glass, etc.), glass balls, metal caps, screw caps (of metal or plastics), or special devices (e.g., for beer bottles, bottles for aerated waters, soda water syphons, etc.).

These containers remain in this heading even if they are ground, cut, sand-blasted, etched or engraved, or decorated (this applies, in particular, to certain perfume or liqueur bottles), banded, wickered or otherwise trimmed with various materials (wicker, straw, raffia, metal, etc.); they may also have tumbler-caps fitted to the neck. They may be fitted with drop measuring devices or may be graduated, **provided** that they are not of a kind used as laboratory glassware.

(B) Jars, pots and similar containers for the conveyance or packing of certain foodstuffs (condiments, sauces, fruit, preserves, honey, etc.), cosmetic or toilet preparations (face creams, hair lotions, etc.), pharmaceutical products (ointments, etc.), polishes, cleaning preparations, etc.

These articles are usually made of ordinary glass (colourless or tinted) by pressure in a mould usually followed by blowing with compressed air. They generally have a large opening, a short neck (if any) and as a rule, a lip or flange to hold the lid or cap. Some of these containers, however, may be closed by corks or screw stoppers.

Like bottles, these articles may be sand-blasted, cut, etched or engraved, decorated, banded, etc.

(C) Ampoules, usually obtained from a drawn glass tube, and intended to serve, after sealing, as containers for serums or other pharmaceutical products, or for liquid fuels (e.g., ampoules of petrol for cigarette lighters), chemical products, etc.

(D) Tubular containers and similar containers generally obtained from lamp-worked glass tubes or by blowing, for the conveyance or packing of pharmaceutical products or similar uses.

The heading also includes preserving jars of glass.

Closures of any material, **presented with the containers** for which they are intended, remain classified in this heading.

Heat-resistant glass lids, used to protect the food contained in pans or saucepans etc. from dust and excessive evaporation of moisture but presented separately without any kitchen cookware, are classified in this heading.

The heading also covers stoppers and other closures, of glass, whether made of ordinary glass or of lead crystal, and whether or not ground, cut, sand-blasted, etched or engraved, or decorated. It further includes certain glass balls for stoppering bottles; these balls are cut from glass slabs and mechanically worked after being shaped into balls.

The heading **does not include** :

(a) Bottles and flasks, wholly or mainly covered with leather or composition leather (**heading 42.05**).

(b) Glass inners for vacuum flasks or for other vacuum vessels (**heading 70.20**).

(c) Decanters, drinking glasses and other glass containers being domestic glassware (**heading 70.13**), but not containers used primarily for the commercial conveyance or packing of goods.

(d) Infants' feeding bottles (**heading 70.13**).

(e) Laboratory, hygienic or pharmaceutical glassware (**heading 70.17**).

(f) Special display bottles and display jars of a kind used in shops (**heading 70.20**).

(g) Bottles, flasks, etc. for scent sprays (**heading 70.13**), scent sprays (**heading 96.16**), and vacuum flasks and other vacuum vessels (**heading 96.17**).

7010.10

- Ampoules

7010.20

- Stoppers, lids and other closures

CLASSIFICATION OPINIONS

1. Heat-resistant glass lids with handles made of various materials. They may have a steam vent and stainless steel rim. The same lid can be used for pans, saucepans, etc., protecting the food from dust and excessive evaporation of moisture. They are presented separately, without any kitchen cookware.
Application of GIRs 1 and 6.
Adoption : 2022





7010.90

- Other

Heading 7011

Glass envelopes (including bulbs and tubes), open, and glass parts thereof, without fittings, for electric lamps and light sources, cathode-ray tubes or the like.

EXPLANATORY NOTES

70.11 - Glass envelopes (including bulbs and tubes), open, and glass parts thereof, without fittings, for electric lamps and light sources, cathode-ray tubes or the like.

7011.10 - For electric lighting

7011.20 - For cathode-ray tubes

7011.90 - Other

This heading covers :

(A) All open glass envelopes (including bulbs and tubes) of any shape or size, **without fittings**, for the manufacture of electric lamps, valves and tubes, whether these are for illuminating or other purposes (incandescent or vapour discharge lamps, X-ray tubes, radio valves, cathode-ray tubes, rectifier valves or other electronic tubes or valves, infra-red lamps, etc.). Most of these envelopes are mass-produced by automatic machines; they may be frosted, coloured, opal, metallised, coated with fluorescent material, etc.

Glass parts of envelopes (such as face-plates or cones of cathode-ray tubes for television receivers, spotlight bulb reflectors) remain in this heading.

(B) Tubes with narrowed ends clearly intended for electric lamps and light sources, or bent into shape for advertising signs.

(C) Tubes lined with a fluorescent substance (e.g., zinc silicate, cadmium borate, calcium tungstate).

By means of a series of operations (including, insertion of filaments or electrodes, exhaustion of the envelope, introduction of one or more rare gases, of mercury, etc., fitting of caps or connectors), these envelopes are made into electric lamps and light sources, cathode-ray tubes or the like of Chapter 85.

All the above-mentioned articles may be of ordinary glass, crystal glass or fused quartz.

The heading **does not include** :

(a) Glass tubes merely cut to length, whether or not the ends have been fire polished or otherwise smoothed, or tubes which have had fluorescent materials (e.g., sodium uranate) added to the glass in the mass (**heading 70.02**).

(b) Glass bulbs, tubes and envelopes, closed or with fittings, and finished bulbs, tubes and valves (see **headings 85.39, 85.40, 90.22**, etc.).

7011.10

- For electric lighting

7011.20

- For cathode-ray tubes

7011.90

- Other

Heading 7013

Glassware of a kind used for table, kitchen, toilet, office, indoor decoration or similar purposes (other than that of heading 70.10 or 70.18).

EXPLANATORY NOTES

70.13 - Glassware of a kind used for table, kitchen, toilet, office, indoor decoration or similar purposes (other than that of heading 70.10 or 70.18).

7013.10 - Of glass-ceramics

- Stemware drinking glasses, other than of glass-ceramics :

7013.22 - - Of lead crystal

7013.28 - - Other

- Other drinking glasses, other than of glass ceramics :

7013.33 - - Of lead crystal

7013.37 - - Other

- Glassware of a kind used for table (other than drinking glasses) or kitchen purposes, other than of glass-ceramics :

7013.41 - - Of lead crystal

7013.42 - - Of glass having a linear coefficient of expansion not exceeding 5 x 10^{-6} per Kelvin within a temperature range of 0 °C to 300 °C

7013.49 - - Other

- Other glassware :

7013.91 - - Of lead crystal

7013.99 - - Other

This heading covers the following types of articles, most of which are obtained by pressing or blowing in moulds :

(1) **Table or kitchen glassware**, e.g. drinking glasses, goblets, tankards, decanters, infants' feeding bottles, pitchers, jugs, plates, salad bowls, sugar-bowls, sauce-boats, fruit-stands, cake-stands,

hors-d'oeuvres dishes, bowls, basins, egg-cups, butter dishes, oil or vinegar cruets, dishes (for serving, cooking, etc.), stew-pans, casseroles, trays, salt cellars, sugar sifters, knife-rests, mixers, table hand bells, coffee-pots and coffee-filters, sweetmeat boxes, graduated kitchenware, plate warmers, table mats, certain parts of domestic churns, cups for coffee-mills, cheese dishes, lemon squeezers, ice-buckets.

(2) **Toilet articles**, such as soap-dishes, sponge-baskets, liquid soap distributors, hooks and rails (for towels, etc.), powder bowls, perfume bottles, parts of toilet sprays (**other than** heads) and tooth-brush holders.

(3) **Office glassware**, such as paperweights, inkstands and inkwells, book ends, containers for pins, pen-trays and ashtrays.

(4) **Glassware for indoor decoration** and other glassware (including that for churches and the like), such as vases, ornamental fruit bowls, statuettes, fancy articles (animals, flowers, foliage, fruit, etc.), table-centres (**other than** those of **heading 70.09**), aquaria, incense burners, etc., and souvenirs bearing views.

These articles may be e.g., of ordinary glass, lead crystal, glass having a low coefficient of expansion (e.g., borosilicate glass) or of glass ceramics (the latter two in particular, for kitchen glassware). They may also be colourless, coloured or of flashed glass, and may be cut, frosted, etched or engraved, or otherwise decorated, or of plated glass (for example, certain trays fitted with handles). Table-centres consisting of a simple mirror are, however, **excluded** (see Explanatory Note to **heading 70.09**).

On the other hand, this heading covers decorative articles which are in the form of mirrors, but cannot be used as mirrors due to the presence of printed illustrations; otherwise they are classified in **heading 70.09**.

Articles of glass combined with other materials (base metal, wood, etc.), are classified in this heading **only** if the glass gives the whole the character of glass articles. Precious metal or metal clad with precious metal may be present, **as minor trimmings only**; articles in which such metals constitute more than mere trimmings are excluded (**heading 71.14**).

The heading also **excludes** :

(a) Glass mirrors, whether or not framed (**heading 70.09**).

(b) Bottles, flasks, jars and pots of a kind commonly used for the commercial conveyance or packing of goods, preserving jars and kitchen cookware lids presented separately from the cookware (**heading 70.10**).

(c) Leaded lights and the like (**heading 70.16**).

(d) Articles of **heading 70.18** of a kind suitable for interior decoration (e.g., imitation flowers and foliage of glass beads and ornaments of lamp-worked glass).

(e) Clock cases (**heading 91.12**).

(f) Lamps and lighting fittings and parts thereof of **heading 94.05**.

(g) Scent sprays and similar toilet sprays (**heading 96.16**).

(h) Vacuum flasks and other vacuum vessels of **heading 96.17**.

7013.10

- Of glass-ceramics

7013.2

- Stemware drinking glasses, other than of glass-ceramics :

7013.22

-- Of lead crystal

7013.28

-- Other

7013.3

- Other drinking glasses, other than of glass ceramics :

7013.33

-- Of lead crystal

7013.37

-- Other

7013.4

- Glassware of a kind used for table (other than drinking glasses) or kitchen purposes, other than of glass-ceramics :

7013.41

-- Of lead crystal

7013.42

-- Of glass having a linear coefficient of expansion not exceeding 5 x 10-6 per Kelvin within a temperature range of 0 °C to 300 °C

7013.49

-- Other

7013.9

- Other glassware :

7013.91

-- Of lead crystal

7013.99

-- Other

Heading 7014

Signalling glassware and optical elements of glass (other than those of heading 70.15), not optically worked.

EXPLANATORY NOTES

70.14 - Signalling glassware and optical elements of glass (other than those of heading 70.15), not optically worked.

This heading covers the following articles **provided** they have not been optically worked :

(A) **Signalling glassware** (colourless or coloured) intended for incorporation in reflecting road signs (e.g., in panels, plates, posts, etc.), or in display signs, or as simple reflectors for cycles, automobiles, etc. These articles, which are usually convex, hemispherical or flat with grooves normally running parallel, have the property of reflecting light projected on them (by automobile headlamps, for example) and are thus visible from a distance in the dark.

(B) **Optical elements of glass** (colourless or coloured). The heading includes elements which are manufactured in such a way that they produce some required optical effect without being optically worked. These articles include mainly lenses and similar articles for automobile headlamps, parking lights, direction indicating lights, cycle rear lights, road traffic lights, certain buoys, spotlight bulbs, pocket lamps, electric torches, switchboards or panel lights, and also certain common magnifying glasses.

The heading also includes blanks of optical elements and optical elements which require optical working.

Optical working consists of grinding the surfaces first with coarse and then with gradually finer abrasives. The successive operations are thus roughing, trueing, smoothing and polishing.

Articles which have undergone one or more of the processes **preceding** polishing remain in this heading. But elements which have the whole or part of one or more of their surfaces polished to produce the required optical properties are **excluded** (**heading 90.01** or **90.02** according to whether they are unmounted or mounted - see corresponding Explanatory Notes).

Simple grinding of the edges of discs or lenses, without further working, is not regarded as optical working.

Articles of the heading are generally obtained by simple moulding or pressing or by cutting from sheets, strips, lumps or slabs.

The articles remain here even if framed, set in a mounting or backed with a reflecting surface, but the recognisable finished articles are **excluded** (e.g., **heading 83.10**, in the case of sign-plates, numbers, letters and other signs, of base metal, **heading 85.12** in the case of headlamps, headlights or parking lights for cycles or motor vehicles).

The heading also **excludes** :

(a) Glasses for non-corrective or corrective spectacles (**not optically worked**) (see Explanatory Note to **heading 70.15**).

(b) Spherical glass “microspheres” presented as such (see Explanatory Note to **heading 70.18**). On the other hand, the heading **includes** plates coated with these microspheres and intended for fixing to a road sign or panel.

(c) **Optically worked** optical elements of glass, and optical elements of materials other than glass (**Chapter 90**).

(d) Lamps and lighting fittings and parts thereof of **heading 94.05**.

7014.00

Signalling glassware and optical elements of glass (other than those of heading 70.15), not optically worked.

Heading 7015

Clock or watch glasses and similar glasses, glasses for non-corrective or corrective spectacles, curved, bent, hollowed or the like, not optically worked; hollow glass spheres and their segments, for the manufacture of such glasses.

EXPLANATORY NOTES

70.15 - Clock or watch glasses and similar glasses, glasses for non-corrective or corrective spectacles, curved, bent, hollowed or the like, not optically worked; hollow glass spheres and their segments, for the manufacture of such glasses.

7015.10 - Glasses for corrective spectacles

7015.90 - Other

This heading covers :

(A) Glass, curved, bent, hollowed or the like, of any shape or size, with or without parallel faces, used as clock or watch glasses; it also includes all similar glasses for photograph frames and the like, medallions, hygrometers, barometers and similar appliances. In other words the heading covers a range of glasses of types normally designed to protect the dials or faces of the articles in question, even if in particular cases the glasses are intended for use as laboratory watch glasses or for the manufacture of mirrors.

When the above glasses do not have parallel faces, they may have certain optical properties, but whereas the primary function of the glass elements of **heading 70.14** is to produce a required optical effect, the main function of the goods of this paragraph is protection.

(B) Glass, curved or the like, for non-corrective spectacles (e.g., sun-glasses and other protective spectacles), i.e., glass generally of poorer quality than used for corrective spectacles.

These glasses usually have parallel faces, and are not intended, in practice, for optical working. Nevertheless, should they be optically worked they would be **excluded** (**heading 90.01**).

The glasses described in Parts (A) and (B) are mainly manufactured by the following processes :

(1) Glass is blown into a hollow sphere of a diameter not usually exceeding 80 cm. This sphere is divided into three or four parts which are in turn cut into small segments by means of a kind of diamond-tipped compass. The edges of each segment are then turned-in by hot-pressure in a mould.

(2) Small squares or discs are cut from flat glass; they are then curved either by softening in a concave mould or revolving ring under the action of heat, or by hot-pressure in a mould.

(3) The molten glass is poured directly into the mould of a mechanical press.

(4) A cavity is ground in one surface of a piece of round or rectangular (including square) flat glass to provide space for the clock or watch hands.

In addition to glasses shaped for use (round, oval or rectangular including square), this heading also covers hollow spheres and segments obtained by the process described in (1) above.

(C) Glass (including blanks, i.e. pieces simply pressed or moulded but not optically worked) for corrective spectacles. In most cases, the corrective spectacle industry uses glass obtained by pressing molten glass into blanks which are generally in the shape of the finished spectacle lenses. In some cases, spectacle lens blanks are obtained by cutting pieces of sheet glass produced by rolling or drawing processes and then softening these cut pieces in a furnace before pressing them into blanks. Blanks from either source require additional surfacing, mainly polishing, before they can be used as corrective spectacle lenses.

This heading covers blanks for corrective spectacle lenses, i.e., pieces simply moulded and not optically worked. Prior to moulding, this type of glass falls in **heading 70.03, 70.04, 70.05** or **70.06**, as appropriate.

The heading **does not cover** :

(a) Flat glass for the same uses (**headings 70.05, 70.06** and **70.07** in particular).

(b) Optical elements of **heading 70.14**.

(c) Clock or watch glasses specially prepared for laboratory use (pierced in the centre, ground on the edges to ensure airtight sealing, etc.) (**heading 70.17**).

(d) Glass for corrective spectacles or contact lenses, optically worked (**Chapter 90**).

7015.10

- Glasses for corrective spectacles

7015.90

- Other

Heading 7016

Paving blocks, slabs, bricks, squares, tiles and other articles of pressed or moulded glass, whether or not wired, of a kind used for building or construction purposes; glass cubes and other glass smallwares, whether or not on a backing, for mosaics or similar decorative purposes; leaded lights and the like; multicellular or foam glass in blocks, panels, plates, shells or similar forms.

EXPLANATORY NOTES

70.16 - Paving blocks, slabs, bricks, squares, tiles and other articles of pressed or moulded glass, whether or not wired, of a kind used for building or construction purposes; glass cubes and other glass smallwares, whether or not on a backing, for mosaics or similar decorative purposes; leaded lights and the like; multicellular or foam glass in blocks, panels, plates, shells or similar forms.

7016.10 - Glass cubes and other glass smallwares, whether or not on a backing, for mosaics or similar decorative purposes

7016.90 - Other

This heading covers a range of glass articles obtained by pressing or moulding (whether or not combined with blowing); they are chiefly used for covering roofs, cupolas or archways, but are also used, usually in conjunction with concrete, for slabbing the lining walls of cellars, basements, underground corridors, etc.

The heading thus includes solid or hollow bricks, squares, tiles, slabs and various mouldings (double-headed, etc.). The heading also includes architectural ornaments (rosettes, king-posts, etc.), steps and risers, banister knobs, etc.

These articles, which are of different degrees of translucency, may have their edges worked or grooved, and may be patterned, wired or combined with metal, concrete or other materials.

The heading further includes :

(1) **Mosaic cubes**, generally coloured or with one surface gilded, and **small glass rectangles** and other flat shapes, whether or not silvered, used as a facing material for walls, furniture, etc. These articles remain classified here, whether or not on a paper, paperboard, textile fabric or other backing. The heading also includes small coloured **glass fragments or chippings**, usually of opal glass, which are inlaid in cement to produce ornamental designs on the façades of buildings.

(2) Leaded lights for private houses, stained glass windows for churches, etc. These consist of panels, rosettes, etc., formed of glass (usually coloured in the mass, surface-coloured or made of antique glass) of all shapes, embedded in lead cames, and sometimes reinforced with metal rods.

Similar assemblies are made with the cames of other metals, particularly copperlight glazing, to make them more fire resistant.

(3) Multicellular or foam glass in blocks, panels, plates, shells or similar forms, usually obtained from molten glass into which compressed air is blown or gassing agents are introduced. This gives colourless or coloured glass with a structure akin to that of pumice-stone; it has a specific gravity not exceeding 0.5 (hence its use as a substitute for cork), and is easily drilled, sawn, filed, etc. It is a heat- and sound-insulating and sound-absorbing material, used, in the forms mentioned above, in building, etc.

This glass is also used for the manufacture of life-belts, life-buoys, ornaments, etc. In such forms, it is **excluded** from this heading and classified in the headings applicable to similar articles of other kinds of glass (more particularly, **heading 70.13, 70.17** or **70.20**).

The heading also **excludes** :

(a) Glass of **headings 70.04 to 70.06**.

(b) Multiple-walled insulating glass (**heading 70.08**).

(c) Finished panels and other decorative motifs made from mosaic cubes (**heading 70.20**).

(d) Leaded lights of an age exceeding 100 years (**heading 97.06**).

7016.10

- Glass cubes and other glass smallwares, whether or not on a backing, for mosaics or similar decorative purposes

7016.90

- Other

Heading 7017

Laboratory, hygienic or pharmaceutical glassware, whether or not graduated or calibrated.

EXPLANATORY NOTES

70.17 - Laboratory, hygienic or pharmaceutical glassware, whether or not graduated or calibrated.

7017.10 - Of fused quartz or other fused silica

7017.20 - Of other glass having a linear coefficient of expansion not exceeding 5 x 10^{-6} per Kelvin within a temperature range of 0 °C to 300 °C

7017.90 - Other

This heading covers **glass articles of a kind in general use in laboratories** (research, pharmaceutical, industrial, etc.), including special bottles (gas washing, reagent, Woulf's, etc.), special tubes (gas washing, drying, condensation, filter, gas burettes, test-tubes, etc.), stirrers, distilling flasks, graduated jars, culture flasks (Kolle, Roux, etc.), burettes of all kinds, evaporating dishes, volumetric flasks, special bell-jars and receivers (vacuum, necked, etc.), special dropping bottles (calibrated, etc.), retorts, crystallising dishes, drying cylinders, filter plates and discs, spoons, desiccators, dialysers, adapters, condensers, receivers for distillation apparatus, special funnels (with stop-cock, bulb-shaped funnels, etc.), cylinders, crucibles, filter crucibles, special flasks (conical, multi-necked, etc.), special spirit burners, mortars, weighing boats, pipettes, vacuum vessels of various specialized types (**not falling in heading 96.17**), wash-bottles, stop-cocks, spatulas, jars (filtering, precipitating, multinecked, etc.), muffles, crucible support plates, microscope slides and cover glasses, etc.

Reference should be made to Explanatory Note to heading 90.27 for the rules governing the classification of instruments and apparatus for physical or chemical analysis which, though potentially covered by **heading 90.27**, may at the same time be taken to be laboratory glassware within the meaning of this heading. Such reference will show that this heading covers for example, acidimeters (**other than** those of **heading 90.25**), galactometers, butyrometers, lactobutyrometers, and similar instruments for testing dairy products; albumenometers and ureometers; eudiometers; volumenometers, nitrometers, Kipps and Kjeldahl apparatus and the like; calcimeters; cryoscopes and ebullioscopes for determining molecular weights, etc.

The expression "hygienic or pharmaceutical glassware" refers to articles of general use **not** requiring the services of a practitioner. The heading therefore covers, *inter alia*, irrigators, nozzles (for syringes, enemas, etc.), urinals, bed pans, chamber pots, spittoons, cupping-glasses, breast-relievers (with or without rubber bulb), eye-baths, inhalers and tongue depressors. Spools and reels for winding surgical catgut are also included.

Articles of this heading may be graduated or calibrated. They may be made of ordinary glass (particularly for pharmaceutical or hygienic purposes), but laboratory glassware is frequently of borosilicate glass, fused quartz or other fused silica because of the greater chemical stability and low coefficient of expansion of such glass.

The heading **excludes** :

(a) Containers for the conveyance or packing of goods (**heading 70.10**); ordinary curved watch glasses sometimes used in the laboratory (**heading 70.15**, see the Explanatory Note to that heading); chemists' special display bottles and glassware of a kind used for industrial purposes (**heading 70.20**).

(b) Glass instruments and appliances of **Chapter 90**, for example, hypodermic syringes, special cannulae and other articles being medical, surgical, dental or veterinary instruments or appliances (**heading 90.18**); hydrometers and similar floating instruments, thermometers, pyrometers and barometers of **heading 90.25**, instruments and apparatus of **heading 90.26** (for measuring or checking fluid flow, etc.) and instruments and apparatus for physical or chemical analysis, etc., of **heading 90.27**.

7017.10

- Of fused quartz or other fused silica

7017.20

- Of other glass having a linear coefficient of expansion not exceeding 5 x 10-6 per Kelvin within a temperature range of 0 °C to 300 °C

7017.90

- Other

Heading 7018

Glass beads, imitation pearls, imitation precious or semi-precious stones and similar glass smallwares, and articles thereof other than imitation jewellery; glass eyes other than prosthetic articles; statuettes and other ornaments of lamp-worked glass, other than imitation jewellery; glass microspheres not exceeding 1 mm in diameter.

EXPLANATORY NOTES

70.18 - Glass beads, imitation pearls, imitation precious or semi-precious stones and similar glass smallwares, and articles thereof other than imitation jewellery; glass eyes other than prosthetic articles; statuettes and other ornaments of lamp-worked glass, other than imitation jewellery; glass microspheres not exceeding 1 mm in diameter.

7018.10 - Glass beads, imitation pearls, imitation precious or semi-precious stones and similar glass smallwares

7018.20 - Glass microspheres not exceeding 1 mm in diameter

7018.90 - Other

This heading covers a range of widely diversified glass articles, most of which are used, directly or after further processing, for ornamental and decorative purposes.

These include :

(A) **Glass beads** (e.g., as used for necklaces, rosaries, imitation flowers, ornaments for graves, etc.; for decorating textile articles (trimmings, embroidery, etc.), handbags or the like; or for use as electrical insulators). These beads, whether or not coloured, are in the form of small pierced balls,

more or less round in shape; they are obtained from tubes which are cut into sections of approximately equal length and diameter. The resulting small cylinders are then introduced, together with a mixture of powdery materials (charcoal, graphite, plaster, etc.), into a metal drum revolving over a furnace. Heat softens the glass cylinders and friction gives them a more or less spherical shape, while the powdery material prevents them from adhering to one another.

(B) **Imitation pearls**, hollow or solid, of all colours, shapes and sizes, simulating real pearls. Hollow pearls of the most usual type are obtained by blowing thin glass spheres along a glass tube of very small diameter and then separating them from each other. Due to the manufacturing process, these pearls present two directly opposite openings through which a string can be run. Hollow pearls may also be blown along a glass rod. A material containing pearl essence (a pasty substance consisting of certain fish scales dissolved in ammonia) is then blown into the glass spheres, and sometimes they are filled with white wax to increase their solidity. Such beads can be easily distinguished from real pearls through their lightness and the fact that they can be crushed under very light pressure.

Solid imitation pearls are obtained by turning a drop of glass on a copper wire in a flame, or by casting glass in small moulds traversed by a thin copper tube. After cooling, the metal is dissolved in nitric acid; the glass is not attacked and the pearls show a diametral opening. These pearls are then coated with pearl essence and, finally, with a protective layer of transparent varnish.

(C) **Imitation precious stones** (including imitation semi-precious stones) should not be confused with the synthetic or reconstructed precious stones of **heading 71.04** (see corresponding Explanatory Note). These imitation stones are made of special glass (e.g., strass) with a high refractive index which may be colourless or coloured directly with metallic oxides.

Imitation stones are generally obtained by cutting fragments of the required size from a glass block; these fragments are then arranged on a piece of sheet metal covered with tripoli and placed in a small oven in which their edges are rounded off. The stones can then be cut (in the shape of diamonds, rose-cut diamonds, etc.) or engraved (imitation cameos or intaglios). These stones can also be obtained by direct moulding (e.g., in the case of stones of a definite shape for trinkets). The underside of such stones is often covered with reflecting metallic paint (gem-finish).

(D) **Other glass smallwares** such as imitation coral.

(E) **Various glass articles (other than imitation jewellery)**, obtained by assembling certain of the individual articles mentioned above, such as flowers, foliage and pearl ornaments for wreaths; fringes made of beads or bugles and intended for lampshades, shelves, etc.; blinds and portières made of glass beads or bugles, and table mats made similarly; rosaries made of glass beads or imitation precious or semi-precious stones.

(F) **Glass eyes (other than those for wear by humans (heading 90.21))**, e.g., those for dolls, robots, stuffed animals. Dolls' eyes fitted to an eye closing mechanism are, however, **excluded** (**heading 95.03**).

(G) **Statuettes and other ornaments (other than imitation jewellery)** of lamp-worked glass, obtained by working glass in the pasty state with the aid of a blow lamp. These articles are designed for placing on shelves (animals, plants, statuettes, etc.). They are generally made of clear glass (lead crystal, strass, etc.) or "enamel" glass.

(H) **Glass microspheres** not exceeding 1 mm in diameter, used for the manufacture of panels for road signs, reflecting signs or cinema screens, or in the cleaning of aeroplane jet engines or metallic surfaces. They are perfect spheres of solid cross-section.

Flowers, foliage and fruit of cast or moulded glass, for interior decoration and the like, are **excluded** (**heading 70.13**). Fancy articles of lamp-worked glass incorporating precious metal or metal clad with precious metal **other than** as a minor trimming, or constituting imitation jewellery as defined for the purposes of **Chapter 71**, fall in that Chapter.

The heading also **excludes** :

(a) Glass powder, very often silvered or coloured, for decorating postcards, Christmas tree decorations, etc. (**heading 32.07**).

(b) Handbags and similar articles of leather or fabric, decorated with glass beads, imitation pearls or imitation precious or semi-precious stones (**heading 42.02**).

(c) Picture postcards, Christmas cards and the like, with glass trimmings (**heading 49.09**).

(d) Textile articles incorporating appliqué work of glass beads (**Section XI** and particularly **heading 58.10**).

(e) Fabrics coated with microspheres for cinematographic screens, etc. (**heading 59.07**).

(f) Footwear, headgear and walking sticks and umbrellas decorated with glass beads, imitation pearls or imitation precious or semi-precious stones (**Chapters 64, 65** and **66**).

(g) Imitation pearls or imitation precious or semi-precious stones mounted or set in precious metal or metal clad with precious metal (**heading 71.13** or **71.14**) or imitation jewellery within the meaning of **heading 71.17** (see corresponding Explanatory Note).

(h) Cuff-links (**heading 71.13** or **71.17** as appropriate).

(ij) Toys, games, Christmas tree decorations (including balls of thin blown glass) (**Chapter 95**).

(k) Buttons and studs (**heading 96.06** or **Chapter 71** as appropriate).

7018.10

- Glass beads, imitation pearls, imitation precious or semi-precious stones and similar glass smallwares

7018.20

- Glass microspheres not exceeding 1 mm in diameter

7018.90

- Other

Heading 7019

Glass fibres (including glass wool) and articles thereof (for example, yarn, rovings, woven fabrics).

EXPLANATORY NOTES

70.19 - Glass fibres (including glass wool) and articles thereof (for example, yarn, rovings, woven fabrics) (+).

- Slivers, rovings, yarn and chopped strands and mats thereof :

7019.11 - - Chopped strands, of a length of not more than 50 mm

7019.12 - - Rovings

7019.13 - - Other yarn, slivers

7019.14 - - Mechanically bonded mats

7019.15 - - Chemically bonded mats

7019.19 - - Other

- Mechanically bonded fabrics :

7019.61 - - Closed woven fabrics of rovings

7019.62 - - Other closed fabrics of rovings

7019.63 - - Closed woven fabrics, plain weave, of yarns, not coated or laminated

7019.64 - - Closed woven fabrics, plain weave, of yarns, coated or laminated

7019.65 - - Open woven fabrics of a width not exceeding 30 cm

7019.66 - - Open woven fabrics of a width exceeding 30 cm

7019.69 - - Other

- Chemically bonded fabrics :

7019.71 - - Veils (thin sheets)

7019.72 - - Other closed fabrics

7019.73 - - Other open fabrics

7019.80 - Glass wool and articles of glass wool

7019.90 - Other

This heading includes glass fibres themselves and glass fibres (including glass wool as defined in Note 4 to this Chapter) made up in various forms, including those glass fibre articles excluded from other headings by reason of their nature.

Glass fibres have the following properties : they are less flexible than vegetable or animal textile fibres (glass yarns cannot be knotted easily); they are strong (stronger than any of the textile fibres of Section XI, and in terms of tensile strength they are stronger than steel with less weight); they do not stretch or shrink, offering a good dimensional stability; they are non-hygroscopic; they do not burn and have low sound and thermal conductivity (in some cases); they do not rot and are resistant to water and most acids; they have low UV sensitivity; they are poor conductors of electricity and have dielectric permeability; they are compatible with organic matrices.

Glass wool (random oriented fibres) are glass products in which the filaments are randomly oriented, forming a bulky product, mostly used for insulation purposes.

There are two types of glass fibre:

(a) (continuous) filament glass fibre consisting of a large number of continuous parallel filaments with diameters usually between 3 and 34 µm (microns); after forming, those continuous filaments are held together in a strand (a process also called "sizing") designed to facilitate subsequent production steps (chopping, winding, twisting, weaving, etc.).

(b) discontinuous glass fibre (staple glass fibre) consisting of filaments cut or broken in short lengths during production process and pulled into a continuous strand of loosely assembled fibres.

Glass fibres can be further processed into the following articles of this heading:

- mats and scrims with chemically bonded fibres, i.e. chopped strand mats, continuous strand mats and typical fabrics which are not woven, like veils (thin sheets), laid scrims, etc.,

- fabrics and mats with mechanically bonded fibres, i.e. woven fabrics, non-crimp fabrics, knitted fabrics, stitched fabrics, needled fabrics like woven roving, open mesh fabrics, screens, etc.

Glass fibres can be obtained by various processes which, apart from a few exceptions, can be grouped in three broad categories :

(I) **Mechanical drawing**.

In this process a mixture of sand, limestone and kaolin is melted in a furnace to produce glass. Depending on the composition different glass types may be produced. It flows into a forehearth, the underside of which is fitted with bushings made of alloys of precious metal (normally of rhodium or of platinum) to withstand the high temperatures. The bushings are pierced by a large number of small holes through which molten glass filaments flow. After a sizing treatment (for example, with silicone), the formed strands are either carried on to a high speed mandril which draws them on a cardboard tube or directly chopped under the bushing. The obtained glass fibres (chopped strands) can be further processed into mats and fabrics.

(II) **Centrifugal drawing**.

In this system, glass melted in pots falls on a refractory clay disc revolving at great speed and fitted along the **periphery** with a very large number of teeth. The glass adheres to this disc, which is heated by the flame from a furnace, but, at the same time it is drawn into filaments by means of centrifugal force. These filaments are blown on to a stationary table and coiled on to a cooling drum.

This process thus yields short fibres known as glass wool, which is used in bulk without spinning.

(III) **Drawing by means of fluids**.

In this process, drawing is achieved by means of jets of high-pressure steam or compressed air blown from either side on to the filaments of molten glass coming from the furnace through a drawing-plate. Under the action of these jets, the filaments are broken into short lengths which are coated with lubricants in the course of manufacture.

The continuous fibres thus obtained are coiled on a drum to form either webs which are used as such (insulation blankets), or staple fibres which can subsequently be spun into yarn.

Fabrics made of glass fibres are usually obtained by production processes which can be grouped in two main categories :

(I) Chemical binding:

(a) Glass veilprocess, wet or dry laid

(b) Laid scrim process.

(II) Mechanical binding:

(a) Weaving process:

Weaving machines, or looms, interlace the warp fibres (lengthwise direction) and filling fibres (weft) according to various weave patterns (plain weave, leno weave, etc.) to form a closed or open fabric structure.

(b) Knitting process:

Knitting machines enable planar or tubular fabric structures to be obtained by inter-looping loops of connected fibres using a knitting system in the length direction (warp knitting) or in the width direction (weft knitting). Warp knitting technology is often used to stitch multi-layer fabrics.

(c) Other textile industry processes: stitch-bonding, needling, etc.

Fabrics can have a closed structure (such as woven roving or multi axial fabrics) or open (such as woven open mesh fabrics or laid scrims), depending on the technical requirements of the further production stages required to obtain the final product. Closed fabrics are needed for resin impregnation, while open fabrics with a regular open structure are needed to produce mosquito nets or reinforcement mesh for wall repairs, where render or plaster has to flow through the mesh structure.

*

* *

Glass fibres and articles of glass fibres of this heading may be, in particular, in the following forms :

(A) Glass wool in bulk, boards, panels, mattresses made of glass wool.

(B) Slivers, rovings, yarn and chopped strands, mats thereof.

(C) Mechanically bonded fabrics, including narrow fabrics.

(D) Chemically bonded fabrics including veils (thin sheets), or laid scrims.

This heading also covers curtains, draperies and other articles of woven glass fabrics.

It is pointed out that although “chemical embroideries” or embroideries without visible ground, in which the embroidering thread consists of glass fibres, are classified here, embroidery in any of the textiles classified in Section XI, in which some of the effects are obtained by embroidering threads made of glass fibres, is **excluded** (**heading 58.10**).

*

* *

The uses of glass fibres and fabrics made of glass fibres are numerous, for example :

(1) For infrastructures, environmental use and green energy generation (e.g., multi-axial fabrics reinforcing wind blades, geotextiles for road reinforcement, composites in bridge structure, etc.).

(2) In the building and construction sector (e.g., for reinforcement of roofing membranes or shingles, carpets, cement and gypsum boards, architectural textiles, façade cladding, wall repair and external thermal insulation composite systems, etc.).

(3) In furnishing and interior decoration (e.g., for upholstery, wall hangings, curtains, mosquito nets, sun screens), in the form of fabrics, which can be dyed or printed.

(4) For heat-insulation and high temperature protection purposes (e.g., for insulating roofs, chimneys, boilers, furnaces, steam piping, steam turbine bodies, tubes or pipes, ice-cupboards, and heat-insulated vans or wagons) in the form of fibres in bulk, nodules, felts, pads, casings (for pipes) or braids, (whether or not impregnated with glue, pitch or other substances, or with paper, textile or wire mesh supports).

(5) For electrical insulation (e.g., for electric wires, cables or other current carrying apparatus) in the form of filaments, yarn, tape, braid, fabric (whether or not impregnated with natural resins, plastics, asphalt, etc.) and to reinforce PCB (printed circuit boards) used in the electronic industry (automatic data processing machines, phones, etc.).

(6) For sound-insulation (e.g., for flats, offices, ships' cabins, cars, theatres) in the form of fibres in bulk, felts, mattresses or rigid boards.

(7) For the reinforcement of thermoplastic and thermoset in various production processes and for many applications such as tanks, vats and pipes for storing and transporting liquids, machine hoods and other moulded parts for industrial or agricultural use, bumpers for motor vehicles, equipment for track vehicles, railway coaches or aircraft, home appliances, boat hulls, fishing rods, skis, tennis rackets and other articles for sport, etc.

(8) For the manufacture of miscellaneous other industrial products such as: filtration products for air-conditioning or for the chemical industry, reinforcement of grinding wheels, medical care, packaging reinforcement, etc.

The heading **excludes** :

(a) Semi-finished products and articles obtained by compressing glass fibres, or superimposed layers of glass fibres, impregnated with plastics, if having a hard, rigid character and hence having lost the character of articles of glass fibres (**Chapter 39**).

(b) Mineral wools (see Note 4 to Chapter 70) and articles thereof of **heading 68.06**.

(c) Roofing boards with a substrate consisting of glass-fibre web or fabric completely enveloped in, or covered on both sides by, a layer of asphalt or similar material (**heading 68.07**).

(d) Multiple-walled insulating glass with an interlayer of glass fibres (**heading 70.08**).

(e) Optical fibre cables of **heading 85.44**, electrical insulators (**heading 85.46**) and fittings of insulating material (**heading 85.47**).

(f) Optical fibres, bundles and cables of **heading 90.01**.

(g) Dolls' wigs of glass fibres (**heading 95.03**) and fishing rods made of glass fibres agglomerated with synthetic resin (**heading 95.07**).

(h) Brushes of glass fibres (**heading 96.03**).

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° °

Subheading Explanatory Notes.

Subheading 7019.11

Chopped strand is produced by cutting strands containing many parallel filaments. Generally, chopped strands are used to provide strength, for example, to plastics or mortar or to different filters (air, oil, etc.).

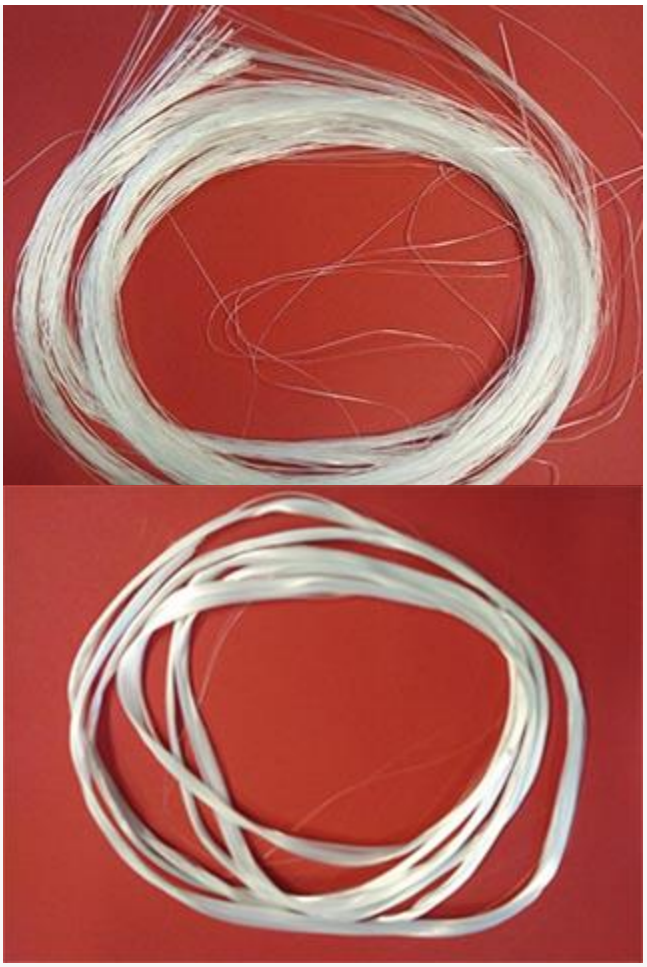


Subheading 7019.12

A glass **roving** is a collection of parallel strands (assembled or multi-end roving) or parallel filaments (direct or single-end roving) assembled without intentional twist from glass fibre cakes (see hereafter) and usually without a cardboard tube.

The glass filaments obtained during the mechanical drawing process and wound under the bushings on flexible cardboard tubes are called “glass fibre cakes”. These cakes of untwisted glass fibres are intermediate products, the further processing and classification of which depend on their filament diameter (in microns) and weight (in tex).

Glass fibre cakes with a filament diameter of not more than 14 microns and weighing 300 tex or less are light and thick fibres usually called “textile cakes” and designed to produce yarns and light flexible fabrics. These light and thick fibres are excluded from this subheading (**subheading 7019.19**).



Subheading 7019.13

This subheading includes **slivers**. A sliver consists of staple fibres of short lengths, usually less than 380 mm in length. The staple fibres are loosely arranged in parallel fashion into a rope-like strand with

little or no twist (less than 5 turns per metre). Slivers are generally used to produce staple fibre yarn, but may also be used in the manufacture of wire and cable.

Yarn of this subheading is twisted, and of either continuous filament or staple fibre. Yarns are usually supplied either on plastic bobbins or on metallic warp beams.

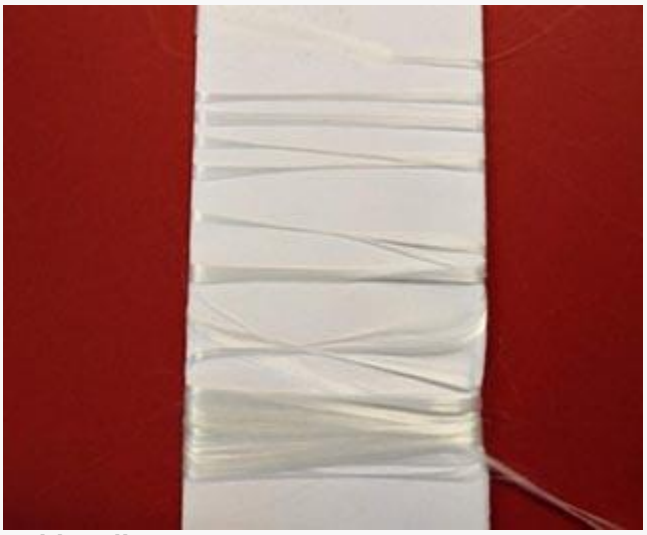
They can be also texturised or voluminised. In this process the glass yarns are overfed in a nozzle in which an airstream creates turbulence that causes the formation of loops and imparts a slight (texturising) or high (voluminising) bulk.

These types of yarns are usually supplied on cardboard tubes and are used in various applications such as:

- wall covering woven fabrics to avoid a flat aspect,

- woven fabrics for roofing,

- thermal insulation products.



Subheading 7019.14

Mechanically bonded mats are flat reinforcing products of glass strands, consisting of several hundred parallel filaments. The glass strands are distributed in random order.

In mechanically bonded mats the strands are stitched or needled together.

Glass strands retain their shape in the form of parallel filaments distributed randomly, which can be individually separated from the mat by hand, without damaging it.



Subheading 7019.15

Chemically bonded mats are flat reinforcing products of glass strands, consisting of several hundred parallel filaments distributed in random order.

In chemically bonded mats the strands can be cut (mats of discontinuous strands) or uncut (mats of continuous thread) and are held together by means of a binder.

They retain their shape in the form of parallel filaments distributed randomly, which can be individually separated (after resolving a binder) from the mat by hand, without damaging it.



Subheading 7019.61

Closed woven fabrics of rovings (no regular open structure) are interlaced by weaving on a loom and not coated or laminated. They usually have a weight of more than 200 g/m^2. They are mostly used for composites applications (e.g., wind energy, automotive industry).



Subheading 7019.62

Other closed fabrics of rovings (no regular open structure), mechanically bonded, but not woven, mostly used for composites applications.

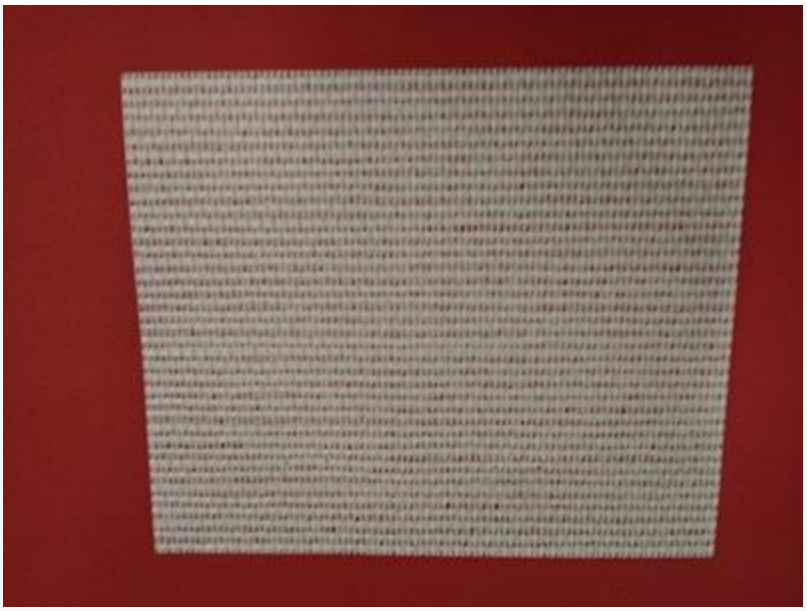
Binding is generally done by stitching, but can also be done by needling.

Typical products are multi axial fabrics, complexes or combinations (woven roving with chopped fibres of multi-end roving), which are multi-layer fabrics assembled together by stitching.



Subheading 7019.63

Closed woven fabrics, plain weave, of yarns, not coated or laminated. These are used, for example, for covering walls or for thermal and acoustic insulation.

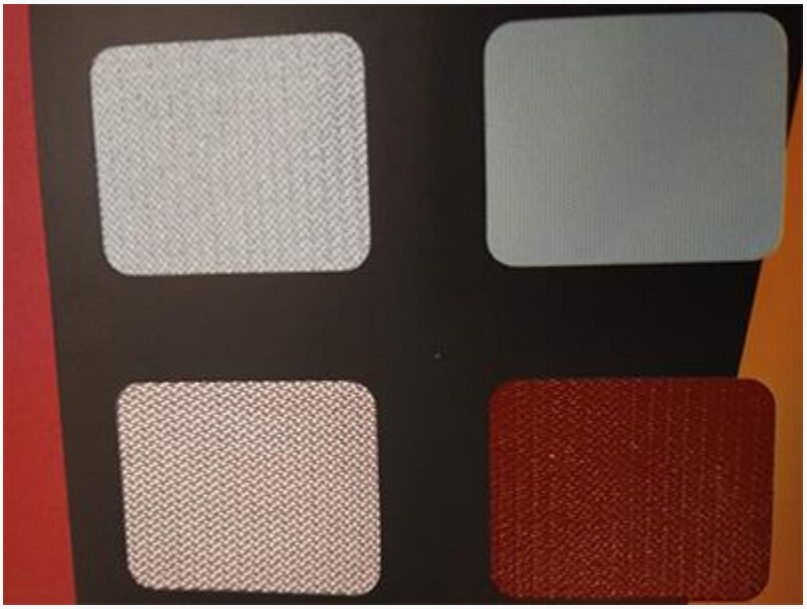


Subheading 7019.64

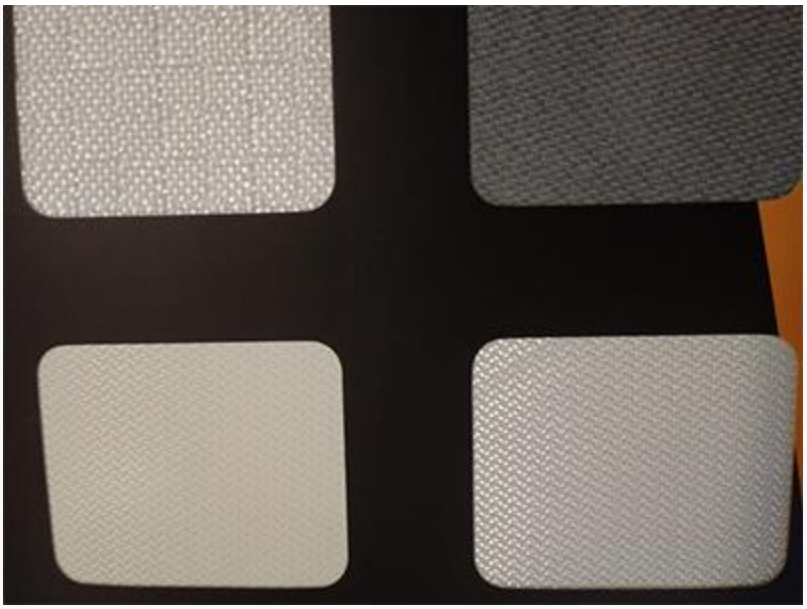
Closed woven fabrics, plain weave, of yarns, coated or laminated (with silicone, PTFE, aluminium) are used for various industrial or building applications, for example:

- architectural use,

- smoke and fire protection.



(Coated)



(laminated)

Subheading 7019.65

Open woven fabrics of this subheading may include narrow open mesh fabricshaving a regular "open" structure, for example in the shape of circles, ovals, rectangles (including squares), equilateral triangles or regular convex polygons, mechanically bonded. They are usually used for facade corner reinforcement or as joint tapes on walls.



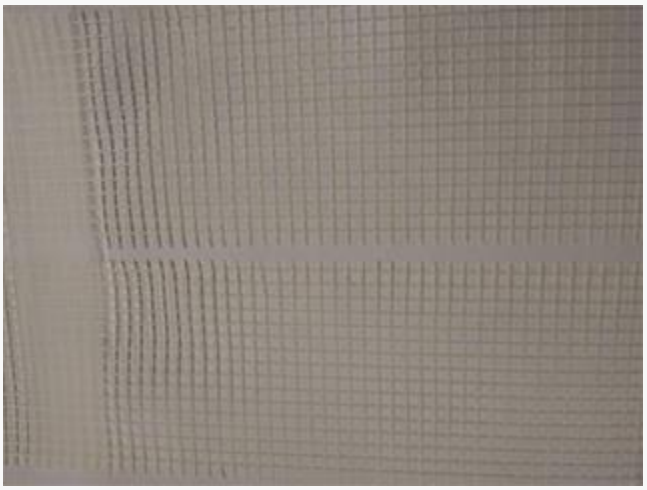
Subheading 7019.66

Open woven fabrics having a regular "open" structure, for example in the shape of circles, ovals, rectangles (including squares), equilateral triangles or regular convex polygons. These woven fabrics, are more than 30 cm wide and are usually used as reinforcement for facades in external thermal insulation composite systems, for marbles and mosaics, for gypsum boards, walls, and floors.

Light mesh fabrics with cell openings below 1.8 mm are usually used as insect screens or sun screens.

Heavy open mesh fabrics are usually called geotextile fabrics and are used for soil purposes such as reinforcement or slope stabilisation.

Open mesh fabrics with a special resistant or silica glass coating are usually used for high temperature filtration or grinding wheel reinforcement.

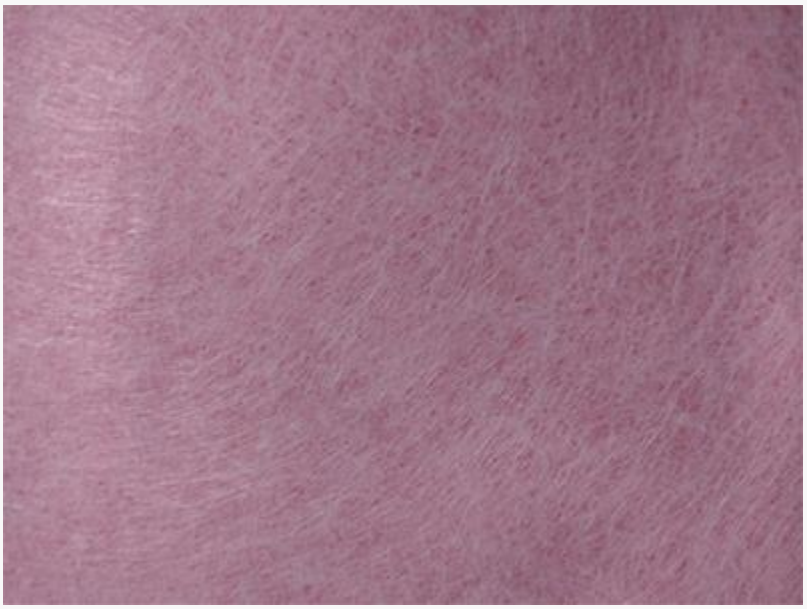


Subheading 7019.71

Veils (thin sheets) are nonwovens made from individual glass fibres (filaments) distributed in random order. The fibres are held together by means of a binder and pressed and may or may not incorporate reinforcement threads which are most often stretched lengthwise throughout the sheets.

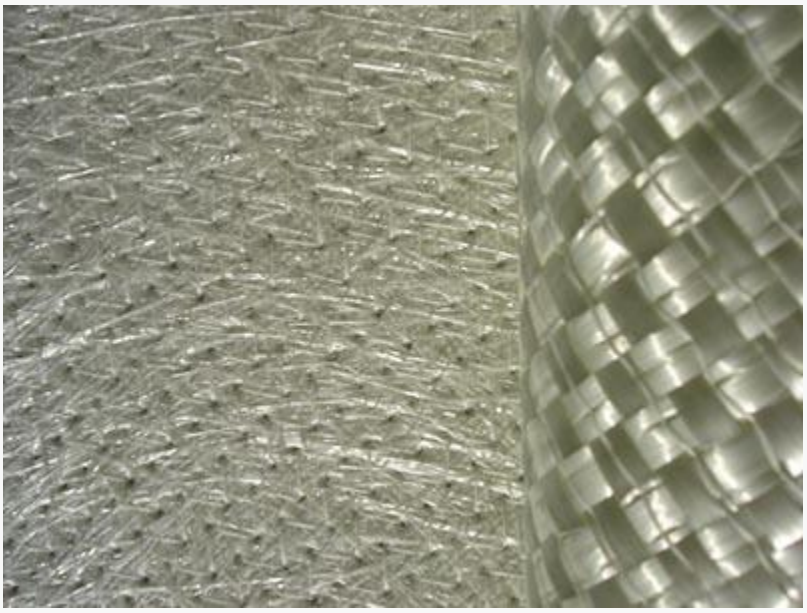
Unlike glass mats, the individual filaments of these products cannot be removed by hand without damaging the sheet.

Thin sheets can be distinguished from webs, mattresses and other insulation products by their regular thickness, which does not exceed 10 mm.



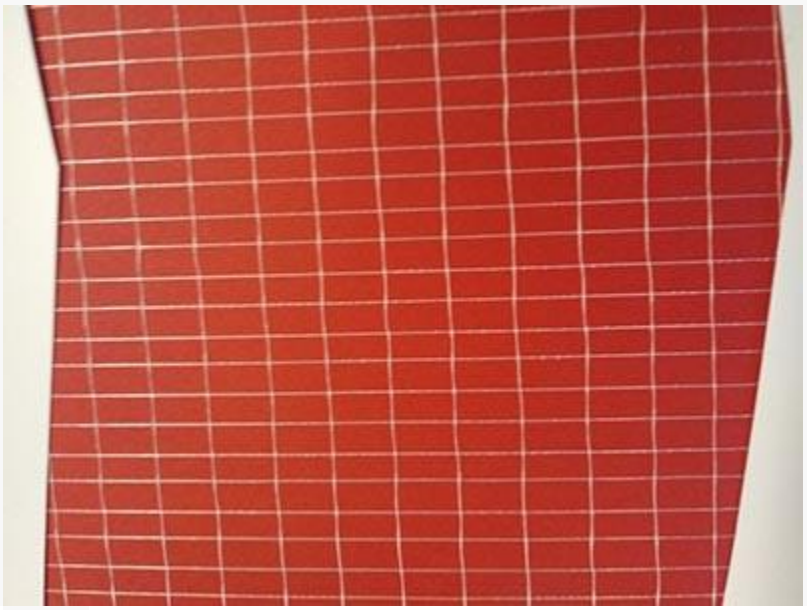
Subheading 7019.72

Other chemically bonded closed fabrics may include complexes of woven roving with chopped fibres of multi-end roving, which are multi-layer fabrics assembled together by powder and thermal bonding.



Subheading 7019.73

Other chemically bonded open fabrics may include laid scrims made of yarns (regular open structure).



7019.1

- Slivers, rovings, yarn and chopped strands and mats thereof :

7019.11

-- Chopped strands, of a length of not more than 50 mm

7019.12

-- Rovings
7019.13

-- Other yarn, slivers
7019.14

-- Mechanically bonded mats
7019.15

-- Chemically bonded mats
7019.19

-- Other
7019.6

- Mechanically bonded fabrics :
7019.61

-- Closed woven fabrics of rovings
7019.62

-- Other closed fabrics of rovings
7019.63

-- Closed woven fabrics, plain weave, of yarns, not coated or laminated
7019.64

-- Closed woven fabrics, plain weave, of yarns, coated or laminated
7019.65

-- Open woven fabrics of a width not exceeding 30 cm
7019.66

-- Open woven fabrics of a width exceeding 30 cm
7019.69

-- Other
7019.7

- Chemically bonded fabrics :
7019.71

-- Veils (thin sheets)
7019.72

-- Other closed fabrics
7019.73

-- Other open fabrics
7019.80

- Glass wool and articles of glass wool

CLASSIFICATION OPINIONS

1. **Glass fibre (glass wool) product suitable for heat or sound insulation**, presented in rolls. The product has the following dimensions: length 6,250 to 10,000 mm, width 1,200 mm and thickness 50 mm. By structure, the product is made of glass staple unparallel (randomly located) fibres with synthetic filament bonding. It is impossible to separate the elementary thread (fibre) from the materials produced by such technologies without damaging the product. **Application of GIRs 1 and 6.**

Adoption : 2013



7019.90

- Other

CLASSIFICATION OPINIONS

1. Air purifying filters, ready for use in the inlet or outlet of heating pipes, consisting of a layer of glass fibre sandwiched between two perforated thin metal sheets and mounted in a square paperboard frame (dimensions : 50 x 50 x 5 cm).
Adoption : 1960

Heading 7020

Other articles of glass.

EXPLANATORY NOTES

70.20 - Other articles of glass.

This heading covers glass articles (including glass parts of articles) **not covered** by other headings of this Chapter or of other Chapters of the Nomenclature.

These articles remain here even if combined with materials other than glass, **provided** they retain the essential character of glass articles. The heading includes :

(1) Industrial articles such as pots, bowls, cylinders or discs for glazing hides or skins; protectors for safety or other apparatus; greasing cups; thread guides; sight-holes and gauge-glasses; S-shaped tubes; coils; guttering and drains for corrosive products (often of fused quartz or other fused silica); absorption drums for hydrochloric acid and trickling columns.

(2) Articles for husbandry (tanks, troughs, etc.) and horticultural appliances (cloches, etc.).

(3) Letters, numbers, sign-plates and similar motifs for shop signs and shop windows, whether or not bearing a printed picture or text (**other than** those of **heading 70.06, 70.09** or **70.14**, or of **heading 94.05**, if illuminated).

(4) Glass inners for vacuum flasks or for any other type of vacuum vessels, other than those transformed by a casing or any other kind of protective envelope (complete or partial) into vacuum flasks or other vacuum vessels of **heading 96.17**. The inners of this heading are normally made of ordinary glass, or of glass with a low coefficient of expansion. They are generally more or less cylindrical and have double walls whose interior is silvered or gilded. The space between the walls is exhausted and the walls are then sealed. This heading covers **only** the glass inners. These may be finished or unfinished, and may be with or without stoppers or other closures (whether or not fitted).

(5) Miscellaneous articles such as floats for fishing nets; knobs and handles for doors, cistern chains, etc.; pots for water colours; accessories for bird-cages (feeding or drinking troughs, etc.); display bottles for shops; dropping-tubes, spirit burners **other than** those of **heading 70.17**, base cups for piano or furniture feet; finished panels and other decorative motifs made from glass mosaic cubes, whether or not framed; life-buoys and life-belts.

The heading also **excludes** :

(a) Glass knobs, handles and the like, for umbrellas and walking-sticks (**heading 66.03**).

(b) Insulators and fittings of insulating material of **heading 85.46** or **85.47**.

(c) Instruments, appliances and other articles of **Chapter 90**.

(d) Articles of **Chapter 91** (e.g., glass clock cases, other than merely protective covers).

(e) Musical instruments, and parts and accessories therefor, of **Chapter 92** (e.g., tuning forks of fused silica).

(f) Glass furniture, and parts thereof clearly recognisable as such (**Chapter 94**).

(g) Toys, games, Christmas tree decorations, fishing or hunting requisites and other glass articles of **Chapter 95**.

(h) Glass articles of **Chapter 96** (e.g., buttons; pen-holders; pencil-holders; pen nibs; lighters; scent sprays; vacuum flasks and other vacuum vessels, complete).

(ij) Antiques, being articles of an age exceeding 100 years (**heading 97.06**).

7020.00

Other articles of glass.

CLASSIFICATION OPINIONS

1. **Glass shower enclosure**, with side entry door, made up of four panels of 4 mm-thick tempered safety glass, and the following assembly components: two aluminium frame sections, two top and bottom rails, seals, wheels and two small metal handles. Once assembled, the panels form an aluminium semi-framed shower enclosure, with a sliding door and a footprint size of: 885 mm x 885 mm, height: 1850 mm. The model is presented without a shower tray. **Application of GIRs 1 and 3 (b).** *Adoption : 2018*



2. **Glass shower enclosure**, made up of three panels of 8 mm-thick tempered safety glass, presented with the following assembly components: two hinges, one metal handle, one seal of plastics and one metal support arm to attach to the top part of the door, two aluminium frame sections, and floor brackets for mounting the fixed enclosure. Once assembled the panels look like an unframed glass corner unit attached to the wall. The dimensions are as follows: footprint size: 900 mm x 900 mm, height: 1850 mm. The model is presented without a shower tray. **Application of GIRs 1 and 3 (b).** *Adoption : 2018*



Section XIV

NATURAL OR CULTURED PEARLS, PRECIOUS OR SEMI-PRECIOUS STONES, PRECIOUS METALS, METALS CLAD WITH PRECIOUS METAL, AND ARTICLES THEREOF; IMITATION JEWELLERY; COIN

EXPLANATORY NOTES

Section XIV

NATURAL OR CULTURED PEARLS, PRECIOUS OR SEMI-PRECIOUS STONES, PRECIOUS METALS, METALS CLAD WITH PRECIOUS METAL, AND ARTICLES THEREOF; IMITATION JEWELLERY; COIN

Chapter 71

Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin

LEGAL NOTES **Notes.**

1.- Subject to Note 1 (a) to Section VI and except as provided below, all articles consisting wholly or partly :

(a) Of natural or cultured pearls or of precious or semi-precious stones (natural, synthetic or reconstructed), or

(b) Of precious metal or of metal clad with precious metal, are to be classified in this Chapter.

2.- (A) Headings 71.13, 71.14 and 71.15 do not cover articles in which precious metal or metal clad with precious metal is present as minor constituents only, such as minor fittings or minor ornamentation (for example, monograms, ferrules and rims), and paragraph (b) of the foregoing Note does not apply to such articles (*).

(B) Heading 71.16 does not cover articles containing precious metal or metal clad with precious metal (other than as minor constituents).

3.- This Chapter does not cover :

(a) Amalgams of precious metal, or colloidal precious metal (heading 28.43);

(b) Sterile surgical suture materials, dental fillings or other goods of Chapter 30;

(c) Goods of Chapter 32 (for example, lustres);

(d) Supported catalysts (heading 38.15);

(e) Articles of heading 42.02 or 42.03 referred to in Note 3 (B) to Chapter 42;

(f) Articles of heading 43.03 or 43.04;

(g) Goods of Section XI (textiles and textile articles);

(h) Footwear, headgear or other articles of Chapter 64 or 65;

(ij) Umbrellas, walking-sticks or other articles of Chapter 66;

(k) Abrasive goods of heading 68.04 or 68.05 or Chapter 82, containing dust or powder of precious or semi-precious stones (natural or synthetic); articles of Chapter 82 with a working part of precious or semi-precious stones (natural, synthetic or reconstructed); machinery, mechanical appliances or electrical goods, or parts thereof, of Section XVI. However, articles and parts thereof, wholly of precious or semi-precious stones (natural, synthetic or reconstructed) remain classified in this Chapter, except unmounted worked sapphires and diamonds for styli (heading 85.22);

(l) Articles of Chapter 90, 91 or 92 (scientific instruments, clocks and watches, musical instruments);

(m) Arms or parts thereof (Chapter 93);

(n) Articles covered by Note 2 to Chapter 95;

(o) Articles classified in Chapter 96 by virtue of Note 4 to that Chapter; or

(p) Original sculptures or statuary (heading 97.03), collectors' pieces (heading 97.05) or antiques of an age exceeding one hundred years (heading 97.06), other than natural or cultured pearls or precious or semi-precious stones.

4.- (A) The expression "precious metal" means silver, gold and platinum.

(B) The expression "platinum" means platinum, iridium, osmium, palladium, rhodium and ruthenium.

(C) The expression "precious or semi-precious stones" does not include any of the substances specified in Note 2 (b) to Chapter 96.

5.- For the purposes of this Chapter, any alloy (including a sintered mixture and an inter-metallic compound) containing precious metal is to be treated as an alloy of precious metal if any one precious metal constitutes as much as 2 %, by weight, of the alloy. Alloys of precious metal are to be classified according to the following rules :

(a) An alloy containing 2 % or more, by weight, of platinum is to be treated as an alloy of platinum;

(b) An alloy containing 2 % or more, by weight, of gold but no platinum, or less than 2 %, by weight, of platinum, is to be treated as an alloy of gold;

(c) Other alloys containing 2 % or more, by weight, of silver are to be treated as alloys of silver.

6.- Except where the context otherwise requires, any reference in the Nomenclature to precious metal or to any particular precious metal includes a reference to alloys treated as alloys of precious metal or of the particular metal in accordance with the rules in Note 5 above, but not to metal clad with precious metal or to base metal or non-metals plated with precious metal.

7.- Throughout the Nomenclature the expression "metal clad with precious metal" means material made with a base of metal upon one or more surfaces of which there is affixed by soldering, brazing, welding, hot-rolling or similar mechanical means a covering of precious metal. Except where the context otherwise requires, the expression also covers base metal inlaid with precious metal.

8.- Subject to Note 1 (a) to Section VI, goods answering to a description in heading 71.12 are to be classified in that heading and in no other heading of the Nomenclature.

9.- For the purposes of heading 71.13, the expression "articles of jewellery" means :

(a) Any small objects of personal adornment (for example, rings, bracelets, necklaces, brooches, ear-rings, watch-chains, fobs, pendants, tie-pins, cuff-links, dress-studs, religious or other medals and insignia); and

(b) Articles of personal use of a kind normally carried in the pocket, in the handbag or on the person (for example, cigar or cigarette cases, snuff boxes, cachou or pill boxes, powder boxes, chain purses or prayer beads).

These articles may be combined or set, for example, with natural or cultured pearls, precious or semi-precious stones, synthetic or reconstructed precious or semi-precious stones, tortoise shell, mother-of-pearl, ivory, natural or reconstituted amber, jet or coral.

10.- For the purposes of heading 71.14, the expression “articles of goldsmiths’ or silversmiths’ wares” includes such articles as ornaments, tableware, toilet-ware, smokers’ requisites and other articles of household, office or religious use.

11.- For the purposes of heading 71.17, the expression “imitation jewellery” means articles of jewellery within the meaning of paragraph (a) of Note 9 above (but not including buttons or other articles of heading 96.06, or dress-combs, hair-slides or the like, or hairpins, of heading 96.15), not incorporating natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed) nor (except as plating or as minor constituents) precious metal or metal clad with precious metal.

Subheading Notes.

1.- For the purposes of subheadings 7106.10, 7108.11, 7110.11, 7110.21, 7110.31 and 7110.41, the expressions “powder” and “in powder form” mean products of which 90 % or more by weight passes through a sieve having a mesh aperture of 0.5 mm.

2.- Notwithstanding the provisions of Chapter Note 4 (B), for the purposes of subheadings 7110.11 and 7110.19, the expression “platinum” does not include iridium, osmium, palladium, rhodium or ruthenium.

3.- For the classification of alloys in the subheadings of heading 71.10, each alloy is to be classified with that metal, platinum, palladium, rhodium, iridium, osmium or ruthenium which predominates by weight over each other of these metals.

EXPLANATORY NOTES

Chapter 71

Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin

Notes.

1.- Subject to Note 1 (a) to Section VI and except as provided below, all articles consisting wholly or partly :

(a) Of natural or cultured pearls or of precious or semi-precious stones (natural, synthetic or reconstructed), or

(b) Of precious metal or of metal clad with precious metal, are to be classified in this Chapter.

2.- (A) Headings 71.13, 71.14 and 71.15 do not cover articles in which precious metal or metal clad with precious metal is present as minor constituents only, such as minor fittings or minor ornamentation (for example, monograms, ferrules and rims), and paragraph (b) of the foregoing Note does not apply to such articles (*).

(B) Heading 71.16 does not cover articles containing precious metal or metal clad with precious metal (other than as minor constituents).

3.- This Chapter does not cover :

(a) Amalgams of precious metal, or colloidal precious metal (heading 28.43);

(b) Sterile surgical suture materials, dental fillings or other goods of Chapter 30;

(c) Goods of Chapter 32 (for example, lustres);

(d) Supported catalysts (heading 38.15);

(e) Articles of heading 42.02 or 42.03 referred to in Note 3 (B) to Chapter 42;

(f) Articles of heading 43.03 or 43.04;

(g) Goods of Section XI (textiles and textile articles);

(h) Footwear, headgear or other articles of Chapter 64 or 65;

(ij) Umbrellas, walking-sticks or other articles of Chapter 66;

(k) Abrasive goods of heading 68.04 or 68.05 or Chapter 82, containing dust or powder of precious or semi-precious stones (natural or synthetic); articles of Chapter 82 with a working part of precious or semi-precious stones (natural, synthetic or reconstructed); machinery, mechanical appliances or electrical goods, or parts thereof, of Section XVI. However, articles and parts thereof, wholly of precious or semi-precious stones (natural, synthetic or reconstructed) remain classified in this Chapter, except unmounted worked sapphires and diamonds for styli (heading 85.22);

(l) Articles of Chapter 90, 91 or 92 (scientific instruments, clocks and watches, musical instruments);

(m) Arms or parts thereof (Chapter 93);

(n) Articles covered by Note 2 to Chapter 95;

(o) Articles classified in Chapter 96 by virtue of Note 4 to that Chapter; or

(p) Original sculptures or statuary (heading 97.03), collectors' pieces (heading 97.05) or antiques of an age exceeding one hundred years (heading 97.06), other than natural or cultured pearls or precious or semi-precious stones.

4.- (A) The expression "precious metal" means silver, gold and platinum.

(B) The expression "platinum" means platinum, iridium, osmium, palladium, rhodium and ruthenium.

(C) The expression "precious or semi-precious stones" does not include any of the substances specified in Note 2 (b) to Chapter 96.

5.- For the purposes of this Chapter, any alloy (including a sintered mixture and an inter-metallic compound) containing precious metal is to be treated as an alloy of precious metal if any one precious metal constitutes as much as 2 %, by weight, of the alloy. Alloys of precious metal are to be classified according to the following rules :

(a) An alloy containing 2 % or more, by weight, of platinum is to be treated as an alloy of platinum;

(b) An alloy containing 2 % or more, by weight, of gold but no platinum, or less than 2 %, by weight, of platinum, is to be treated as an alloy of gold;

(c) Other alloys containing 2 % or more, by weight, of silver are to be treated as alloys of silver.

6.- Except where the context otherwise requires, any reference in the Nomenclature to precious metal or to any particular precious metal includes a reference to alloys treated as alloys of precious metal or of the particular metal in accordance with the rules in Note 5 above, but not to metal clad with precious metal or to base metal or non-metals plated with precious metal.

7.- Throughout the Nomenclature the expression "metal clad with precious metal" means material made with a base of metal upon one or more surfaces of which there is affixed by soldering, brazing, welding, hot-rolling or similar mechanical means a covering of precious metal. Except where the context otherwise requires, the expression also covers base metal inlaid with precious metal.

8.- Subject to Note 1 (a) to Section VI, goods answering to a description in heading 71.12 are to be classified in that heading and in no other heading of the Nomenclature.

9.- For the purposes of heading 71.13, the expression "articles of jewellery" means :

(a) Any small objects of personal adornment (for example, rings, bracelets, necklaces, brooches, ear-rings, watch-chains, fobs, pendants, tie-pins, cuff-links, dress-studs, religious or other medals and insignia); and

(b) Articles of personal use of a kind normally carried in the pocket, in the handbag or on the person (for example, cigar or cigarette cases, snuff boxes, cachou or pill boxes, powder boxes, chain purses or prayer beads).

These articles may be combined or set, for example, with natural or cultured pearls, precious or semi-precious stones, synthetic or reconstructed precious or semi-precious stones, tortoise shell, mother-of-pearl, ivory, natural or reconstituted amber, jet or coral.

10.- For the purposes of heading 71.14, the expression “articles of goldsmiths’ or silversmiths’ wares” includes such articles as ornaments, tableware, toilet-ware, smokers’ requisites and other articles of household, office or religious use.

11.- For the purposes of heading 71.17, the expression “imitation jewellery” means articles of jewellery within the meaning of paragraph (a) of Note 9 above (but not including buttons or other articles of heading 96.06, or dress-combs, hair-slides or the like, or hairpins, of heading 96.15), not incorporating natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed) nor (except as plating or as minor constituents) precious metal or metal clad with precious metal.

Subheading Notes.

1.- For the purposes of subheadings 7106.10, 7108.11, 7110.11, 7110.21, 7110.31 and 7110.41, the expressions “powder” and “in powder form” mean products of which 90 % or more by weight passes through a sieve having a mesh aperture of 0.5 mm.

2.- Notwithstanding the provisions of Chapter Note 4 (B), for the purposes of subheadings 7110.11 and 7110.19, the expression “platinum” does not include iridium, osmium, palladium, rhodium or ruthenium.

3.- For the classification of alloys in the subheadings of heading 71.10, each alloy is to be classified with that metal, platinum, palladium, rhodium, iridium, osmium or ruthenium which predominates by weight over each other of these metals.

GENERAL

This Chapter includes :

(1) In headings 71.01 to 71.04, natural or cultured pearls, diamonds, other precious or semi-precious stones (natural, synthetic or reconstructed), unworked or worked, but not mounted, set or strung; also, in heading 71.05, certain waste resulting from the working of these stones.

(2) In headings 71.06 to 71.11, precious metals and metals clad with precious metal, unwrought, semi-manufactured, or in powder form, but not having reached the stage of articles classified in sub-Chapter III, and in heading 71.12, waste and scrap of precious metal or metal clad with precious metal, and waste and scrap containing precious metal or precious metal compounds, of a kind used principally for the recovery of precious metal.

Under Note 4 to this Chapter, the expression “precious metal” means silver, gold and platinum. It should be noted that the term “platinum” also covers iridium, osmium, palladium, rhodium and ruthenium.

Under Note 5 to this Chapter, alloys (**other than** amalgams - **heading 28.43**) containing precious metals are classified as follows :

(A) **As platinum** - if containing 2 % or more, by weight, of platinum.

(B) **As gold** - if containing 2 % or more, by weight, of gold, but no platinum or less than 2 % of platinum.

(C) **As silver** - other alloys containing 2 % or more, by weight, of silver.

(D) **As base metals** (**Section XV**) - all alloys containing less than 2 % of platinum and less than 2 % of gold and less than 2 % of silver.

Under Note 6 to this Chapter, unless the context otherwise requires, any reference to precious metal also includes a reference to its alloys as described at (A), (B) and (C) above, but **not** to metal clad with precious metal, **nor** to base metals or non-metals plated with silver, gold or platinum.

Under Note 7 to this Chapter, the expression "metal clad with precious metal" means material made with a base of metal, one or more surfaces of which have been covered to any thickness with precious metal by soldering, brazing, welding, hot-rolling or similar mechanical means.

Plates and sheets, bars, etc., of metal clad with precious metal are most frequently made by covering one or both surfaces of the foundation metal with the precious metal, "sweating" the two metals together and then rolling them.

Wire clad with precious metal is obtained by inserting a core of base metal into a tube of precious metal, "sweating" the two metals together and then drawing them through a die.

Except where the context otherwise requires base metal articles inlaid with precious metal are also classified as articles of metal clad with precious metal (e.g., copper plates inlaid with silver strips for use in the electrical industry, and the so-called damaskeen work of steel inlaid with strips or threads of hammered gold).

Metal clad with precious metal, as defined in this Chapter, should not be confused with base metals plated with precious metals by electrolysis, vapour deposition, spraying or immersion in a solution of salts of precious metals, etc. These plated base metals remain classified in the Chapters for the respective foundation metals irrespective of the thickness of the plating.

The Chapter also **excludes** :

(a) Colloidal precious metals and amalgams of precious metals (**heading 28.43**).

(b) Radioactive isotopes (e.g., iridium 192) including precious metals in the form of needles, thread or sheets containing radioactive isotopes (**heading 28.44**).

(c) Alloys specially prepared for dental fillings (**heading 30.06**).

(3) In general, articles made wholly or partly of natural or cultured pearls, diamonds or other precious or semi-precious stones (natural, synthetic or reconstructed), precious metals or metal clad with precious metal (headings 71.13 to 71.16). In particular, this group includes jewellery and goldsmiths' or silversmiths' wares (see Explanatory Notes to headings 71.13 and 71.14), but it **does not include** :

(a) The articles specified in Note 3 to this Chapter.

(b) Other articles in which the parts of precious metals or metal clad with precious metal are merely minor constituents, such as minor fittings (for example, monograms, ferrules, rims), **provided** the goods do not contain natural or cultured pearls, diamonds or other precious stones or semi-precious stones (natural, synthetic or reconstructed).

Knives, pen-knives, carving sets, razors and other articles of cutlery with base metal or non-metallic handles are therefore classified in **Chapter 82**, even if they have initials, monograms, ferrules, etc., of precious metals or of metal clad with precious metal; (similar cutlery with handles of precious metal or of metal clad with precious metal are classified in this Chapter).

In the same way, bowls, vases and other porcelain, china or glass tableware are classified in **Chapter 69** or **70** even if they have minor fittings or ornamentation (e.g., rims) of precious metal or metal clad with precious metal.

This group also **excludes** articles of base metals or non-metals plated with precious metals (other than articles of metal clad with precious metal).

(4) Imitation jewellery (heading 71.17) as defined in Note 11 to this Chapter (see corresponding Explanatory Note), **other than** the articles specified in Note 3 to this Chapter.

(5) Coin (heading 71.18), **other than** collectors' pieces (**heading 97.05**).

(*****) The underlined portion of this Note constitutes an optional text.

I.-

NATURAL OR CULTURED PEARLS AND PRECIOUS OR SEMI-PRECIOUS STONES
EXPLANATORY NOTES

Sub-Chapter I

NATURAL OR CULTURED PEARLS AND PRECIOUS OR SEMI-PRECIOUS STONES

Heading 7101

Pearls, natural or cultured, whether or not worked or graded but not strung, mounted or set; pearls, natural or cultured, temporarily strung for convenience of transport.
EXPLANATORY NOTES

Sub-Chapter I

NATURAL OR CULTURED PEARLS AND PRECIOUS OR SEMI-PRECIOUS STONES

71.01 - Pearls, natural or cultured, whether or not worked or graded but not strung, mounted or set; pearls, natural or cultured, temporarily strung for convenience of transport.

7101.10 - Natural pearls

- Cultured pearls :

7101.21 - - Unworked

7101.22 - - Worked

The pearls classified in this heading are, like mother of pearl, the result of the natural secretion of various sea or fresh water molluscs (especially of the pearl oyster and the pearl mussel).

Pearls have a shiny surface and consist essentially of layers of calcium carbonate coated with a horny material (conchiolin). The layers of carbonate cause optical interference and diffraction which produce the characteristic nacreous lustre of pearls ("orient"); the conchiolin gives the pearls their translucency or "water".

Pearls are usually white but may be shaded or coloured (e.g., grey, black, purple, red, yellow, green or blue).

They are usually round, but sometimes half round (button pearls) or irregular (baroque or blister pearls), and their size varies considerably. Mother of pearl (**headings 05.08** or **96.01**) has much the same composition, but usually takes the form of thin sheets.

This heading also includes cultured pearls (i.e., those produced by human intervention). This is done by fixing a bead of mother of pearl in a sac cut from the mantle of one oyster and then inserting this sac in the tissues of another healthy oyster. Over a period of years, the bead is slowly covered with concentric layers of nacre. Cultured pearls are therefore very similar in appearance to real pearls but can be distinguished from the latter by special apparatus (endoscope) or by X-ray examination.

This heading covers natural or cultured pearls whether unworked, i.e., as gathered and merely cleansed (for example, by means of salt and water), or worked, i.e. ground to remove defective parts, drilled or sawn (e.g., half or three-quarter pearls).The pearls of this heading may be temporarily strung for convenience of transport. Pearls which have been set, mounted or which have been permanently strung after grading are **excluded** (e.g., **heading 71.13**, **71.14** or **71.16**, as appropriate).

It should be noted that natural or cultured pearls are excluded from Chapter 97 (collectors' pieces, antiques, etc.), and therefore **remain** in this Chapter.

This heading **excludes** :

(a) Imitation pearls (plastics - **heading 39.26**; glass - **heading 70.18**; wax - **heading 96.02**).

(b) Mother of pearl, unworked or simply prepared (**heading 05.08**) or worked (**heading 96.01**).

7101.10

- Natural pearls

7101.2

- Cultured pearls :

7101.21

-- Unworked

CLASSIFICATION OPINIONS

1. Oysters unfit for humain consumption, containing one or more cultured pearls, preserved in brine and put up in airtight metal containers. *Adoption : 1962*

7101.22

-- Worked

Heading 7102

Diamonds, whether or not worked, but not mounted or set.

EXPLANATORY NOTES

71.02 - Diamonds, whether or not worked, but not mounted or set (+).

7102.10 - Unsorted

- Industrial :

7102.21 - - Unworked or simply sawn, cleaved or bruted

7102.29 - - Other

- Non-industrial :

7102.31 - - Unworked or simply sawn, cleaved or bruted

7102.39 - - Other

Diamond is a crystalline and allotropic form of carbon with, in the pure state, a very high refractive index and dispersive power. It is the hardest known mineral. Because of these qualities diamond is used for making articles of adornment or ornamentation and also for industrial purposes (in particular, for wire drawing).

The heading covers unworked stones, and stones worked, e.g., by cleaving, sawing, bruting, tumbling, faceting, grinding, polishing, drilling, engraving (including cameos and intaglios), preparing as doublets, **provided** they are neither set nor mounted.

The heading **does not cover** :

(a) Dust and powder of diamonds (**heading 71.05**).

(b) Unmounted worked diamonds for styli (**heading 85.22**).

(c) Diamonds worked so as to be recognisable as parts of meters, of measuring instruments or of other goods of Chapter 90 (**Chapter 90**).

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Subheading Explanatory Notes.

Subheading 7102.10

Before “unworked” or rough diamonds are marketed as “industrial” or “non-industrial” they are graded and sorted in terms of technical criteria by diamond experts. The technical criteria include weight (mass) and crystallographic suitability for cutting. Account is also taken of shape, transparency, colour and clarity or quality of crystals.

This subheading covers those lots (i.e., parcels) of diamonds or single diamonds which have not been submitted to such expert examination.

This subheading also includes parcels of rough diamonds that have only been sieved and that are packaged according to size without having been submitted to further expert examination.

Subheadings 7102.21 and 7102.29

These subheadings cover the following natural diamonds :

(1) Diamonds proper, that is to say, transparent or translucent diamonds which because of their characteristic features cannot, normally be used for jewellery or for goldsmiths’ or silversmiths’ wares.

(2) Black diamonds, and other polycrystalline diamond-aggregates, including carbonados, which are harder than transparent diamonds.

(3) Bort proper, that is to say, opaque diamonds and other diamonds (including waste from working diamonds), normally unsuitable for cutting.

(4) Diamonds which because of their characteristic features (colour, clarity or quality, transparency, etc.) are destined for precise, particular uses in industrial applications (such as dressers, wire-drawing dies, or diamond anvils), but which are also suitable for use in jewellery.

These diamonds are generally intended for setting in tools (diamond cutting tools, boring tools, etc.) or fitting to machine accessories or machinery.

Subheading 7102.21 covers :

(1) Diamonds in their natural state, i.e., as they occur in deposits or extracts from the parent rock, sorted into lots or parcels.

(2) Diamonds simply sawn (e.g., into thin strips), cleaved (by splitting along the natural plane of the layers), bruted, tumbled or which have only a small number of polished facets (e.g., so-called windows, which are mostly made to allow expert examination of the internal characteristics of the rough diamond), i.e., stones which have only a provisional shape and clearly have to be further worked. The strips may also be cut into discs, rectangles, hexagons or octagons, provided that all the surfaces and ridges are rough, matt and unpolished.

(3) Tumbled diamonds of which the surface has been rendered glossy and shiny by chemical treatment, also known as chemical polishing. Chemical polishing is different from traditional abrasive polishing in that the diamonds are not mounted individually and polished on a polishing wheel, but are loaded – in bulk – into a chemical reactor.

(4) Broken or crushed diamonds.

Subheading 7102.29 covers polished or drilled diamonds, and engraved diamonds (other than diamonds engraved for identification purposes only).

Subheadings 7102.31 and 7102.39

These subheadings cover natural diamonds which, because of their characteristic features (colour, clarity or purity, transparency, etc.) are suitable for use by jewellers, goldsmiths or silversmiths.

Subheading 7102.31 covers :

(1) Diamonds in their natural state, i.e., as they occur in deposits or extracts from the parent rock, sorted into lots or parcels.

(2) Diamonds simply sawn, cleaved (by splitting along the natural plane of the layers), bruted or which have only a small number of polished facets (e.g., so-called windows, which are mostly made to allow expert examination of the internal characteristics of the rough diamond), i.e., stones which have only a provisional shape and clearly have to be further worked.

(3) Tumbled diamonds of which the surface has been rendered glossy and shiny by chemical treatment, also known as chemical polishing. Chemical polishing is different from traditional abrasive polishing in that the diamonds are not mounted individually and polished on a polishing wheel, but are loaded – in bulk – into a chemical reactor.

Subheading 7102.39 covers :

(1) Polished diamonds having multiple flat polished surfaces or facets, which do not require to be further worked before being used in jewellery.

(2) Drilled diamonds, engraved diamonds (including cameos and intaglios) and diamonds prepared as doublets or triplets.

(3) Diamonds which were subjected to polishing and drilling or engraving and were broken during these operations, as well as polished diamonds broken during their transportation or storage.

Subheading 7102.39 **does not cover** :

(a) Diamonds which have only a small number of polished facets (e.g., windows which are made to allow expert examination of the internal characteristics of the rough diamond) and which clearly have to be further worked;

(b) Diamonds which have only been engraved for identification purposes.

7102.10

- Unsorted

7102.2

- Industrial :

7102.21

-- Unworked or simply sawn, cleaved or bruted

7102.29

-- Other

7102.3

- Non-industrial :

7102.31

-- Unworked or simply sawn, cleaved or bruted

7102.39

-- Other

Heading 7103

Precious stones (other than diamonds) and semi-precious stones, whether or not worked or graded but not strung, mounted or set; ungraded precious stones (other than diamonds) and semi-precious stones, temporarily strung for convenience of transport.

EXPLANATORY NOTES

71.03 - Precious stones (other than diamonds) and semi-precious stones, whether or nor worked or graded but not strung, mounted or set; ungraded precious stones (other than diamonds) and semi-precious stones, temporarily strung for convenience of transport (+).

7103.10 - Unworked or simply sawn or roughly shaped

- Otherwise worked :

7103.91 - - Rubies, sapphires and emeralds

7103.99 - - Other

Because of their colour, brilliance, resistance to deterioration, and often also because of their rarity, these stones, which are usually crystalline, are used by jewellers, goldsmiths and silversmiths for making articles of adornment or ornamentation. Some are also used in clocks and watches or in tools or, because of their hardness or other special properties, for other industrial purposes (e.g., ruby, sapphire, agate, piezo-electric quartz).

The provisions of the second paragraph of the Explanatory Note to heading 71.02 apply, *mutatis mutandis*, to this heading.

But the heading **excludes** stones of the following kinds, **even if** unmounted and unset :

(a) Unmounted worked sapphires for styli (**heading 85.22**).

(b) Stones worked so as to be recognisable as parts of meters, of measuring instruments, of clocks or watches or of other goods of **Chapter 90** or **91**; also optical elements of quartz (**heading 90.01** or **90.02**).

The stones of this heading are therefore mainly stones intended for mounting or setting in jewellery or goldsmiths' or silversmiths' wares; but, **provided they are unmounted**, the heading also covers stones for setting in tools of headings 82.01 to 82.06 or in machinery, etc., of Section XVI (e.g., piezo-electric quartz for high frequency apparatus, etc.).

The heading **excludes** stones converted into articles, for example, cut agate mortars and pestles, agate crosses and rings, garnet goblets and cups, statuettes and ornamental goods of jade, ashtrays and paperweights of agate or onyx, rings for fishing rods, etc.; such articles are classified generally in **heading 71.16**.

The stones of this heading may be strung for convenience of transport, **provided** this method of assembly is temporary and that the stones have not been graded and are not directly suitable for use as jewellery. Precious or semi-precious stones which have been set or mounted fall in **heading 71.13**, **71.14** or **71.16** (see the related Explanatory Notes) **unless** they are included in other headings, under the provisions of Note 1 to this Chapter.

The heading includes the precious or semi-precious stones listed in the Annex to this Chapter, the name of the mineralogical species being given with the commercial names; the heading is, of course, **restricted** to those stones and varieties of a quality suitable for use in jewellery, etc.

This heading also **excludes** :

(a) Certain stones which, although belonging to the mineral species cited above, are of non-precious varieties, or of a quality not suitable for use in jewellery, goldsmiths' or silversmiths' wares; such stones are classified in **Chapter 25**, **26** or **68**.

(b) Steatite (unworked, **heading 25.26**; worked, **heading 68.02**).

(c) Jet (unworked, **heading 25.30**; worked, **heading 96.02**).

(d) Imitation precious or semi-precious stones made of glass (**heading 70.18**).

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Subheading Explanatory Notes.

Subheading 7103.10

This subheading includes stones roughly worked by sawing (e.g., into thin strips), cleaving (splitting along the natural plane of the layers) or bruting, i.e., stones which have only a provisional shape and clearly have to be further worked. The strips may also be cut into discs, rectangles, hexagons or octagons, provided all the surfaces and ridges are rough, matt and unpolished.

Subheadings 7103.91 and 7103.99

Subheadings 7103.91 and 7103.99 cover polished or drilled stones, engraved stones (including cameos and intaglios) and stones prepared as doublets or triplets.

7103.10

- Unworked or simply sawn or roughly shaped

7103.9

- Otherwise worked :

7103.91

-- Rubies, sapphires and emeralds

7103.99

-- Other

Heading 7104

Synthetic or reconstructed precious or semi-precious stones, whether or not worked or graded but not strung, mounted or set; ungraded synthetic or reconstructed precious or semi-precious stones, temporarily strung for convenience of transport.

EXPLANATORY NOTES

71.04 - Synthetic or reconstructed precious or semi-precious stones, whether or not worked or graded but not strung, mounted or set; ungraded synthetic or reconstructed precious or semi-precious stones, temporarily strung for convenience of transport (+).

7104.10 - Piezo-electric quartz

- Other, unworked or simply sawn or roughly shaped :

7104.21 - - Diamonds

7104.29 - - Other

- Other :

7104.91 - - Diamonds

7104.99 - - Other

These stones are used for the same purposes as the natural precious or semi-precious stones of the two preceding headings.

(A) **Synthetic precious and semi-precious stones**. This expression covers a range of chemically produced stones which either :

- have essentially the same chemical composition and crystal structure as a particular natural stone (e.g., ruby, sapphire, emerald, diamond, piezo-electric quartz); or

- because of their colour, brilliance, resistance to deterioration, and hardness are used by jewellers, goldsmiths and silversmiths in place of natural precious or semi-precious stones, even if they do not have the same chemical composition and crystal structure as the stones

which they resemble, e.g., yttrium aluminium garnet (YAG), cubic zirconia (CZ) and synthetic moissanite, all of which are used to imitate diamond.

When unworked, some synthetic stones, such as ruby and sapphire, may have the appearance of small cylinders or pear-shaped drops and are known as “boules”; these are usually split along their length or sawn into discs.

When unworked, some synthetic diamonds produced using the High Pressure, High Temperature method (HPHT), may display a characteristic truncated cuboctahedral shape where, in many cases, the original position of the seed crystal is still visible on its base. Unworked synthetic diamonds produced using the Chemical Vapour Deposition method (CVD), on the contrary, are mostly square or rectangular in shape, usually lacking visible crystal shapes

Synthetic diamonds may be produced using methods other than HPHT and CVD.

(B) **Reconstructed precious and semi-precious stones** are obtained artificially by various means, e.g., agglomerating, pressing or fusing together (usually with the aid of a blow pipe) fragments of natural precious or semi-precious stones which have generally been reduced to a powder.

Synthetic and reconstructed stones can normally be distinguished from natural stones by microscopic examination (preferably in a medium other than air) which reveals small bubbles and streaks.

The provisions of the Explanatory Notes to headings 71.02 and 71.03, especially as regards the working to which the stones may be submitted, are also applicable here.

Synthetic or reconstructed stones should not be confused with glass imitation precious or semi-precious stones of **heading 70.18** (see corresponding Explanatory Note).

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Subheading Explanatory Notes.

Subheading 7104.10

Piezo-electric quartz has the property, when subjected to mechanical pressure, of producing an electric charge, the strength of which varies in relation to the pressure and, conversely, of converting into mechanical pressure the differences in electric potential to which it is subjected.

By reason of this property, piezo-electric quartz is used in the electrical equipment industry for various purposes : the manufacture of microphones, loudspeakers, instruments for transmitting or receiving ultrasonic waves, instruments for fixed frequency oscillations, etc.

The piezo-electric quartz falling in this subheading is generally in the form of thin sheets, plates, rods, etc., obtained by sawing synthetic quartz with a precision-cut along the line of electrical axis.

Subheading 7104.21

This subheading includes synthetic diamonds that are simply sawn, cleaved (by splitting along the natural plane of the layers) or bruted, or that have only a small number of polished facets, i.e., stones which have only a provisional shape and clearly have to be further worked.

Subheading 7104.29

The Subheading Explanatory Note to subheading 7103.10 applies, mutatis mutandis, to this subheading.

Subheading 7104.91

This Subheading includes :

(1) Polished synthetic diamonds having multiple flat polished surfaces or facets, which do not require to be further worked before being used in jewellery or in particular industrial applications

(2) Synthetic diamonds, whether drilled or engraved (including cameos and intaglios).

(3) Composite stones (doublets or triplets), formed by joining together two or more components to make what appears to be a single stone and containing at least one component of synthetic diamond. Synthetic diamond/natural diamond doublets made by joining together a synthetic diamond (usually as the larger base) and a natural diamond (usually as a smaller top piece) remain classified here.

Subheading 7104.99

The Explanatory Note to subheadings 7103.91 and 7103.99 applies, *mutatis mutandis*, to this subheading.

7104.10

- Piezo-electric quartz

7104.2

- Other, unworked or simply sawn or roughly shaped :

7104.21

-- Diamonds

7104.29

-- Other

7104.9

- Other :

7104.91

-- Diamonds

7104.99

-- Other

Heading 7105

Dust and powder of natural or synthetic precious or semi-precious stones.

EXPLANATORY NOTES

71.05 - Dust and powder of natural or synthetic precious or semi-precious stones.

7105.10 - Of diamonds

7105.90 - Other

This heading covers dust and powder obtained, for example, from the polishing or grinding of the stones covered by the three preceding headings. The most important of these powders are derived from diamonds and garnets.

Natural diamond dust and powder are obtained mainly by crushing “bort” (industrial grade diamond grains). Synthetic diamond dust and powder are produced by direct conversion, generally of graphite, at high temperatures and pressures.

These dusts and powders differ from the diamonds of headings 71.02 and 71.04 in that, for practical purposes, they are too small to be mounted individually. They are normally used for abrasive purposes. Their particle size generally does not exceed 1,000 micrometers (microns) but sizing is effected by sieving rather than by measuring individual particles. There can be a considerable degree of overlap between the size of dust and powder particles and that of stones, but whereas stones are counted individually to determine quantity, dust and powder are weighed.

Diamond dust and powder are used for the manufacture of grinding, polishing or honing wheels, cutters, polishing pastes, etc.

Garnet powder is used mainly for the grinding of optical lenses or as an abrasive on a base of paper or other material.

The heading d**oes not cover** artificial corundum powder (**heading 28.18**).

7105.10

- Of diamonds

CLASSIFICATION OPINIONS

1. Synthetic diamonds, maximum dimension 500 micrometres (microns), for the manufacture of abrasive wheels, coated with copper to improve bonding to the resin binders employed in making these wheels.
Adoption : 1971

7105.90

- Other

II.-

PRECIOUS METALS AND METALS CLAD WITH PRECIOUS METAL

EXPLANATORY NOTES

Sub-Chapter II

PRECIOUS METALS AND METALS CLAD WITH PRECIOUS METAL

Heading 7106

Silver (including silver plated with gold or platinum), unwrought or in semi-manufactured forms, or in powder form.

EXPLANATORY NOTES

Sub-Chapter II

PRECIOUS METALS AND METALS CLAD WITH PRECIOUS METAL

71.06 - Silver (including silver plated with gold or platinum), unwrought or in semi-manufactured forms, or in powder form.

7106.10 - Powder

- Other :

7106.91 - - Unwrought

7106.92 - - Semi-manufactured

This heading covers the various unwrought, semi-manufactured or powder forms of silver or of silver alloys (as defined in the General Explanatory Note), of gold-plated silver (silver gilt) or of silver plated with platinum. The heading **does not**, however, **cover** silver clad with precious metal.

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Silver is a white metal, not corroded by the atmosphere but tending to tarnish; it is the best conductor of heat and electricity, and is the most malleable and ductile metal after gold. It is very soft in its pure state, and consequently is frequently alloyed with other metals. Unalloyed silver is, however, widely used in electrical applications (contacts, fuses, etc.), in certain apparatus used in the chemical or food industries or in surgery, and as a plating metal.

Under the provisions of Note 5 to this Chapter (see General Explanatory Note above), the **silver alloys** which may fall in this heading include :

(1) **Silver-copper alloys**. The most important of these are used in the manufacture of coins or of goldsmiths' or silversmiths' wares; some are also used in the manufacture of electrical contacts.

(2) **Silver-copper-cadmium**, **silver-copper-titanium** and **silver-indium alloys**, used in the manufacture of goldsmiths' or silversmiths' wares.

(3) **Silver-copper-zinc alloys**, sometimes also containing cadmium, tin or phosphorus, used as solders.

(4) **Silver-antimony-tin-lead**, **silver-copper-lead**, **silver-cadmium** and **silver-thallium anti-friction alloys**.

(5) **Sintered silver-tungsten**, **silver-molybdenum**, **silver-nickel** and**silver-iron alloys**, used to make electrical contacts.

The heading covers silver and its alloys in the following forms :

(I) **Powder**, usually in the form of finely divided powder, obtained by various mechanical or chemical processes. It is used in metallurgy and in the manufacture of metallising preparations for electronic applications and of conducting cements.

The heading **excludes** powders or flakes prepared as colours, paints or the like (e.g., made up with other colouring matter or put up as a liquid or pasty dispersion in a binder or solvent); these fall in **heading 32.06**, **32.07** (liquid lustres and similar compounds for the ceramic or glass industries), **32.08 to 32.10**, **32.12** or **32.13**.

(II) **Unwrought silver in lumps, grains, ingots, cast bars, pellets, etc.**; also native silver in lumps, nuggets, crystals, etc., separated from their gangues.

(III) **Bars, rods, sections, wire, plates, sheets and strip**. These are usually obtained by rolling or drawing; strip and discs, etc., may also be obtained by cutting sheet silver. The heading includes silver thread for use in the textile industry **provided** it has not been spun or otherwise combined with textile yarn (**Section XI**). Very fine sterile silver wire used for surgical sutures is, however, classified in **heading 30.06**.

The heading also covers metallo-graphitic blocks, plates, bars, rods, etc., with a basis of “carbon”, containing silver (see Explanatory Note to heading 38.01).

(IV) **Tubes and pipes (including coiled tubing) provided** that they are note made up into specific identifiable articles (e.g., parts of chemical apparatus).

(V) **Foil** (for silvering) is usually obtained by hammering or beating thin sheets of silver separated by sheets of gold-beaters’ skin. This foil is generally put up in booklets and may be fixed to a backing of paper, plastics, etc.

However the heading **excludes** stamping foils (also known as blocking foils) composed of silver powder agglomerated with gelatin, glue or other binder, or of silver deposited on paper, plastics or other support (**heading 32.12**).

(VI) **Purls, spangles and cuttings**. Purls are small twists of silver wire used in embroidery or trimmings. Spangles and cuttings, used for the same purposes, are small pieces cut to geometric form (round, star-shaped, etc.) and usually pierced in the middle.

The heading **does not cover** castings, sinterings, stampings, pressings, etc., in the form of blanks for articles of jewellery, etc., falling in **sub-Chapter III** (e.g., settings, ring blanks, badges, flowers and figures).

7106.10

- Powder

7106.9

- Other :

7106.91

-- Unwrought

7106.92

-- Semi-manufactured

Heading 7107

Base metals clad with silver, not further worked than semi-manufactured.

EXPLANATORY NOTES

71.07 - Base metals clad with silver, not further worked than semi-manufactured.

Metal clad with precious metal (including base metal inlaid with precious metal) is defined in Note 7 to this Chapter and the General Explanatory Note to this Chapter.

The alloys of tin, nickel, zinc and particularly of copper are sometimes clad with silver. Unalloyed copper and steel may also be clad in this way. Such metals are used in silversmiths' wares (tableware, articles of interior decoration, etc.), and in tubing, vessels and apparatus for the chemical or food industries.

Base metal clad with silver falling in this heading is usually in the form of bars, rods, sections, wire, plates, sheets, strip, tubes or pipes.

In general, the provisions of Explanatory Note to heading 71.06 also apply, *mutatis mutandis*, to base metal clad with silver.

7107.00

Base metals clad with silver, not further worked than semi-manufactured.

Heading 7108

Gold (including gold plated with platinum) unwrought or in semi-manufactured forms, or in powder form.

EXPLANATORY NOTES

71.08 - Gold (including gold plated with platinum) unwrought or in semi-manufactured forms, or in powder form (+).

- Non-monetary :

7108.11 - - Powder

7108.12 - - Other unwrought forms

7108.13 - - Other semi-manufactured forms

7108.20 - Monetary

This heading covers the various unwrought, semi-manufactured or powder forms of gold or gold alloys (as defined in the General Explanatory Note), or of gold plated with platinum. The heading **does not**, however, **cover** gold clad with precious metal.

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* *

Gold has a characteristic yellow colour; it is not oxidised even at high temperature, and has remarkable chemical resistance to most reagents, including acids (aqua regia, however, attacks it). It is, after silver and copper, the best conductor of heat and electricity. It is the most malleable and most ductile of all metals, but is very soft, and is therefore rarely used unalloyed except for electro-plating, or as an electrodeposit.

Under the terms of Note 5 to this Chapter (see General Explanatory Note), the **gold alloys** which may fall in this heading, include :

(1) **Gold-silver alloys**, varying in colour from yellow through green to white, according to the proportions of the constituent metals. They are used in jewellery and also in electrical contacts and in special high melting point solders.

(2) **Gold-copper alloys**, used in the manufacture of coins, jewellery or goldsmiths' wares or in electrical contacts.

(3) **Gold-silver-copper alloys**, primarily used in jewellery, goldsmiths' wares, in dental alloys or as solders. These alloys may contain zinc and cadmium and are then also used as solders. The alloy called "doré" or "bullion doré" consisting mainly of silver and copper falls in this heading when it contains 2 % or more, by weight, of gold. It is obtained from certain cupriferous pyrites or from residues derived from the processing of blister copper and is subsequently refined to separate its constituent metals.

(4) **Gold-copper-nickel alloys**, sometimes containing added zinc and magnesium, giving a range of alloys (known as "white" golds or, in some countries, as "grey" golds) often used as a substitute for platinum. Other "white" golds contain 2 % or more of palladium and are therefore **excluded** (**heading 71.10**).

(5) **Gold-nickel alloys**, used in the manufacture of electrical contacts.

The heading includes gold and gold alloys in the same forms as those described for silver. The provisions of Explanatory Note to heading 71.06 therefore apply, *mutatis mutandis*.

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° °

Subheading Explanatory Note.

Subheading 7108.20

This subheading covers gold exchanged between national or international monetary authorities or authorised banks.

7108.1

- Non-monetary :

7108.11

-- Powder

7108.12

-- Other unwrought forms

7108.13

-- Other semi-manufactured forms

7108.20

- Monetary

Heading 7109

Base metals or silver, clad with gold, not further worked than semi-manufactured.

EXPLANATORY NOTES

71.09 - Base metals or silver, clad with gold, not further worked than semi-manufactured.

Metal clad with precious metal (including base metal inlaid with precious metal) is defined in Note 7 and the General Explanatory Note to this Chapter. Base metal or silver clad with gold are usually in forms similar to those described for base metal clad with silver (see the Explanatory Note to heading 71.07).

Base metal (e.g., copper and its alloys) or silver is clad with gold for the manufacture of jewellery (bracelets, watch-chains, ear-rings, etc.), watch-cases, cigar or cigarette-holders, lighters, goldsmiths' wares, electrical contacts, chemical apparatus, etc.

7109.00

Base metals or silver, clad with gold, not further worked than semi-manufactured.

Heading 7110

Platinum, unwrought or in semi-manufactured forms, or in powder form.

EXPLANATORY NOTES

71.10 - Platinum, unwrought or in semi-manufactured forms, or in powder form.

- Platinum :

7110.11 - - Unwrought or in powder form

7110.19 - - Other

- Palladium :

7110.21 - - Unwrought or in powder form

7110.29 - - Other

- Rhodium :

7110.31 - - Unwrought or in powder form

7110.39 - - Other

- Iridium, osmium and ruthenium :

7110.41 - - Unwrought or in powder form

7110.49 - - Other

Like headings 71.06 for silver and 71.08 for gold, this heading covers platinum and its alloys as defined in the General Explanatory Note.

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* *

The term “platinum” covers (see Note 4 (B) to Chapter 71) :

(A) **Platinum** which is a greyish-white, soft and ductile metal, not tarnished at room temperature and resistant to acids except aqua regia. It can be fabricated into bars, sheets, strip, tubes, wire and other semi-manufactured forms by forging, rolling or drawing.

In view of their outstanding resistance to corrosion, high melting point and high catalytic activity, platinum and its alloys have many important applications in industry surpassing their use in jewellery or in dentistry, for example, in the electrical industry for the manufacture of thermocouples and resistance thermometers, and as electrical contacts and electrodes for various applications; in the textile industry for spinnerets for man-made fibres; in the glass industry for molten glass equipment such as bushings for glass fibre production, crucibles, stirrers, etc.; in the chemical and petroleum industries as catalysts (e.g., in the ammonia-oxidation process for the manufacture of nitric acid or as a platforming catalyst); as chemical apparatus (e.g., crucibles); in the aircraft industry for electrodes of sparking plugs for spark-ignition internal combustion aero-engines and for ignition devices in gas-turbine aero-engines.

Platinum and its alloys also find a use in the manufacture of surgical instruments (particularly hypodermic needles), in certain gas lighters and for many other applications such as measuring standards, hair lines for optical instruments, etc.

(B) **Palladium** which is a silvery-white metal, soft, very ductile and highly resistant to tarnishing and corrosion. It dissolves in aqua regia and nitric acid and is attacked by hot sulphuric acid. Palladium can be made into bars, sheets, strip, tubes, wire or other semi-manufactured forms by forging, rolling or drawing.

It is mainly used for electrical contacts, in brazing alloys, in hydrogen purification equipment, as a hydrogenation catalyst, in the manufacture of jewellery and as an intermediate contact layer to facilitate the coating of plastics with precious metals.

(C) **Rhodium** which is a silvery-white, hard but ductile metal. It is characterised by its high reflectivity and has the highest electrical and thermal conductivities of all the platinum group metals. It is resistant to corrosion by nearly all aqueous solutions, including mineral acids even at high temperatures.

Rhodium may be made into bars, sheets, strip, wire and other semi-manufactured forms by forging, rolling or drawing.

Its major use is as an alloying addition to platinum and in this form it has several applications in the electrical and glass-making industries. Its low electrical resistance and high resistance to tarnishing make it suitable, in the electrodeposited form, for electrical contacts and for contact surfaces where wear resistance is of importance (e.g., in slip rings). It is also used as a catalyst and for plating silver or silver-plated cutlery and hollow-ware to give a tarnish resistant finish.

(D) **Iridium** which is a greyish-white, hard metal, resistant to the action of acids, including aqua regia, at normal and high temperatures.

It can be made into thin strip or wire by rolling and drawing.

Iridium is used as a constituent of alloys used for thermocouples, crucibles, or electrodes for aircraft-engine sparking plugs.

(E) **Osmium** which is the most refractory of the metals included in this heading. In the compact state it has a bluish-white colour similar to zinc and is resistant to acids. When finely divided, it is an amorphous black powder, and is attacked by nitric acid and aqua regia and is slowly oxidised in the atmosphere.

The metal is mainly used in various, hard, corrosion-resistant alloys used for tipping pen-nibs or instrument pivots. It is also used as a catalyst.

(F) **Ruthenium** which is a brittle, hard, grey metal. It has a high resistance to corrosion. It is unattacked by aqua regia, but is slowly attacked by solutions of sodium hypochlorite. It can be obtained on a small scale in the form of sheets, strip and wire.

It is used as an alloying addition to platinum, palladium, molybdenum, tungsten, etc. (e.g., for the manufacture of pen-nib points and compass pivots). It is also used as a catalyst and, in the electrodeposited form, for electrical contacts and for contact surfaces where wear resistance is of importance.

Under the terms of Note 5 to this Chapter (see General Explanatory Note), the **alloys of platinum** with other metals (gold, silver or base metals) which may fall in this heading, include :

(1) **Platinum-rhodium alloys**, - thermocouple wire; furnace windings; components in the glass industry; catalyst gauzes; spinnerets.

(2) **Platinum-iridium alloys**, - electrical contacts; jewellery; hypodermic needles.

(3) **Platinum-ruthenium alloys**, - electrical contacts.

(4) **Platinum-copper alloys**, (max. 5 % copper), - jewellery.

(5) **Platinum-tungsten alloys**, - valve electrode wires; spark-ignition wires.

(6) **Platinum-cobalt alloys**, - permanent magnets.

(7) **Palladium-ruthenium alloys**, - jewellery.

(8) **Palladium-silver alloys**, - brazing alloys; hydrogen diffusion membranes; electrical contacts.

(9) **Palladium-copper alloys**, - electrical contacts; brazing.

(10) **Palladium-aluminium alloys**, - fuse wire.

(11) **Rhodium-iridium alloys**, - thermocouples.

(12) **Iridium-osmium alloys**, - pen tips.

(13) **Iridium-tungsten alloys**, - high temperature springs.

(14) **Gold-platinum alloys**, - spinnerets.

(15) **Gold-silver-palladium-copper alloys**, - jewellery; electrical contact springs.

(16) **Silver-copper-palladium alloys**, - brazing alloys.

(17) **Osmiridium** (**iridosmine**), a natural alloy containing osmium, iridium, ruthenium and platinum; it is the main source of osmium.

7110.1

- Platinum :

7110.11

-- Unwrought or in powder form

7110.19

-- Other

7110.2

- Palladium :

7110.21

-- Unwrought or in powder form

7110.29

-- Other

7110.3

- Rhodium :

7110.31

-- Unwrought or in powder form

7110.39

-- Other

7110.4

- Iridium, osmium and ruthenium :

7110.41

-- Unwrought or in powder form

7110.49

-- Other

Heading 7111

Base metals, silver or gold, clad with platinum, not further worked than semi-manufactured.

EXPLANATORY NOTES

71.11 - Base metals, silver or gold, clad with platinum, not further worked than semi-manufactured.

Metals clad with precious metal (including those inlaid on base metal with precious metal) are defined in Note 7 to this Chapter and in the General Explanatory Note. They are usually presented in forms similar to those described for silver in the Explanatory Note to heading 71.07.

Base metals (e.g., copper, tungsten), silver or gold, clad with platinum are used mainly in jewellery and in electrical apparatus.

7111.00

Base metals, silver or gold, clad with platinum, not further worked than semi-manufactured.

Heading 7112

Waste and scrap of precious metal or of metal clad with precious metal; other waste and scrap containing precious metal or precious metal compounds, of a kind used principally for the recovery of precious metal other than goods of heading 85.49.

EXPLANATORY NOTES

71.12 - Waste and scrap of precious metal or of metal clad with precious metal; other waste and scrap containing precious metal or precious metal compounds, of a kind used principally for the recovery of precious metal other than goods of heading 85.49.

7112.30 - Ash containing precious metal or precious metal compounds

- Other :

7112.91 - - Of gold, including metal clad with gold but excluding sweepings containing other precious metals

7112.92 - - Of platinum, including metal clad with platinum but excluding sweepings containing other precious metals

7112.99 - - Other

This heading covers waste and scrap in metallic form **fit only** for the recovery of the precious metal, or for use as a basis for the manufacture of chemicals.

The heading also covers waste and scrap of any material containing precious metal or precious metal compounds, of a kind used principally for the recovery of precious metal.

It includes, in particular :

(A) Ash containing precious metal or precious metal compounds, arising from the incineration of photographic films, printed circuit boards, etc.

(B) Waste and residues derived from the mechanical working of precious metal or of metal clad with precious metal, in mints, goldsmiths', silversmiths', jewellers' workshops, etc., for example, sweepings, dust, lemels, shavings, etc., resulting from shaping, drilling, working, etc.

(C) Scrap of worn-out or broken articles (tableware, goldsmiths' or silversmiths' wares, catalysts in the form of woven gauze, etc.) no longer fit for their original use. It **does not extend** to those which, with or without repair or renovation, can be reused for their former purposes, or which can be converted for other uses without being subjected to processes for the recovery of precious metals.

(D) Waste and scrap of photographic plates, film, paper, paperboard or textiles, containing precious metal in metallic form or in the form of compounds (e.g., silver halides).

(E) Residues of metallurgical, electrolytic or chemical processes, containing precious metal (e.g., slags, sludges from electrolytic refining and plating, silver residues from photographic fixing baths).

This heading excludes waste and scrap of electronic circuit boards and similar carriers containing precious metal (e.g., gold or silver) (heading 85.49).

7112.30

- Ash containing precious metal or precious metal compounds

7112.9

- Other :

7112.91

-- Of gold, including metal clad with gold but excluding sweepings containing other precious metals

7112.92

-- Of platinum, including metal clad with platinum but excluding sweepings containing other precious metals

7112.99

-- Other

III.-

JEWELLERY, GOLDSMITHS' AND SILVERSMITHS' WARES AND OTHER ARTICLES

EXPLANATORY NOTES

Sub-Chapter III

JEWELLERY, GOLDSMITHS' AND SILVERSMITHS' WARES AND OTHER ARTICLES

Heading 7113

Articles of jewellery and parts thereof, of precious metal or of metal clad with precious metal.

EXPLANATORY NOTES

Sub-Chapter III

JEWELLERY, GOLDSMITHS' AND SILVERSMITHS' WARES AND OTHER ARTICLES

71.13 - Articles of jewellery and parts thereof, of precious metal or of metal clad with precious metal.

- Of precious metal whether or not plated or clad with precious metal :

7113.11 - - Of silver, whether or not plated or clad with other precious metal

7113.19 - - Of other precious metal, whether or not plated or clad with precious metal

7113.20 - Of base metal clad with precious metal

This heading covers articles of jewellery as defined in Note 9 to this Chapter, wholly or partly or precious metal or metal clad with precious metal, that is :

(A) **Small objects of personal adornment** (gem-set or not) such as rings, bracelets, necklaces, brooches, ear-rings, neck chains, watch-chains and other ornamental chains; fobs, pendants, tie-pins and clips, cuff-links, dress-studs, buttons, etc.; religious or other crosses; medals and insignia; hat ornaments (pins, buckles, rings, etc.); ornaments for handbags; buckles and slides for belts, shoes, etc.; hair-slides, tiaras, dress combs and similar hair ornaments.

(B) **Articles of personal use normally carried in the pocket, in the handbag or on the person** such as cigar or cigarette cases, snuff boxes, spectacle cases, powder boxes, lipstick holders, pocket combs, cachou boxes, chain purses, rosaries, key rings.

To fall in this heading these articles **must** contain precious metal or metal clad with precious metal (including base metal inlaid with precious metal) to an extent **exceeding minor constituents**; (thus a cigarette case of base metal with a simple monogram of gold or silver remains classified as an article of base metal). **Subject** to this condition the goods may also contain pearls (natural, cultured or imitation), precious or semi-precious stones (natural, synthetic or reconstructed), imitation stones, or parts of tortoise-shell, mother of pearl, ivory, amber (natural or agglomerated), jet or coral.

The heading also covers unfinished or incomplete articles of jewellery and identifiable parts of jewellery, **provided** they contain precious metal or metal clad with precious metal to an extent **exceeding minor constituents**, for example, motifs for incorporation in rings, brooches, etc.

The heading **excludes** :

(a) Articles of **heading 42.02** or **42.03** referred to in Note 3 (B) to Chapter 42.

(b) Goods of **heading 43.03** or **43.04** (articles of furskin or of artificial fur).

(c) Footwear, headgear and other articles of **Chapter 64** or **65** with parts of the materials of this Chapter.

(d) Imitation jewellery of **heading 71.17**.

(e) Coins, **except** those mounted as jewellery (**heading 71.18** or **Chapter 97**).

(f) Articles of **Chapter 90** (e.g., spectacles, lorgnettes, etc., and mountings therefor).

(g) Watches and wrist-watch bracelets (**Chapter 91**).

(h) Articles of **Chapter 96**, **other than** those of **headings 96.01 to 96.06** or **96.15**, for example, fountain pens, stylograph pens, pen-holders, pencil-holders and propelling pencils (also parts and fittings thereof); lighters, smoking pipes, cigar or cigarette holders, and parts thereof; scent or similar sprays of a kind used for toilet purposes, and heads therefor.

(ij) Articles of jewellery of an age exceeding 100 years (**heading 97.06**).

7113.1

- Of precious metal whether or not plated or clad with precious metal :

7113.11

-- Of silver, whether or not plated or clad with other precious metal

7113.19

-- Of other precious metal, whether or not plated or clad with precious metal

7113.20

- Of base metal clad with precious metal

Heading 7114

Articles of goldsmiths' or silversmiths' wares and parts thereof, of precious metal or of metal clad with precious metal.

EXPLANATORY NOTES

71.14 - Articles of goldsmiths' or silversmiths' wares and parts thereof, of precious metal or of metal clad with precious metal.

- Of precious metal whether or not plated or clad with precious metal :

7114.11 - - Of silver, whether or not plated or clad with other precious metal

7114.19 - - Of other precious metal, whether or not plated or clad with precious metal

7114.20 - Of base metal clad with precious metal

This heading covers articles of goldsmiths' or silversmiths' wares as defined in Note 10 to this Chapter wholly or partly of precious metal or metal clad with precious metal. In general these goods are larger than articles of jewellery of heading 71.13; they include :

(A) **Articles of tableware** such as table knives, carving sets, spoons, forks; ladles; poultry or meat grips; trays, plates, soup or vegetable dishes and bowls; sauce-boats; fruit dishes; sugar-bowls, coffee-pots, teapots, tea or coffee cups; goblets; egg-cups, decanters, liqueur services; stands and baskets for bread, cake, fruit, etc.; fish-servers; cake servers; wine cooling buckets; cruets; sugar-tongs; knife-rests, serviette rings; table bells; ornamental stoppers, etc.

(B) **Toilet articles** such as hand mirrors; bottles and powder boxes (**other than** those of **heading 71.13**); brush boxes, clothes brushes, nail brushes, hair brushes, combs (**other than** dress combs and pocket combs - **heading 71.13**); jugs, etc. Scent sprays are **excluded** (**heading 96.16**).

(C) **Office or desk equipment** such as ink-pots, ink-stands, book-ends, paperweights, paper-knives.

(D) **Smokers' requisites** such as cigar or cigarette boxes, tobacco jars, ashtrays, matchbox holders, etc.; but **not including** articles of **heading 96.13** or **96.14** (cigarette and other lighters, smoking pipes, cigarette holders, etc.)

(E) **Other articles for domestic or similar use**, for example, busts, statuettes and other figures for interior decoration; jewel cases; table centre-pieces, vases, jardinières; picture frames; lamps, candelabra, candlesticks, chandeliers; mantelpiece ornaments, decorative dishes and plates, medals and medallions (**other than** those for personal adornment); sporting trophies; perfume burners, etc.

(F) **Articles for religious use** such as reliquaries, chalices, ciboriums, monstrances, crucifixes, candlesticks, lamps.

The heading also covers **unfinished** or **incomplete articles** of goldsmiths' or silversmiths' wares and identifiable **parts** of goldsmiths' or silversmiths' wares, for example, silver handles for tableware, silver backs for toilet brushes, etc.

Like jewellery and **subject to the same reservation as regards minor constituents**, the goods of this heading **must** contain precious metal or metal clad with precious metal; they may also contain pearls (natural, cultured or imitation) precious or semi-precious stones (natural, synthetic or reconstructed), imitation stones, tortoise-shell, mother of pearl, ivory, amber (natural or agglomerated), jet or coral.

The heading **excludes** :

(a) Umbrellas, walking-sticks and other articles of **heading 66.01** or **66.02** having fittings in materials of this Chapter, as well as parts, fittings and accessories of these articles, wholly or partly of these materials (**heading 66.03**).

(b) Articles of **Chapter 90** (e.g., binoculars and telescopes).

(c) Clocks and watches and their cases (**Chapter 91**).

(d) Musical instruments (**Chapter 92**).

(e) Arms and parts thereof of **Chapter 93** (side-arms, pistols, revolvers, etc.).

(f) Scent and similar sprays of a kind used for toilet purposes, and heads therefor (**heading 96.16**).

(g) Original statuary or sculptures (**heading 97.03**) collectors' pieces of **heading 97.05** and antiques of **heading 97.06**.

7114.1

- Of precious metal whether or not plated or clad with precious metal :

7114.11

-- Of silver, whether or not plated or clad with other precious metal

7114.19

-- Of other precious metal, whether or not plated or clad with precious metal

CLASSIFICATION OPINIONS

1. Gold pieces issued under Government control but never having been legal tender in the country of issue.
Adoption : 1969

7114.20

- Of base metal clad with precious metal

Heading 7115

Other articles of precious metal or of metal clad with precious metal.

EXPLANATORY NOTES

71.15 - Other articles of precious metal or of metal clad with precious metal.

7115.10 **-** Catalysts in the form of wire cloth or grill, of platinum

7115.90 - Other

This heading covers all articles wholly or partly of precious metal or metal clad with precious metal **not constituting** jewellery, unfinished or incomplete articles of jewellery or parts of jewellery (**heading 71.13**) or goldsmiths' or silversmiths' wares, unfinished or incomplete articles of goldsmiths' or silversmiths' wares or parts thereof (**heading 71.14**), and **not excluded** under the provisions of Note 2 (A) or 3 to this Chapter.

The heading **does not cover**, for example :

(a) Articles in which precious metal or metal clad with precious metal is present as minor constituents only.

(b) Sterile surgical suture materials, dental fillings and other goods of **Chapter 30**.

(c) Woven fabrics of **heading 58.09** and other goods of **Section XI**.

(d) Machinery, mechanical appliances and electrical goods and identifiable parts thereof, of **Section XVI** (for example, platinum extrusion spinnerets, anti-friction bearings, parts of chemical or industrial machinery, electrical contacts).

(e) Articles of **Chapter 90** (for example, artificial limbs, teeth and other artificial parts of the body; fracture plates, medical or surgical instruments, pyrometers with thermocouples of precious metals; laboratory instruments and apparatus and parts thereof of gold, silver or platinum); articles of **Chapter 91** (clocks and watches), or of **Chapter 96** (e.g., platinum-sponge gas lighters).

This heading is therefore largely confined to articles for technical or laboratory use such as crucibles, cupels and certain spatulas (e.g., of platinum or metals of the platinum group); platinum or platinum alloy in the form of cloth or grill for use as catalysts, etc.; vessels (whether or not lined or heat-insulated), not fitted nor designed to be fitted with mechanical or thermal equipment; electroplating anodes. Gold anodes may be in the form of sheets of pure gold cut to the required size and drilled at two corners for attachment of hooks for suspending them in the electro-plating tank. Silver anodes may also be in this form or in the form of extruded sections having a “dog-bone” cross-section and drilled at each end. Platinum anodes usually consist either of small corrugated platinum sheets or strips to which a narrow strip of platinum has been welded for suspending them in the electrolytic plating tank or of platinum wire gauze fitted with a piece of platinum wire or narrow strip of platinum gauze for suspension purposes.

This heading also covers articles such as handbags, etc., in which the precious metal or metal clad with precious metal gives the article its essential character. Such articles may incorporate pearls, precious stones, semi-precious stones, tortoise-shell, etc., as fittings or ornamentation.

7115.10

- Catalysts in the form of wire cloth or grill, of platinum

7115.90

- Other

CLASSIFICATION OPINIONS

1. Hollow microspheres, of a diameter of less than 0.05 mm, obtained by depositing a silver coating on hollow glass microspheres by means of a chemical plating process. They have a silver content of 20 % or more by weight, and a glass content not exceeding 80 % by weight. They are used as a conductive filler in the manufacture of conductive paint. **Application of GIRs 1 (Notes 1 (b) and 2 (A) to Chapter 71) and 6.** *Adoption : 2014*

Heading 7116

Articles of natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed).

EXPLANATORY NOTES

71.16 - Articles of natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed).

7116.10 - Of natural or cultured pearls

7116.20 - Of precious or semi-precious stones (natural, synthetic or reconstructed)

This heading covers all articles (**other than** those **excluded** by Notes 2 (B) and 3 to this Chapter), wholly of natural or cultured pearls, precious or semi-precious stones, or consisting partly of natural or

cultured pearls or precious or semi-precious stones, but **not** containing precious metals or metals clad with precious metal (**except** as minor constituents) (see Note 2 (B) to this Chapter).

It thus includes :

(A) **Articles of personal adornment and other decorated articles** (e.g., clasps and frames for handbags, etc; combs, brushes; ear-rings; cuff-links, dress-studs and the like) containing natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed), set or mounted on base metal (whether or not plated with precious metal), ivory, wood, plastics, etc.

It includes pearls or stones graded according to size, quality, shade, etc., and constituting an article ready for use as jewellery. But the heading **excludes** ungraded or graded pearls and ungraded stones merely temporarily strung for facility of transport without any setting or fitting of metal or other material; these fall in **heading 71.01**, **71.03** or **71.04** (see Explanatory Notes to headings 71.01 to 71.03).

Under Note 2 (B) to this Chapter the goods of this heading may contain precious metal or metal clad with precious metal as minor constituents (e.g., a pearl necklace with a gold fastener). On the other hand the heading **does not cover** goods (e.g., ear-rings with gold clips) in which the precious metal or metal clad with precious metal amounts to more than minor constituents (**heading 71.13**).

(B) **Other articles** consisting wholly or partly of precious or semi-precious stones; these may also contain other materials including precious metal or metal clad with precious metal, **provided that** the precious metal or metal clad with precious metal is present as minor constituents only. Subject to these conditions, the heading therefore covers crosses and rings (frequently in agate), bracelets (other than wrist-watch bracelets), goblets and cups (often in garnet); statuettes and ornamental articles (e.g., of jade); mortars and pestles (e.g., in agate); knife edges or bearings of agate or other precious or semi-precious stones for weighing apparatus; agate thread spinning guides; decorative corks with heads of agate, etc.; agate burnishing tools used for gilding, for polishing leather, paper, etc.; agate rings for fishing rods, paper-knives, ink-stands, paperweights, ashtrays (e.g., of agate or onyx).

The heading **does not cover** :

(a) Goods of **Chapter 82** with a working part of precious or semi-precious stones (natural, synthetic or reconstructed) on a support of base metal, metal carbide or cermet, whether or not assembled (e.g., mounted glaziers' diamonds).

(b) Machinery, mechanical appliances or electrical goods and parts thereof of **Section XVI**, (see Note 3 (k) to this Chapter).

(c) Articles of **Chapter 90**, such as mounted or unmounted optical elements of quartz, suitable for fitting to instruments or appliances.

(d) Worked precious or semi-precious stones, mounted or not, being parts of clocks or watches, or parts suitable for use both in clocks or watches and in other articles (see Note 4 to **Chapter 91**).

7116.10

- Of natural or cultured pearls

7116.20

- Of precious or semi-precious stones (natural, synthetic or reconstructed)

CLASSIFICATION OPINIONS

1. Pendant drops (platelets, balls, etc.) of rock crystal quartz, for lighting fittings. *Adoption : 1958*

Heading 7117

Imitation jewellery.

EXPLANATORY NOTES

71.17 - Imitation jewellery.

- Of base metal, whether or not plated with precious metal :

7117.11 - - Cuff-links and studs

7117.19 - - Other

7117.90 - Other

For the purposes of this heading, the expression **imitation jewellery**, as defined in Note 11 to this Chapter, is restricted to small objects of personal adornment, such as those listed in paragraph (A) of the Explanatory Note to heading 71.13, e.g., rings, bracelets (other than wrist-watch bracelets), necklaces, ear-rings, cuff-links, etc., **but not including** buttons and other articles of **heading 96.06**, or dress combs, hair-slides or the like, and hair-pins of **heading 96.15**, **provided** they do not incorporate precious metal or metal clad with precious metal (except as plating or as minor constituents as defined in Note 2 (A) to this Chapter, e.g., monograms, ferrules and rims) nor natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed).

The heading also covers unfinished or incomplete articles of imitation jewellery (ear-rings, bracelets, necklaces, etc.), such as :

(a) Semi-finished split rings, consisting of anodised aluminium wire, usually twisted or surface worked, whether or not fitted with a crude clasp, sometimes used as ear-rings without further working;

(b) Ornamental motifs of base metal, whether or not polished, assembled by small links into strips of indefinite length.

It is to be noted that articles of personal use of a kind normally carried in the pocket, in the handbag or on the person, such as those listed in paragraph (B) of the Explanatory Note to heading 71.13 (cigarette cases, powder boxes, etc.) **are not regarded as imitation jewellery**.

The heading also **excludes** :

(a) Articles specified in Note 3 to this Chapter.

(b) Articles of **heading 83.08** (buckles, buckle-clasps, clasps, hooks, eyelets, etc.).

7117.1

- Of base metal, whether or not plated with precious metal :

7117.11

-- Cuff-links and studs

7117.19

-- Other

CLASSIFICATION OPINIONS

1. Copper bracelets, alleged to have a prophylactic and therapeutic effect.
Adoption : 1982

2. "**Pins**" **(pin badges)** consisting of small brass plates of various shapes with a pin at the back secured by a clip for affixing them to clothing. The badges bear logos, illustrations or printed text (e.g., slogans).
Adoption : 1998

7117.90

- Other

Heading 7118

Coin.

EXPLANATORY NOTES

71.18 - Coin (+).

7118.10 - Coin (other than gold coin), not being legal tender

7118.90 - Other

This heading applies to coins of any metal (including precious metals) of officially prescribed weight and design, issued under government control for use as legal tender. Consignments of individual coins or of sets of coins which are legal tender in the country of issue are classified in this heading even if they are put up for general sale in presentation cases. The heading includes coin which is no longer legal tender but it **excludes** collectors' pieces (see Explanatory Note to **heading 97.05**).

Coins are made by stamping out blanks from sheet metal; these are then "struck" with the appropriate dies to produce simultaneously the designs on the two faces.

The heading **does not cover** :

(a) Medals even if "struck" in the same way as coins; these usually fall in **heading 71.13**, **71.14** or **71.17** or **heading 83.06** (see corresponding Explanatory Notes).

(b) Coins mounted in brooches, tie-pins or other objects of personal adornment (**heading 71.13** or **71.17**).

(c) Broken, cut or battered coins of a kind usable only as scrap or waste metal.

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° °

Subheading Explanatory Note.

Subheading 7118.10.

This subheading includes :

(1) Coins which were legal tender but have been withdrawn from circulation.

(2) Coins struck in one country to be put into circulation in another country; at the time of crossing the frontier, they are not yet issued as legal tender by the competent authority.

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* *

ANNEX

List of precious or semi-precious stones falling in heading 71.03.

Mineral	**Commercial name**
Amblygonite	Amblygonite Montebrasite
Amphiboles (group of) Actinolite Tremolite Rhodonite	Actinolite, Nephrite, Jade Tremolite Rhodonite
Andalusite	Andalusite Chiastolite
Apatite	Apatite (all colours)

Aragonite	Aragonite, Ammolite
Axinite	Axinite
Azurite	Azurite (Chessylite) Azurite-Malachite
Benitoite	Benitoite
Beryl	Emerald Aquamarine Colourless Beryl-Goshenite Yellow Beryl Pink Beryl-Morganite Heliodor Golden Beryl Green Beryl Red Beryl, Bixbite
Beryllonite	Beryllonite
Brazilianite	Brazilianite
Calcite	Calcite
Cassiterite	Cassiterite
Cerussite	Cerussite

Chrysoberyl	Chrysoberyl Chrysoberyl Cat’s-eye Alexandrite Alexandrite Cat’s-eye
Chrysocolla	Chrysocolla
Cordierite	Cordierite Iolite
Corundum	Ruby Star-Ruby Sapphire Star-Sapphire Sapphire Cat’s-eye Sapphire or Corundum with colour designation Padparadschah (orange) Black Star-Sapphire, etc.
Danburite	Danburite
Datolite	Datolite
Diaspore	Diaspore

Dumortierite	Dumortierite
Epidote	Epidote
Euclase	Euclase
Feldspar (group of) Albite Labradorite Microcline Oligoclase Orthoclase	 Albite Maw-sit-sit/Jadeite Albite Labradorite, Spectrolite Amazonite, Microcline Aventurine Feldspar Sunstone Orthoclase (yellow) Moonstone
Fluorite	Fluorite
(Fluorspar)	(Fluorspar)
Garnet (group of) Almandine Andradite	Garnet, Almandine Garnet, Rhodolite Garnet, Andradite Garnet, Demantoid Garnet, Melanite Garnet, Grossular varied

Grossular Pyrope Spessartite	colours Garnet, Grossular Chrome Tsavolite Garnet, Hessonite Garnet, Pyrope Garnet, Spessartite
Hematite	Hematite
Idocrase	Idocrase Vesuvianite Californite
Kornerupine	Kornerupine
Kyanite	Kyanite
Lazurite	Lazurite Lapis-lazuli Lapis
Lazulite	Lazulite
Malachite	Malachite

Marcasite	Marcasite
Obsidian (volcanic glass)	Obsidian
Olivine	Peridot
Opal	Opal, Black Opal Boulder Opal Fire Opal Harlequin Opal Moss Opal, Prase Opal Opal Matrix Water Opal Wood Opal
Prehnite	Prehnite
Pyrites	Pyrites (Marcasite)
Pyrophyllite	Pyrophyllite
Pyroxene (group of) Diopside Enstatite-Hypersthene	 Diopside Star-Diopside Enstatite-Hypersthene

Jadeite	Jadeite, Jade Chloromelanite
Spodumene	Spodumene (all colours) Kunzite Hiddenite
Quartz	Agate (various colours) Fire Agate Onyx Sardonyx Amethyst Aventurine Quartz Aventurine Blue Quartz Chalcedony Chrysoprase Citrine, yellow quartz Cornelian Green Quartz, Prasiollite Heliotrope, Bloodstone, Jasper Multicoloured Jasper

	Orbicular Jasper Silex Morion, Cairngorm Moss-Agate Agate Dendritic Banded Agate Prase Quartz Cat’s-eye Quartz Falcon’s-eye Quartz Tiger’s-eye Rock Crystal, Quartz Rose Quartz Smoky Quartz Violet Quartz
Rhodochrosite	Rhodochrosite
Scapolite	Scapolite
Serpentine	Bowenite Serpentine Verd Antique Williamsite

Sinhalite	Sinhalite
Smithsonite	Smithsonite, Bonamite
Sodalite	Sodalite
Sphalerite	Sphalerite Blende
Spinel	Spinel (all colours) Pleonaste Black Spinel
Sphene (Titanite)	Sphene
Topaz	Topaz (all colours)
Tourmaline	Tourmaline (all colours) Achroite Dravite Indigolite Rubellite Tourmaline Cat's-eye
Tugtupite	Tugtupite
Turquoise	Turquoise Turquoise Matrix
Variscite	Variscite

Verdite	Verdite
Vesuvianite (see Idocrase)	
Zircon	Zircon (all colours)
Zoisite	Zoisite (all colours) Tanzanite Thulite

7118.10

- Coin (other than gold coin), not being legal tender

CLASSIFICATION OPINIONS

1. Silver pieces having been legal tender in the country of issue, including such pieces restruck (whether or not in the country of issue) after having ceased to be legal tender in the country of issue.
Adoption : 1971

7118.90

- Other

Annexes

List of precious or semi-precious stones falling in heading 71.03.

EXPLANATORY NOTES

ANNEX

List of precious or semi-precious stones falling in heading 71.03.

Mineral	**Commercial name**
Amblygonite	Amblygonite Montebrasite
Amphiboles (group of)	Actinolite, Nephrite, Jade

Actinolite Tremolite Rhodonite	Tremolite Rhodonite
Andalusite	Andalusite Chiastolite
Apatite	Apatite (all colours)
Aragonite	Aragonite, Ammolite
Axinite	Axinite
Azurite	Azurite (Chessylite) Azurite-Malachite
Benitoite	Benitoite
Beryl	Emerald Aquamarine Colourless Beryl-Goshenite Yellow Beryl Pink Beryl-Morganite Heliodor Golden Beryl Green Beryl

	Red Beryl, Bixbite
Beryllonite	Beryllonite
Brazilianite	Brazilianite
Calcite	Calcite
Cassiterite	Cassiterite
Cerussite	Cerussite
Chrysoberyl	Chrysoberyl Chrysoberyl Cat's-eye Alexandrite Alexandrite Cat's-eye
Chrysocolla	Chrysocolla
Cordierite	Cordierite Iolite
Corundum	Ruby Star-Ruby Sapphire Star-Sapphire Sapphire Cat's-eye Sapphire or Corundum with

	colour designation Padparadschah (orange) Black Star-Sapphire, etc.
Danburite	Danburite
Datolite	Datolite
Diaspore	Diaspore
Dumortierite	Dumortierite
Epidote	Epidote
Euclase	Euclase
Feldspar (group of) Albite Labradorite Microcline Oligoclase Orthoclase	 Albite Maw-sit-sit/Jadeite Albite Labradorite, Spectrolite Amazonite, Microcline Aventurine Feldspar Sunstone Orthoclase (yellow) Moonstone
Fluorite	Fluorite

(Fluorspar)	(Fluorspar)
Garnet (group of) Almandine Andradite Grossular Pyrope Spessartite	 Garnet, Almandine Garnet, Rhodolite Garnet, Andradite Garnet, Demantoid Garnet, Melanite Garnet, Grossular varied colours Garnet, Grossular Chrome Tsavolite Garnet, Hessonite Garnet, Pyrope Garnet, Spessartite
Hematite	Hematite
Idocrase	Idocrase Vesuvianite Californite
Kornerupine	Kornerupine

Kyanite	Kyanite
Lazurite	Lazurite Lapis-lazuli Lapis
Lazulite	Lazulite
Malachite	Malachite
Marcasite	Marcasite
Obsidian (volcanic glass)	Obsidian
Olivine	Peridot
Opal	Opal, Black Opal Boulder Opal Fire Opal Harlequin Opal Moss Opal, Prase Opal Opal Matrix Water Opal Wood Opal
Prehnite	Prehnite
Pyrites	Pyrites (Marcasite)

Pyrophyllite	Pyrophyllite
Pyroxene (group of) Diopside Enstatite-Hypersthene	 Diopside Star-Diopside Enstatite-Hypersthene
Jadeite	Jadeite, Jade Chloromelanite
Spodumene	Spodumene (all colours) Kunzite Hiddenite
Quartz	Agate (various colours) Fire Agate Onyx Sardonyx Amethyst Aventurine Quartz Aventurine Blue Quartz Chalcedony

	Chrysoprase Citrine, yellow quartz Cornelian Green Quartz, Prasiollite Heliotrope, Bloodstone, Jasper Multicoloured Jasper Orbicular Jasper Silex Morion, Cairngorm Moss-Agate Agate Dendritic Banded Agate Prase Quartz Cat’s-eye Quartz Falcon’s-eye Quartz Tiger’s-eye Rock Crystal, Quartz Rose Quartz Smoky Quartz Violet Quartz

Rhodochrosite	Rhodochrosite
Scapolite	Scapolite
Serpentine	Bowenite Serpentine Verd Antique Williamsite
Sinhalite	Sinhalite
Smithsonite	Smithsonite, Bonamite
Sodalite	Sodalite
Sphalerite	Sphalerite Blende
Spinel	Spinel (all colours) Pleonaste Black Spinel
Sphene (Titanite)	Sphene
Topaz	Topaz (all colours)
Tourmaline	Tourmaline (all colours) Achroite Dravite Indigolite

	Rubellite Tourmaline Cat's-eye
Tugtupite	Tugtupite
Turquoise	Turquoise Turquoise Matrix
Variscite	Variscite
Verdite	Verdite
Vesuvianite (see Idocrase)	
Zircon	Zircon (all colours)
Zoisite	Zoisite (all colours) Tanzanite Thulite

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Section XV

BASE METALS AND ARTICLES OF BASE METAL

LEGAL NOTES

Notes.

1.- This Section does not cover :

(a) Prepared paints, inks or other products with a basis of metallic flakes or powder (headings 32.07 to 32.10, 32.12, 32.13 or 32.15);

(b) Ferro-cerium or other pyrophoric alloys (heading 36.06);

(c) Headgear or parts thereof of heading 65.06 or 65.07;

(d) Umbrella frames or other articles of heading 66.03;

(e) Goods of Chapter 71 (for example, precious metal alloys, base metal clad with precious metal, imitation jewellery);

(f) Articles of Section XVI (machinery, mechanical appliances and electrical goods);

(g) Assembled railway or tramway track (heading 86.08) or other articles of Section XVII (vehicles, ships and boats, aircraft);

(h) Instruments or apparatus of Section XVIII, including clock or watch springs;

(ij) Lead shot prepared for ammunition (heading 93.06) or other articles of Section XIX (arms and ammunition);

(k) Articles of Chapter 94 (for example, furniture, mattress supports, luminaires and lighting fittings, illuminated signs, prefabricated buildings);

(l) Articles of Chapter 95 (for example, toys, games, sports requisites);

(m) Hand sieves, buttons, pens, pencil-holders, pen nibs, monopods, bipods, tripods and similar articles or other articles of Chapter 96 (miscellaneous manufactured articles); or

(n) Articles of Chapter 97 (for example, works of art).

2.- Throughout the Nomenclature, the expression “parts of general use” means :

(a) Articles of heading 73.07, 73.12, 73.15, 73.17 or 73.18 and similar articles of other base metal, other than articles specially designed for use exclusively in implants in medical, surgical, dental or veterinary sciences (heading 90.21);

(b) Springs and leaves for springs, of base metal, other than clock or watch springs (heading 91.14); and

(c) Articles of headings 83.01, 83.02, 83.08, 83.10 and frames and mirrors, of base metal, of heading 83.06.

In Chapters 73 to 76 and 78 to 82 (but not in heading 73.15) references to parts of goods do not include references to parts of general use as defined above.

Subject to the preceding paragraph and to Note 1 to Chapter 83, the articles of Chapter 82 or 83 are excluded from Chapters 72 to 76 and 78 to 81.

3.- Throughout the Nomenclature, the expression “base metals” means : iron and steel, copper, nickel, aluminium, lead, zinc, tin, tungsten (wolfram), molybdenum, tantalum, magnesium, cobalt, bismuth, cadmium, titanium, zirconium, antimony, manganese, beryllium, chromium, germanium, vanadium, gallium, hafnium, indium, niobium (columbium), rhenium and thallium.

4.- Throughout the Nomenclature, the term “cermets” means products containing a microscopic heterogeneous combination of a metallic component and a ceramic component. The term “cermets” includes sintered metal carbides (metal carbides sintered with a metal).

5.- Classification of alloys (other than ferro-alloys and master alloys as defined in Chapters 72 and 74) :

(a) An alloy of base metals is to be classified as an alloy of the metal which predominates by weight over each of the other metals;

(b) An alloy composed of base metals of this Section and of elements not falling within this Section is to be treated as an alloy of base metals of this Section if the total weight of such metals equals or exceeds the total weight of the other elements present;

(c) In this Section the term “alloys” includes sintered mixtures of metal powders, heterogeneous intimate mixtures obtained by melting (other than cermets) and intermetallic compounds.

6.- Unless the context otherwise requires, any reference in the Nomenclature to a base metal includes a reference to alloys which, by virtue of Note 5 above, are to be classified as alloys of that metal.

7.- Classification of composite articles :

Except where the headings otherwise require, articles of base metal (including articles of mixed materials treated as articles of base metal under the General Interpretative Rules) containing two or more base metals are to be treated as articles of the base metal predominating by weight over each of the other metals.

For this purpose :

(a) Iron and steel, or different kinds of iron or steel, are regarded as one and the same metal;

(b) An alloy is regarded as being entirely composed of that metal as an alloy of which, by virtue of Note 5, it is classified; and

(c) A cermet of heading 81.13 is regarded as a single base metal.

8.- In this Section, the following expressions have the meanings hereby assigned to them :

(a) Waste and scrap

(i) All metal waste and scrap;

(ii) Metal goods definitely not usable as such because of breakage, cutting up, wear or other reasons.

(b) Powders

Products of which 90 % or more by weight passes through a sieve having a mesh aperture of 1 mm.

9.- For the purposes of Chapters 74 to 76 and 78 to 81, the following expressions have the meanings hereby assigned to them :

(a) Bars and rods

Rolled, extruded, drawn or forged products, not in coils, which have a uniform solid cross-section along their whole length in the shape of circles, ovals, rectangles (including squares), equilateral triangles or regular convex polygons (including “flattened circles” and “modified rectangles”, of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel). Products with a rectangular (including square), triangular or polygonal cross-section may have corners rounded along their whole length. The thickness of such products which have a rectangular (including “modified rectangular”) cross-section exceeds one-tenth of the width. The expression also covers cast or sintered products, of the same forms and dimensions, which have been subsequently worked after production (otherwise than by simple trimming or de-scaling), provided that they have not thereby assumed the character of articles or products of other headings.

Wire-bars and billets of Chapter 74 with their ends tapered or otherwise worked simply to facilitate their entry into machines for converting them into, for example, drawing stock (wire-rod) or tubes, are however to be taken to be unwrought copper of heading 74.03. This provision applies mutatis mutandis to the products of Chapter 81.

(b) Profiles

Rolled, extruded, drawn, forged or formed products, coiled or not, of a uniform cross-section along their whole length, which do not conform to any of the definitions of bars, rods, wire, plates, sheets, strip, foil, tubes or pipes. The expression also covers cast or sintered products, of the same forms, which have been subsequently worked after production (otherwise than by simple trimming or de-scaling), provided that they have not thereby assumed the character of articles or products of other headings.

(c) Wire

Rolled, extruded or drawn products, in coils, which have a uniform solid cross-section along their whole length in the shape of circles, ovals, rectangles (including squares), equilateral triangles or regular convex polygons (including “flattened circles” and “modified rectangles”, of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel).

Products with a rectangular (including square), triangular or polygonal cross-section may have corners rounded along their whole length. The thickness of such products which have a rectangular (including "modified rectangular") cross-section exceeds one-tenth of the width.

(d) Plates, sheets, strip and foil

Flat-surfaced products (other than the unwrought products), coiled or not, of solid rectangular (other than square) cross-section with or without rounded corners (including "modified rectangles" of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel) of a uniform thickness, which are :

- of rectangular (including square) shape with a thickness not exceeding one-tenth of the width;

- of a shape other than rectangular or square, of any size, provided that they do not assume the character of articles or products of other headings.

Headings for plates, sheets, strip, and foil apply, *inter alia*, to plates, sheets, strip, and foil with patterns (for example, grooves, ribs, chequers, tears, buttons, lozenges) and to such products which have been perforated, corrugated, polished or coated, provided that they do not thereby assume the character of articles or products of other headings.

(e) Tubes and pipes

Hollow products, coiled or not, which have a uniform cross-section with only one enclosed void along their whole length in the shape of circles, ovals, rectangles (including squares), equilateral triangles or regular convex polygons, and which have a uniform wall thickness. Products with a rectangular (including square), equilateral triangular or regular convex polygonal cross-section, which may have corners rounded along their whole length, are also to be considered as tubes and pipes provided the inner and outer cross-sections are concentric and have the same form and orientation. Tubes and pipes of the foregoing cross-sections may be polished, coated, bent, threaded, drilled, waisted, expanded, cone-shaped or fitted with flanges, collars or rings.

EXPLANATORY NOTES

Section XV

BASE METALS AND ARTICLES OF BASE METAL

Notes.

1.- This Section does not cover :

(a) Prepared paints, inks or other products with a basis of metallic flakes or powder (headings 32.07 to 32.10, 32.12, 32.13 or 32.15);

(b) Ferro-cerium or other pyrophoric alloys (heading 36.06);

(c) Headgear or parts thereof of heading 65.06 or 65.07;

(d) Umbrella frames or other articles of heading 66.03;

(e) Goods of Chapter 71 (for example, precious metal alloys, base metal clad with precious metal, imitation jewellery);

(f) Articles of Section XVI (machinery, mechanical appliances and electrical goods);

(g) Assembled railway or tramway track (heading 86.08) or other articles of Section XVII (vehicles, ships and boats, aircraft);

(h) Instruments or apparatus of Section XVIII, including clock or watch springs;

(ij) Lead shot prepared for ammunition (heading 93.06) or other articles of Section XIX (arms and ammunition);

(k) Articles of Chapter 94 (for example, furniture, mattress supports, luminaires and lighting fittings, illuminated signs, prefabricated buildings);

(l) Articles of Chapter 95 (for example, toys, games, sports requisites);

(m) Hand sieves, buttons, pens, pencil-holders, pen nibs, monopods, bipods, tripods and similar articles or other articles of Chapter 96 (miscellaneous manufactured articles); or

(n) Articles of Chapter 97 (for example, works of art).

2.- Throughout the Nomenclature, the expression “parts of general use” means :

(a) Articles of heading 73.07, 73.12, 73.15, 73.17 or 73.18 and similar articles of other base metal, other than articles specially designed for use exclusively in implants in medical, surgical, dental or veterinary sciences (heading 90.21);

(b) Springs and leaves for springs, of base metal, other than clock or watch springs (heading 91.14); and

(c) Articles of headings 83.01, 83.02, 83.08, 83.10 and frames and mirrors, of base metal, of heading 83.06.

In Chapters 73 to 76 and 78 to 82 (but not in heading 73.15) references to parts of goods do not include references to parts of general use as defined above.

Subject to the preceding paragraph and to Note 1 to Chapter 83, the articles of Chapter 82 or 83 are excluded from Chapters 72 to 76 and 78 to 81.

3.- Throughout the Nomenclature, the expression “base metals” means : iron and steel, copper, nickel, aluminium, lead, zinc, tin, tungsten (wolfram), molybdenum, tantalum, magnesium, cobalt, bismuth, cadmium, titanium, zirconium, antimony, manganese, beryllium, chromium, germanium, vanadium, gallium, hafnium, indium, niobium (columbium), rhenium and thallium.

4.- Throughout the Nomenclature, the term “cermets” means products containing a microscopic heterogeneous combination of a metallic component and a ceramic component. The term “cermets” includes sintered metal carbides (metal carbides sintered with a metal).

5.- Classification of alloys (other than ferro-alloys and master alloys as defined in Chapters 72 and 74) :

(a) An alloy of base metals is to be classified as an alloy of the metal which predominates by weight over each of the other metals;

(b) An alloy composed of base metals of this Section and of elements not falling within this Section is to be treated as an alloy of base metals of this Section if the total weight of such metals equals or exceeds the total weight of the other elements present;

(c) In this Section the term “alloys” includes sintered mixtures of metal powders, heterogeneous intimate mixtures obtained by melting (other than cermets) and intermetallic compounds.

6.- Unless the context otherwise requires, any reference in the Nomenclature to a base metal includes a reference to alloys which, by virtue of Note 5 above, are to be classified as alloys of that metal.

7.- Classification of composite articles :

Except where the headings otherwise require, articles of base metal (including articles of mixed materials treated as articles of base metal under the General Interpretative Rules) containing two or more base metals are to be treated as articles of the base metal predominating by weight over each of the other metals.

For this purpose :

(a) Iron and steel, or different kinds of iron or steel, are regarded as one and the same metal;

(b) An alloy is regarded as being entirely composed of that metal as an alloy of which, by virtue of Note 5, it is classified; and

(c) A cermet of heading 81.13 is regarded as a single base metal.

8.- In this Section, the following expressions have the meanings hereby assigned to them :

(a) Waste and scrap

(i) All metal waste and scrap;

(ii) Metal goods definitely not usable as such because of breakage, cutting up, wear or other reasons.

(b) Powders

Products of which 90 % or more by weight passes through a sieve having a mesh aperture of 1 mm.

9.- For the purposes of Chapters 74 to 76 and 78 to 81, the following expressions have the meanings hereby assigned to them :

(a) Bars and rods

Rolled, extruded, drawn or forged products, not in coils, which have a uniform solid cross-section along their whole length in the shape of circles, ovals, rectangles (including squares), equilateral triangles or regular convex polygons (including “flattened circles” and “modified rectangles”, of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel). Products with a rectangular (including square), triangular or polygonal cross-section may have corners rounded along their whole length. The thickness of such products which have a rectangular (including “modified rectangular”) cross-section exceeds one-tenth of the width. The expression also covers cast or sintered products, of the same forms and dimensions, which have been subsequently worked after production (otherwise than by simple trimming or de-scaling), provided that they have not thereby assumed the character of articles or products of other headings.

Wire-bars and billets of Chapter 74 with their ends tapered or otherwise worked simply to facilitate their entry into machines for converting them into, for example, drawing stock (wire-rod) or tubes, are however to be taken to be unwrought copper of heading 74.03. This provision applies mutatis mutandis to the products of Chapter 81.

(b) Profiles

Rolled, extruded, drawn, forged or formed products, coiled or not, of a uniform cross-section along their whole length, which do not conform to any of the definitions of bars, rods, wire, plates, sheets, strip, foil, tubes or pipes. The expression also covers cast or sintered products, of the same forms, which have been subsequently worked after production (otherwise than by simple trimming or de-scaling), provided that they have not thereby assumed the character of articles or products of other headings.

(c) Wire

Rolled, extruded or drawn products, in coils, which have a uniform solid cross-section along their whole length in the shape of circles, ovals, rectangles (including squares), equilateral triangles or regular convex polygons (including “flattened circles” and “modified rectangles”, of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel). Products with a rectangular (including square), triangular or polygonal cross-section may have corners rounded along their whole length. The thickness of such products which have a rectangular (including “modified rectangular”) cross-section exceeds one-tenth of the width.

(d) Plates, sheets, strip and foil

Flat-surfaced products (other than the unwrought products), coiled or not, of solid rectangular (other than square) cross-section with or without rounded corners (including “modified rectangles” of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel) of a uniform thickness, which are :

- of rectangular (including square) shape with a thickness not exceeding one-tenth of the width;

- of a shape other than rectangular or square, of any size, provided that they do not assume the character of articles or products of other headings.

Headings for plates, sheets, strip, and foil apply, *inter alia*, to plates, sheets, strip, and foil with patterns (for example, grooves, ribs, chequers, tears, buttons, lozenges) and to such products

which have been perforated, corrugated, polished or coated, provided that they do not thereby assume the character of articles or products of other headings.

(e) Tubes and pipes

Hollow products, coiled or not, which have a uniform cross-section with only one enclosed void along their whole length in the shape of circles, ovals, rectangles (including squares), equilateral triangles or regular convex polygons, and which have a uniform wall thickness. Products with a rectangular (including square), equilateral triangular or regular convex polygonal cross-section, which may have corners rounded along their whole length, are also to be considered as tubes and pipes provided the inner and outer cross-sections are concentric and have the same form and orientation. Tubes and pipes of the foregoing cross-sections may be polished, coated, bent, threaded, drilled, waisted, expanded, cone-shaped or fitted with flanges, collars or rings.

GENERAL

This Section covers base metals (including those in a chemically pure state) and many articles thereof. A list of goods of base metal not covered by this Section is reproduced at the end of this Explanatory Note. The Section also includes native metals separated from their gangues, and the mattes of copper, nickel or cobalt. Metallic ores and native metals still enclosed in their gangues are **excluded** (**headings 26.01 to 26.17**).

In accordance with Note 3 to this Section, throughout the Nomenclature, the expression “base metals” means : iron and steel, copper, nickel, aluminium, lead, zinc, tin, tungsten (wolfram), molybdenum, tantalum, magnesium, cobalt, bismuth, cadmium, titanium, zirconium, antimony, manganese, beryllium, chromium, germanium, vanadium, gallium, hafnium, indium, niobium (columbium), rhenium and thallium.

Each of the Chapters 72 to 76 and 78 to 81 covers particular unwrought base metals and products of those metals such as bars, rods, wire or sheets, as well as articles thereof, **except** certain specified articles of base metal which, without regard to the nature of the constituent metal, are classified in **Chapter 82** or **83**, these Chapters being **limited** to the specified articles.

(A) ALLOYS OF BASE METALS

In accordance with Note 6 to this Section, except where the context otherwise requires (e.g., in the case of steel alloys), any reference to a base metal in Chapters 72 to 76 and 78 to 81 or elsewhere in the Nomenclature also includes the alloys of that metal. Similarly, any reference in Chapter 82 or 83 or elsewhere to “base metal” includes alloys classified as alloys of base metals.

Under Note 5 to Chapter 71 and Note 5 to this Section alloys of base metals are classified as follows :

(1) **Alloys of base metals with precious metals**.

These alloys are classified as base metals **provided** that no one of the precious metals (silver, gold and platinum) constitutes as much as 2 % by weight of the alloy. Other alloys of base metals with precious metals are classified in **Chapter 71**.

(2) **Alloys of base metals**.

These alloys are classified with the metal which predominates by weight, with the **exception** of ferro-alloys (see the Explanatory Note to heading 72.02) and master alloys of copper (see the Explanatory Note to heading 74.05).

(3) **Alloys of base metals of this Section with non-metals or with the metals of heading 28.05**.

These are classified as alloys of base metals of this Section **provided** the total weight of the base metals of this Section equals or exceeds the total weight of the other elements present. If this is not the case, the alloys are generally classified in **heading 38.24**.

(4) **Sintered mixtures, heterogeneous intimate mixtures obtained by melting (other than cermets) and intermetallic compounds.**

Sintered mixtures of metal powders and heterogeneous intimate mixtures obtained by melting (**other than** cermets) are treated as alloys. The latter type of mixture includes in particular ingots of variable composition obtained by melting down scrap metal.

The classification of mixtures of metal powders which have not been sintered is, however, governed by Note 7 to this Section (composite articles - see Part (B) below).

Intermetallic compounds composed of two or more base metals are also treated as alloys. The essential difference between intermetallic compounds and alloys is that the arrangement of the atoms of different kinds in the crystal lattice of an intermetallic compound is orderly, whereas in an alloy it is disorderly.

(B) ARTICLES OF BASE METALS

In accordance with Section Note 7, base metal articles containing two or more base metals are classified as articles of that metal which **predominates by weight** over each of the other metals, **except** where the headings otherwise require (e.g., copper-headed iron or steel nails are classified in heading 74.15 even if the copper is not the major constituent). The same rule applies to articles made partly of non-metals, **provided** that, under the General Interpretative Rules, the base metal gives them their essential character.

In calculating the proportions of the metals present for the purposes of this rule, it should be noted that :

(1) All varieties of iron and steel are regarded as the same metal.

(2) An alloy is regarded as being entirely composed of that metal as an alloy of which it is classified (e.g., for these purposes, a part made of brass would be treated as if it were wholly of copper).

(3) A cermet of heading 81.13 is regarded as a single base metal.

(C) PARTS OF ARTICLES

In general, identifiable parts of articles are classified as such parts in their appropriate headings in the Nomenclature.

However, parts of general use (as defined in Note 2 to this Section) presented separately are **not** considered as parts of articles, but are classified in the headings of this Section appropriate to them. This would apply, for example, in the case of bolts specialised for central heating radiators or springs specialised for motor cars. The bolts would be classified in heading 73.18 (as bolts) and not in heading 73.22 (as parts of central heating radiators). The springs would be classified in heading 73.20 (as springs) and not in heading 87.08 (as parts of motor vehicles).

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* *

It should be noted that watch or clock springs are **excluded** by Note 2 (b) to this Section and fall in **heading 91.14**.

In addition to the goods listed in Note 1 to this Section, the following are also **excluded** :

(a) Amalgams of base metals (**heading 28.53**).

(b) Colloidal suspensions of base metals (generally heading **30.03** or **30.04**).

(c) Dental cements and other dental fillings (**heading 30.06**).

(d) Sensitised photographic plates of metal for, e.g., photo-engraving (**heading 37.01**).

(e) Flash-light materials for photographic uses of **heading 37.07**.

(f) Metallised yarn (**heading 56.05**); woven fabrics of such yarn or of metal thread, of a kind used in articles of apparel, as furnishing fabrics or the like (**heading 58.09**).

(g) Embroidery and other goods described in **Section XI**, of metal thread.

Parts of footwear, **other than** those mentioned in Note 2 to Chapter 64 (in particular, protectors, eyelets, hooks and buckles) (**heading 64.06**).

(ij) Coin (**heading 71.18**).

(k) Waste and scrap of primary cells, primary batteries and electric accumulators; spent primary cells, spent primary batteries and spent electric accumulators (**heading 85.49**).

(l) Wire brushes (**heading 96.03**).

Chapter 72

Iron and steel

LEGAL NOTES

Notes.

1.- In this Chapter and, in the case of Notes (d), (e) and (f) throughout the Nomenclature, the following expressions have the meanings hereby assigned to them :

(a) **Pig iron**

Iron-carbon alloys not usefully malleable, containing more than 2 % by weight of carbon and which may contain by weight one or more other elements within the following limits :

- not more than 10 % of chromium
- not more than 6 % of manganese
- not more than 3 % of phosphorus
- not more than 8 % of silicon
- a total of not more than 10 % of other elements.

(b) **Spiegeleisen**

Iron-carbon alloys containing by weight more than 6 % but not more than 30 % of manganese and otherwise conforming to the specification at (a) above.

(c) **Ferro-alloys**

Alloys in pigs, blocks, lumps or similar primary forms, in forms obtained by continuous casting and also in granular or powder forms, whether or not agglomerated, commonly used as an additive in the manufacture of other alloys or as de-oxidants, de-sulphurising agents or for similar uses in ferrous metallurgy and generally not usefully malleable, containing by weight 4 % or more of the element iron and one or more of the following :

- more than 10 % of chromium
- more than 30 % of manganese
- more than 3 % of phosphorus
- more than 8 % of silicon
- a total of more than 10 % of other elements, excluding carbon, subject to a maximum content of 10 % in the case of copper.

(d) **Steel**

Ferrous materials other than those of heading 72.03 which (with the exception of certain types produced in the form of castings) are usefully malleable and which contain by weight 2 % or less of carbon. However, chromium steels may contain higher proportions of carbon.

(e) **Stainless steel**

Alloy steels containing, by weight, 1.2 % or less of carbon and 10.5 % or more of chromium, with or without other elements.

(f) **Other alloy steel**

Steels not complying with the definition of stainless steel and containing by weight one or more of the following elements in the proportion shown :

- 0.3 % or more of aluminium
- 0.0008 % or more of boron
- 0.3 % or more of chromium
- 0.3 % or more of cobalt
- 0.4 % or more of copper
- 0.4 % or more of lead
- 1.65 % or more of manganese
- 0.08 % or more of molybdenum
- 0.3 % or more of nickel
- 0.06 % or more of niobium
- 0.6 % or more of silicon
- 0.05 % or more of titanium
- 0.3 % or more of tungsten (wolfram)
- 0.1 % or more of vanadium
- 0.05 % or more of zirconium
- 0.1 % or more of other elements (except sulphur, phosphorus, carbon and nitrogen), taken separately.

(g) **Remelting scrap ingots of iron or steel**

Products roughly cast in the form of ingots without feeder-heads or hot tops, or of pigs, having obvious surface faults and not complying with the chemical composition of pig iron, spiegeleisen or ferro-alloys.

(h) **Granules**

Products of which less than 90 % by weight passes through a sieve with a mesh aperture of 1 mm and of which 90 % or more by weight passes through a sieve with a mesh aperture of 5 mm.

(ij) **Semi-finished products**

Continuous cast products of solid section, whether or not subjected to primary hot-rolling; and Other products of solid section, which have not been further worked than subjected to primary hot-rolling or roughly shaped by forging, including blanks for angles, shapes or sections.

These products are not presented in coils.

(k) **Flat-rolled products**

Rolled products of solid rectangular (other than square) cross-section, which do not conform to the definition at (ij) above in the form of :

- coils of successively superimposed layers, or

- straight lengths, which if of a thickness less than 4.75 mm are of a width measuring at least ten times the thickness or if of a thickness of 4.75 mm or more are of a width which exceeds 150 mm and measures at least twice the thickness.

Flat-rolled products include those with patterns in relief derived directly from rolling (for example, grooves, ribs, chequers, tears, buttons, lozenges) and those which have been perforated, corrugated or polished, provided that they do not thereby assume the character of articles or products of other headings.

Flat-rolled products of a shape other than rectangular or square, of any size, are to be classified as products of a width of 600 mm or more, provided that they do not assume the character of articles or products of other headings.

(l) **Bars and rods, hot-rolled, in irregularly wound coils**

Hot-rolled products in irregularly wound coils, which have a solid cross-section in the shape of circles, segments of circles, ovals, rectangles (including squares), triangles or other convex polygons (including “flattened circles” and “modified rectangles”, of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel). These products may have indentations, ribs, grooves or other deformations produced during the rolling process (reinforcing bars and rods).

(m) **Other bars and rods**

Products which do not conform to any of the definitions at (ij), (k) or (l) above or to the definition of wire, which have a uniform solid cross-section along their whole length in the shape of circles, segments of circles, ovals, rectangles (including squares), triangles or other convex polygons (including "flattened circles" and "modified rectangles", of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel). These products may :

- have indentations, ribs, grooves or other deformations produced during the rolling process (reinforcing bars and rods);

- be twisted after rolling.

(n) **Angles, shapes and sections**

Products having a uniform solid cross-section along their whole length which do not conform to any of the definitions at (ij), (k), (l) or (m) above or to the definition of wire.

Chapter 72 does not include products of heading 73.01 or 73.02.

(o) **Wire**

Cold-formed products in coils, of any uniform solid cross-section along their whole length, which do not conform to the definition of flat-rolled products.

(p) **Hollow drill bars and rods**

Hollow bars and rods of any cross-section, suitable for drills, of which the greatest external dimension of the cross-section exceeds 15 mm but does not exceed 52 mm, and of which the greatest internal dimension does not exceed one half of the greatest external dimension. Hollow bars and rods of iron or steel not conforming to this definition are to be classified in heading 73.04.

2.- Ferrous metals clad with another ferrous metal are to be classified as products of the ferrous metal predominating by weight.

3.- Iron or steel products obtained by electrolytic deposition, by pressure casting or by sintering are to be classified, according to their form, their composition and their appearance, in the headings of this Chapter appropriate to similar hot-rolled products.

Subheading Notes.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Alloy pig iron**

Pig iron containing, by weight, one or more of the following elements in the specified proportions :

- more than 0.2 % of chromium

- more than 0.3 % of copper

- more than 0.3 % of nickel

- more than 0.1 % of any of the following elements : aluminium, molybdenum, titanium, tungsten (wolfram), vanadium.

(b) **Non-alloy free-cutting steel**

Non-alloy steel containing, by weight, one or more of the following elements in the specified proportions :

- 0.08 % or more of sulphur

- 0.1 % or more of lead

- more than 0.05 % of selenium

- more than 0.01 % of tellurium

- more than 0.05 % of bismuth.

(c) **Silicon-electrical steel**

Alloy steels containing by weight at least 0.6 % but not more than 6 % of silicon and not more than 0.08 % of carbon. They may also contain by weight not more than 1 % of aluminium but no other element in a proportion that would give the steel the characteristics of another alloy steel.

(d) **High speed steel**

Alloy steels containing, with or without other elements, at least two of the three elements molybdenum, tungsten and vanadium with a combined content by weight of 7 % or more, 0.6 % or more of carbon and 3 to 6 % of chromium.

(e) **Silico-manganese steel**

Alloy steels containing by weight :

- not more than 0.7 % of carbon,

- 0.5 % or more but not more than 1.9 % of manganese, and

- 0.6 % or more but not more than 2.3 % of silicon, but no other element in a proportion that would give the steel the characteristics of another alloy steel.

2.- For the classification of ferro-alloys in the subheadings of heading 72.02 the following rule should be observed :

A ferro-alloy is considered as binary and classified under the relevant subheading (if it exists) if only one of the alloy elements exceeds the minimum percentage laid down in Chapter Note 1 (c);

by analogy, it is considered respectively as ternary or quaternary if two or three alloy elements exceed the minimum percentage.

For the application of this rule the unspecified “other elements” referred to in Chapter Note 1 (c) must each exceed 10 % by weight.

EXPLANATORY NOTES

Chapter 72

Iron and steel

Notes.

1.- In this Chapter and, in the case of Notes (d), (e) and (f) throughout the Nomenclature, the following expressions have the meanings hereby assigned to them :

(a) **Pig iron**

Iron-carbon alloys not usefully malleable, containing more than 2 % by weight of carbon and which may contain by weight one or more other elements within the following limits :

- not more than 10 % of chromium
- not more than 6 % of manganese
- not more than 3 % of phosphorus
- not more than 8 % of silicon
- a total of not more than 10 % of other elements.

(b) **Spiegeleisen**

Iron-carbon alloys containing by weight more than 6 % but not more than 30 % of manganese and otherwise conforming to the specification at (a) above.

(c) **Ferro-alloys**

Alloys in pigs, blocks, lumps or similar primary forms, in forms obtained by continuous casting and also in granular or powder forms, whether or not agglomerated, commonly used as an additive in the manufacture of other alloys or as de-oxidants, de-sulphurising agents or for similar uses in ferrous metallurgy and generally not usefully malleable, containing by weight 4 % or more of the element iron and one or more of the following :

- more than 10 % of chromium
- more than 30 % of manganese

- more than 3 % of phosphorus

- more than 8 % of silicon

- a total of more than 10 % of other elements, excluding carbon, subject to a maximum content of 10 % in the case of copper.

(d) **Steel**

Ferrous materials other than those of heading 72.03 which (with the exception of certain types produced in the form of castings) are usefully malleable and which contain by weight 2 % or less of carbon. However, chromium steels may contain higher proportions of carbon.

(e) **Stainless steel**

Alloy steels containing, by weight, 1.2 % or less of carbon and 10.5 % or more of chromium, with or without other elements.

(f) **Other alloy steel**

Steels not complying with the definition of stainless steel and containing by weight one or more of the following elements in the proportion shown :

- 0.3 % or more of aluminium

- 0.0008 % or more of boron

- 0.3 % or more of chromium

- 0.3 % or more of cobalt

- 0.4 % or more of copper

- 0.4 % or more of lead

- 1.65 % or more of manganese

- 0.08 % or more of molybdenum

- 0.3 % or more of nickel

- 0.06 % or more of niobium

- 0.6 % or more of silicon

- 0.05 % or more of titanium

- 0.3 % or more of tungsten (wolfram)

- 0.1 % or more of vanadium

- 0.05 % or more of zirconium

- 0.1 % or more of other elements (except sulphur, phosphorus, carbon and nitrogen), taken separately.

(g) **Remelting scrap ingots of iron or steel**

Products roughly cast in the form of ingots without feeder-heads or hot tops, or of pigs, having obvious surface faults and not complying with the chemical composition of pig iron, spiegeleisen or ferro-alloys.

(h) **Granules**

Products of which less than 90 % by weight passes through a sieve with a mesh aperture of 1 mm and of which 90 % or more by weight passes through a sieve with a mesh aperture of 5 mm.

(ij) **Semi-finished products**

Continuous cast products of solid section, whether or not subjected to primary hot-rolling; and Other products of solid section, which have not been further worked than subjected to primary hot-rolling or roughly shaped by forging, including blanks for angles, shapes or sections.

These products are not presented in coils.

(k) **Flat-rolled products**

Rolled products of solid rectangular (other than square) cross-section, which do not conform to the definition at (ij) above in the form of :

- coils of successively superimposed layers, or

- straight lengths, which if of a thickness less than 4.75 mm are of a width measuring at least ten times the thickness or if of a thickness of 4.75 mm or more are of a width which exceeds 150 mm and measures at least twice the thickness.

Flat-rolled products include those with patterns in relief derived directly from rolling (for example, grooves, ribs, chequers, tears, buttons, lozenges) and those which have been perforated, corrugated or polished, provided that they do not thereby assume the character of articles or products of other headings.

Flat-rolled products of a shape other than rectangular or square, of any size, are to be classified as products of a width of 600 mm or more, provided that they do not assume the character of articles or products of other headings.

(l) **Bars and rods, hot-rolled, in irregularly wound coils**

Hot-rolled products in irregularly wound coils, which have a solid cross-section in the shape of circles, segments of circles, ovals, rectangles (including squares), triangles or other convex polygons (including “flattened circles” and “modified rectangles”, of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel). These products may have indentations, ribs, grooves or other deformations produced during the rolling process (reinforcing bars and rods).

(m) **Other bars and rods**

Products which do not conform to any of the definitions at (ij), (k) or (l) above or to the definition of wire, which have a uniform solid cross-section along their whole length in the shape of circles, segments of circles, ovals, rectangles (including squares), triangles or other convex polygons (including “flattened circles” and “modified rectangles”, of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel). These products may :

- have indentations, ribs, grooves or other deformations produced during the rolling process (reinforcing bars and rods);

- be twisted after rolling.

(n) **Angles, shapes and sections**

Products having a uniform solid cross-section along their whole length which do not conform to any of the definitions at (ij), (k), (l) or (m) above or to the definition of wire.

Chapter 72 does not include products of heading 73.01 or 73.02.

(o) **Wire**

Cold-formed products in coils, of any uniform solid cross-section along their whole length, which do not conform to the definition of flat-rolled products.

(p) **Hollow drill bars and rods**

Hollow bars and rods of any cross-section, suitable for drills, of which the greatest external dimension of the cross-section exceeds 15 mm but does not exceed 52 mm, and of which the greatest internal dimension does not exceed one half of the greatest external dimension. Hollow bars and rods of iron or steel not conforming to this definition are to be classified in heading 73.04.

2.- Ferrous metals clad with another ferrous metal are to be classified as products of the ferrous metal predominating by weight.

3.- Iron or steel products obtained by electrolytic deposition, by pressure casting or by sintering are to be classified, according to their form, their composition and their appearance, in the headings of this Chapter appropriate to similar hot-rolled products.

Subheading Notes.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Alloy pig iron**

Pig iron containing, by weight, one or more of the following elements in the specified proportions :

- more than 0.2 % of chromium
- more than 0.3 % of copper
- more than 0.3 % of nickel
- more than 0.1 % of any of the following elements : aluminium, molybdenum, titanium, tungsten (wolfram), vanadium.

(b) **Non-alloy free-cutting steel**

Non-alloy steel containing, by weight, one or more of the following elements in the specified proportions :

- 0.08 % or more of sulphur
- 0.1 % or more of lead
- more than 0.05 % of selenium
- more than 0.01 % of tellurium
- more than 0.05 % of bismuth.

(c) **Silicon-electrical steel**

Alloy steels containing by weight at least 0.6 % but not more than 6 % of silicon and not more than 0.08 % of carbon. They may also contain by weight not more than 1 % of aluminium but no other element in a proportion that would give the steel the characteristics of another alloy steel.

(d) **High speed steel**

Alloy steels containing, with or without other elements, at least two of the three elements molybdenum, tungsten and vanadium with a combined content by weight of 7 % or more, 0.6 % or more of carbon and 3 to 6 % of chromium.

(e) **Silico-manganese steel**

Alloy steels containing by weight :

- not more than 0.7 % of carbon,
- 0.5 % or more but not more than 1.9 % of manganese, and

- 0.6 % or more but not more than 2.3 % of silicon, but no other element in a proportion that would give the steel the characteristics of another alloy steel.

2.- For the classification of ferro-alloys in the subheadings of heading 72.02 the following rule should be observed :

A ferro-alloy is considered as binary and classified under the relevant subheading (if it exists) if only one of the alloy elements exceeds the minimum percentage laid down in Chapter Note 1 (c); by analogy, it is considered respectively as ternary or quaternary if two or three alloy elements exceed the minimum percentage.

For the application of this rule the unspecified “other elements” referred to in Chapter Note 1 (c) must each exceed 10 % by weight.

GENERAL

This Chapter covers the ferrous metals, i.e., pig iron, spiegeleisen, ferro-alloys and other primary materials (sub-Chapter I), as well as certain products of the iron and steel industry (ingots and other primary forms, semi-finished products and the principal products derived directly therefrom) of iron or non-alloy steel (sub-Chapter II), of stainless steel (sub-Chapter III) and of other alloy steel (sub-Chapter IV).

Further worked articles, such as castings, forgings, etc., and sheet piling, welded angles, shapes and sections, railway or tramway track construction material and tubes are classified in **Chapter 73** or, in certain cases, in other Chapters.

As raw material, the iron and steel industry uses various natural iron ores (oxides, hydrated oxides, carbonates) listed in the Explanatory Note to heading 26.01, pyrites cinder (the sintered iron oxides remaining after burning off the sulphur from pyrite, marcasite, pyrrhotite, etc.) and waste and scrap of iron or steel.

(I) **Conversion (reduction) of iron ore**

Iron ore is converted by reduction either into pig iron, in blast furnaces or electric furnaces, or into a spongy form (sponge iron) or into lumps by various direct reduction processes; only when iron of exceptional purity is required for special use (e.g., in the chemical industry) is it obtained by electrolysis or other chemical processes.

(A) **C onversion of iron ore by blast furnace process**

Most iron obtained from iron ore is still extracted by the blast furnace process. This process uses mainly ore as raw material, but waste and scrap metal, pre-reduced iron ores and other ferrous waste can also be used.

Blast furnace reductants consist essentially of hard coke, sometimes combined with small quantities of coal or liquid or gaseous hydrocarbons.

The iron so obtained is in the form of molten pig iron. The by-products are slag, blast furnace gas and blast furnace dust.

Most of the molten pig iron thus produced is converted directly into steel in steelworks.

Some may be used in foundries (ironworks), for the manufacture of ingot moulds, cast iron tubes and pipes, etc.

The remainder may be cast into the form of pigs or blocks, in casting machines or in sand-beds; or it may be produced in the form of irregularly shaped lumps, sometimes known as “plate iron”, or be granulated by being poured into water.

Solid pig iron is either remelted in steelworks with ferrous scrap, to produce steel, or melted in iron foundries, in cupolas or electric furnaces, again with ferrous scrap, and converted into castings.

(B) **Conversion of iron ore in direct reduction plants**

In contrast to the process described above, here the reductants are usually gaseous or liquid hydrocarbons or coal, so that the need for hard coke is eliminated.

In these processes, the reduction temperature is lower so that the resulting products (generally known as sponge iron) are obtained, without passing through the molten state, in the form of sponge, pre-reduced pellets or lumps. For this reason, their carbon content is usually lower than that of blast furnace pig iron (where molten metal is in close contact with the carbon). Most of these crude products are melted in steelworks and converted into steel.

(II) **Steel production**

Pig or cast iron in molten or solid form and the ferrous products obtained by direct reduction (sponge iron) constitute, with waste and scrap, the primary steelmaking materials. To these materials are added certain slag-forming additives such as quick-lime, fluorspar, de-oxidants (e.g., ferro-manganese, ferro-silicon, aluminium) and various alloying elements.

Steelmaking processes fall into two main categories viz : “pneumatic” processes in which molten pig iron is refined in a converter or by blowing air, and hearth processes, such as open hearth or electric furnace.

The pneumatic processes require no external source of heat. They are used when the charge consists mainly of molten pig iron. The oxidation of certain elements present in the pig iron (e.g., carbon, phosphorus, silicon and manganese) generates enough heat to keep the steel liquid and even to remelt any added scrap. These processes include those in which pure oxygen is blown into the molten metal (Linz-Donawitz processes : LD or LDAC, OBM, OLP, Kaldo and others) and those, now becoming obsolete, in which air, sometimes oxygen-enriched, is used (Thomas and Bessemer processes).

Open-hearth refining processes, however, require an external source of heat. They are used whena solid charge (e.g., waste or scrap iron, sponge iron and solid pig iron) forms the raw material.

The two main processes in this category are the Martin furnace process in which the heat is provided by heavy oil or gas, and the arc or induction furnace process, where the heat is supplied by electricity.

For the production of certain steels two different processes may be applied successively (duplex process). For example, refining may begin in a Martin furnace and end in an electric furnace; or steel melted in an electric furnace may be transferred to a special converter where decarburisation is completed by blowing oxygen and argon on to the charge (a process used, for example, in the production of stainless steel).

Many new processes have been evolved for producing steels of special composition or with special properties. These processes include electric arc melting in a vacuum, melting by electronic bombardment and the electroslag process. In all these processes the steel is produced from a self-consuming electrode which, on melting, drips into a water-cooled ingot mould. The mould may be made in one piece, or the bottom may be removable so that the solidified casting can be withdrawn from below.

Liquid steel obtained by the above-mentioned processes, with or without further refining, is generally run into a receiving ladle. At this stage alloying elements or de-oxidising agents, in solid or liquid form, may be added. This may be done in a vacuum to ensure freedom from gaseous impurities.

Steels obtained by all these processes are divided, according to their content of alloying elements, into “non-alloy steels” and “alloy steels” (stainless or other). They are further divided in accordance with their special properties into free-cutting steel, silicon-electrical steel, high speed steel or silico-manganese steel, for example.

(III) **Production of ingots or other primary forms and of semi-finished products**

Although molten steel may be cast (in foundries) into its final shape in moulds (steel castings), most molten steel is cast into ingots in ingot moulds.

At the casting or pouring stage and at the solidification stage, steel is divided into three main groups : rimming (or “effervescent”) steel, killed (or “non-effervescent”) steel and semi-killed(or “balanced”) steel. Steel cast or poured in the rimming state is so named because during and after the pouring process there is a reaction between the iron oxide and carbon dissolved in the steel rendering it “effervescent”. During the cooling stage, the impurities concentrate in the central core and upper half of the ingots. The outer layer, which is not affected by these impurities, will subsequently give a better surface appearance to the rolled products obtained from these ingots. This more economical kind of steel is also used for cold dishing.

In many cases, steel cannot be satisfactorily cast in the “effervescent” state. This applies, in particular, to alloy steels and high carbon steels. In these cases, the steel must be killed, i.e., de-oxidised. De-oxidation may be partially carried out by treatment in a vacuum, but is more usually achieved by the addition of elements such as silicon, aluminium, calcium or manganese. In this way, the residual impurities are more evenly distributed throughout the ingot, giving a better assurance, for certain uses, that the properties of the steel will be the same throughout its mass.

Some steels may be partly de-oxidised and are then known as semi-killed (or balanced) steels.

After they have solidified and their temperature has been equalised, the ingots are rolled into semi-finished products (blooms, billets, rounds, slabs, sheet bars) on primary cogging or roughing mills (blooming, slabbing, etc.) or converted by drop hammer or on a forging press into semi-finished forgings.

An increasing amount of steel is being cast directly into the form of semi-finished products in **continuous casting** machines. Their cross-sectional shape may, in certain cases, approach that of finished products. Semi-finished products obtained by the continuous casting process are characterised by their external surface appearance which usually shows transverse rings of different colours at more or less regular distances, as well as by the appearance of their cut cross-section which usually shows radial crystallisation resulting from rapid cooling. Continuously cast steel is always killed.

(IV) **Production of finished products**

Semi-finished products and, in certain cases, ingots are subsequently converted into finished products.

These are generally subdivided into **flat products** ("wide flats", including "universal plates", "wide coil", sheets, plates and strip) and **long products** (bars and rods, hot-rolled, in irregularly wound coils, other bars and rods, angles, shapes, sections and wire).

These products are obtained by plastic deformation, either hot, directly from ingots or semi-finished products (by hot-rolling, forging or hot-drawing) or cold, indirectly from hot finished products (by cold-rolling, extrusion, wire-drawing, bright-drawing), followed in some cases by finishing operations (e.g., cold-finished bars obtained by centre-less grinding or by precision turning).

According to Note 3 to this Chapter, iron and steel products obtained by electrolytic deposition, by casting under pressure or by sintering are to be classified, according to their form, their composition and their appearance, in the headings of this Chapter appropriate to similar hot-rolled products.

For the purpose of this Note, the following expressions have the meanings hereby assigned to them :

(1) **Casting under pressure** (die casting)

This process consists of injecting an alloy in molten or pasty form into a mould under a more or less high pressure.

Such a process facilitates production in large quantities and ensures dimensional precision.

(2) **Sintering**

This is an operation of powder metallurgy by means of which a compacted powder product, obtained by moulding, usually coupled with pressing, is subsequently heated in a special furnace.

This operation, which gives the final properties to the sintered materials, is carried out under specified conditions of temperature, timing and atmosphere. It produces an agglomeration in solid form. Sintering may also be carried out in a vacuum.

(A) **Hot plastic deformation**

(1) **Hot-rolling** means rolling at a temperature between the point of rapid recrystallisation and that of the beginning of fusion. The temperature range depends on various factors such as the composition of the steel. As a rule, the final temperature of the work-piece in hot-rolling is about 900 °C.

(2) **Forging** means the hot deformation of the metal in the mass by means of drop hammers or on forging presses, to obtain pieces of any shape.

(3) In **hot-drawing**, the steel is heated and passed through a die to produce bars, tubes or sections of various shapes.

(4) **Hot drop forging and drop stamping** means producing metal shapes or sections (usually on the conveyor line) by the hot shaping of cut blanks in dies (closed or with burr joints) by means of special tools. The work, carried out by impact or pressure, is generally effected in successive phases, following preliminary operations of rolling, hammering, hand forging or bending.

(B) **Cold plastic deformation**

(1) **Cold-rolling** is carried out at ambient temperatures, i.e., below the recrystallisation temperature.

(2) **Cold drop forging and drop stamping** means producing shapes or sections by cold processes similar to those described in Item A (4) above.

(3) **Extrusion** is a process, generally cold, for deforming steel in the mass under high pressure between a die and a press tool, in a space enclosed on all sides except that through which the charge passes, to assume the desired shape.

(4) **Wire-drawing** is a cold process in which bars or rods in irregularly wound coils are drawn through one or more dies at high speed to obtain coiled wire of smaller diameter.

(5) **Bright-drawing** is a cold process in which bars or rods, whether or not in irregularly wound coils, are drawn (at relatively low speed) through one or more dies to obtain products of smaller or different shaped section.

Cold-worked products can be distinguished from hot-rolled or hot-drawn products by the followingcriteria :

- the surface of cold-worked products has a better appearance than that of products obtained by a hot process and never has a layer of scale;

- the dimensional tolerances are smaller for cold-worked products;

- thin-flat products (thin “wide coil”, sheets, plates and strip) are usually produced by cold-reduction;

- microscopic examination of cold-worked products reveals a marked deformation of the grains and grain orientation parallel to the direction of working. By contrast, products obtained by hot processes show almost regular grains owing to recrystallisation;

In addition, cold-worked products have the following properties which may be shared by certain hot-rolled or hot-drawn products :

(a) because of the strain or work hardening they have undergone, cold-worked products are very hard and possess great tensile strength, though these properties may diminish appreciably with heat treatment;

(b) elongation at fracture is very low in cold-worked products; it is higher in products that have undergone suitable heat treatment.

The very light cold-rolling process (known as a skin pass or pinch pass) which is applied to certain hot-rolled flat products without significant reduction of their thickness does not change their character of finished hot-rolled products. This cold pass under low pressure acts essentially on the surface of the products only, whereas cold-rolling in the true sense (also known as cold-reduction) changes the crystalline structure of the work piece by considerably reducing its cross-section.

(C) **Subsequent manufacture and finishing**

The finished products may be subjected to further finishing treatments or converted into other articles by a series of operations such as :

(1) **Mechanical working**, i.e., turning, milling, grinding, perforation or punching, folding, sizing, peeling, etc.; however, it should be noted that rough turning merely to eliminate the oxidation scale and crust and rough trimming are not regarded as finishing operations leading to a change in classification.

(2) **Surface treatments** or other operations, including cladding, to improve the properties or appearance of the metal, protect it against rusting and corrosion, etc. Except as otherwise providedin the text of certain headings, such treatments do not affect the heading in which the goods are classified. They include :

(a) Annealing, hardening, tempering, case-hardening, nitriding and similar heat treatments to improve the properties of the metal.

(b) Descaling, pickling, scraping and other processes to remove the oxide scale and crust formed during the heating of the metal.

(c) Rough coating intended solely to protect products from rust or other oxidation, to prevent slipping during transport and to facilitate handling e.g., paints containing an active anti-rust pigment (red lead, zinc powder, zinc oxide, zinc chromate, iron oxide, iron minium, jewellers' rouge), and non-pigmented coatings with a basis of oil, grease, wax, paraffin wax, graphite, tar or bitumen.

(d) Surface finishing treatment, including;

(i) polishing and burnishing or similar treatment;

(ii) artificial oxidation (by various chemical processes, such as immersion in an oxidising solution), patina finishing, blueing (blue annealing) browning or bronzing (by various

techniques), which also from a film of oxide on the surface of the product, to improve its appearance. The operations increase resistance to rusting;

(iii) chemicalsurface treatments, such as :

- phosphatising, which consists of immersing the product in a solution of metallic acid phosphates, particularly those of manganese, iron and zinc; this process is known as parkerising or bonderising, depending on the period of the operation and the temperature of the bath;

- oxalating, borating, etc., using methods similar to those for phosphatising, with the appropriate salts or acids;

- chromating, which consists of immersing the product in a solution whose main contents are chronic acid or chromates; this process is for the surface treatment of e.g., steel plate plated or coated with zinc.

These chemical surface treatments have the advantage of protecting the surface of metal, facilitating any later cold deformation of the products treated and the application of paints or other non-metallic protective coatings.

(iv) coating with metal (metallisation) the main processes being :

- immersion in a bath of molten metal or metal alloy e.g., hot-dip galvanising, tinning, hot-coating with lead, and aluminium coating;

- electroplating (cathodic deposition of a coating metal on the product to be coated, by electrolysis of a suitable solution of metallic salts), e.g., with zinc, cadmium, tin, lead, chromium, chromium/chromate, copper, nickel, gold or silver;

- impregnation or diffusion (by heating the product to be coated with the required coating metal in powder form e.g., sherardising (cementation with zinc) and calorising (cementation with aluminium) and chromising (with diffusion of chromium);

- spraying (atomising the molten coating metal and directing the spray on to the product to be coated), e.g., the Schoop process and the gas pistol, arc, plasma and electrostatic spray processes;

- metallisation by evaporating the coating metal in a vacuum. etc.;

- metallisation by bombarding the coating metal with ions in a glow discharge (ion plating);

- coating by cathode vaporisation (sputtering).

(v) coating with non-metallic substances, e.g., enamelling, varnishing, lacquering, painting, surface printing, coating with ceramics or plastics, including special processes such as glow discharge, electrophoresis, electrostatic projection and immersion in an electrostatic fluidised bath followed by radiation firing, etc.

(e) Cladding, i.e., the association of layers of metals of different colours or natures by molecular interpenetration of the surfaces in contact. This limited diffusion is characteristic of clad products and differentiates them from products metallised in the manner specified in the preceding paragraphs (e.g., by normal electroplating).

The various cladding processes include pouring molten cladding metal on to the basic metal, followed by rolling; simple hot-rolling of the cladding metal to ensure efficient welding to the basic metal; any other method of deposition or superimposing of the cladding metal followed by any mechanical or thermal process to ensure welding (e.g., electro-cladding), in which the cladding metal (nickel, chromium, etc.) is applied to the basic metal by electroplating, molecular interpenetration of the surfaces in contact then being obtained by heat treatment at the appropriate temperature with subsequent cold-rolling.

Ferrous products clad with non-ferrous metals remain in their respective headings in Chapter 72 **provided** that iron or steel is the predominating metal by weight (see Note 7 to Section XV). Iron or steel products, clad with another ferrous metal, which, according to the composition of the original products, or of the cladding metal, could be classified in two sub-Chapters (II, III or IV) have similarly to be classified according to the metal predominating by weight (see Note 2 to this Chapter); e.g., a bar of non-alloy ordinary steel clad with stainless steel is therefore classified in sub-Chapter II if the former metal predominates by weight, or in sub-Chapter III if not.

(f) Removal of small portions of the metal for testing purposes.

(g) Lamination, for example, the superimposing of metal layers over an intermediate layer of viscoelastic material, the latter layer serving as a sound, etc., insulator.

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The classification of alloys of ferrous metals and of composite articles is dealt with in the General Explanatory Note to Section XV.

I.-

PRIMARY MATERIALS; PRODUCTS IN GRANULAR OR POWDER FORM
EXPLANATORY NOTES

Sub-Chapter I

PRIMARY MATERIALS; PRODUCTS IN GRANULAR OR POWDER FORM

GENERAL

The sub-Chapter covers :

(1) The primary materials of iron and steel metallurgy (pig iron, spiegeleisen, ferro-alloys, ferrous products obtained by direct reduction of iron ore and other spongy ferrous products, waste and scrap and remelting scrap ingots) and iron having a minimum purity by weight of 99.94 % (headings 72.01 to 72.04).

(2) Granules and powders, of pig iron, spiegeleisen, iron or steel (heading 72.05).

Heading 7201

Pig iron and spiegeleisen in pigs, blocks or other primary forms.

EXPLANATORY NOTES

Sub-Chapter I

PRIMARY MATERIALS; PRODUCTS IN GRANULAR OR POWDER FORM

GENERAL

The sub-Chapter covers :

(1) The primary materials of iron and steel metallurgy (pig iron, spiegeleisen, ferro-alloys, ferrous products obtained by direct reduction of iron ore and other spongy ferrous products, waste and scrap and remelting scrap ingots) and iron having a minimum purity by weight of 99.94 % (headings 72.01 to 72.04).

(2) Granules and powders, of pig iron, spiegeleisen, iron or steel (heading 72.05).

72.01 - Pig iron and, Spiegeleisen in pigs, blocks or other primary forms.

7201.10 - Non-alloy pig iron containing by weight 0.5 % or less of phosphorus

7201.20 - Non-alloy pig iron containing by weight more than 0.5 % of phosphorus

7201.50 - Alloy pig iron; spiegeleisen

(A) PIG IRON

Pig iron is defined by Note 1 (a) to this Chapter. However, chromium steels containing more than 2 % of carbon are by application of Note 1 (d) to this Chapter to be classified with the other alloyed steels in sub-Chapter IV.

Pig iron is the main primary product of the iron and steel industry, being produced principally by reducing and smelting iron ore in blast furnaces or by smelting ferrous waste and scrap in electric furnaces or cupola furnaces. It is an iron-carbon alloy also containing other elements such as silicon, manganese, sulphur and phosphorus, derived from the ore, scrap, flux or fuel, and sometimes also other elements such as chromium and nickel, added to impart special properties.

The heading covers both crude pig iron and pig iron which has been remelted for convenience and to obtain a certain degree of refining, blending or alloying, **provided** the composition of the metal remains within the limits specified in the definition under Note 1 (a). Pig iron may be in the form of pigs, blocks,

lumps, whether or not broken, or in the molten state, but the heading does not extend to shaped or worked articles (e.g., rough or finished castings or tubes).

Pig iron is characteristically brittle and unworkable; this can be remedied to some extent by annealing which gives the product superficially some of the properties of steel, the product being known as “malleable cast iron” (whiteheart or blackheart). In practice, the treatment is applied generally to cast articles, which are classified elsewhere, but any such material in the primary forms of pigs, blocks, etc., would fall in this heading **provided** the carbon content exceeds 2 % by weight.

Alloy pig iron is pig iron containing, by weight, one or more of the elements mentioned in Subheading Note 1 (a) in the proportions specified in that Note.

(B) SPIEGELEISEN

Spiegeleisen is defined in Note 1 (b) to this Chapter. It is sometimes considered in the trade as a ferro-alloy but is classified in the same heading as pig iron since it is generally obtained directly from ores.

It is used principally in steel manufacture to de-oxidise and recarburise the iron, and for alloying. It shows a glittering surface on fracture because of the high manganese content, and is presented in the same forms as pig iron.

7201.10

- Non-alloy pig iron containing by weight 0.5 % or less of phosphorus

7201.20

- Non-alloy pig iron containing by weight more than 0.5 % of phosphorus

7201.50

- Alloy pig iron; spiegeleisen

Heading 7202

Ferro-alloys.

EXPLANATORY NOTES

72.02 - Ferro-alloys.

- Ferro-manganese :

7202.11 - - Containing by weight more than 2 % of carbon

7202.19 - - Other

- Ferro-silicon :

7202.21 - - Containing by weight more than 55 % of silicon

7202.29 - - Other

7202.30 - Ferro-silico-manganese

- Ferro-chromium :

7202.41 - - Containing by weight more than 4 % of carbon

7202.49 - - Other

7202.50 - Ferro-silico-chromium

7202.60 - Ferro-nickel

7202.70 - Ferro-molybdenum

7202.80 - Ferro-tungsten and ferro-silico-tungsten

- Other :

7202.91 - - Ferro-titanium and ferro-silico-titanium

7202.92 - - Ferro-vanadium

7202.93 - - Ferro-niobium

7202.99 - - Other

Ferro-alloys are defined in Note 1 (c) to this Chapter.

Ferro-alloys differ from pig iron in that they contain a smaller proportion of iron which merely acts as a “solvent” for large proportions of alloy elements (e.g., manganese, chromium, tungsten (wolfram), silicon, boron or nickel) and in that they may contain 2 % or less of carbon.

Ferro-alloys are not normally used for rolling, forging or other working, at least not for industrial purposes, even though some are malleable. They are used in the iron or steel industry mainly to add definite proportions of alloying elements to steel or pig iron in order to obtain special qualities, generally in those cases where the use of the pure elements themselves would be impracticable or uneconomic. Some are also used as de-oxidants, de-sulphurisers or de-nitrating agents or for killing steel, while others are used in welding or for metal deposition.

Certain ferro-alloys can be used directly for casting. To fall in the heading, ferro-alloys must be in the form of pigs, blocks, lumps or similar primary forms, in granules or powder forms or in forms obtained by continuous casting (e.g., billets).

Ferro-silicon is also used, in the form of sphericalgranule powders the surface of which has been hardened by a special process, as a dense medium (“ pulp ”) in gravimetric separation (selective flotation) of metal ores; however, it remains in this heading.

The heading also covers products of this type previously reduced to granules or powder and agglomerated into briquettes, cylinders, thin slabs, etc., by means of cement or other binders and, in certain cases, with exothermic additives.

Though some ferro-alloys (e.g., ferro-manganese or ferro-silicon) can be produced in blast furnaces, they are more usually prepared in electric furnaces, or in crucibles by the " thermit " process, etc.

The principal varieties are :

(1) Ferro-manganese

(2) Ferro-silicon

(3) Ferro-silico-manganese

(4) Ferro-chromium

(5) Ferro-silico-chromium

(6) Ferro-nickel

(7) Ferro-molybdenum

(8) Ferro-tungsten (ferro-wolfram) and ferro-silico-tungsten

(9) Ferro-titanium and ferro-silico-titanium

(10) Ferro-vanadium

(11) Ferro-niobium

(12) Ferro-silico-magnesium and ferro-silico-calcium.

The heading **excludes** :

(a) Chemical products used for the same purposes and in the same way as ferro-alloys, such as molybdenum oxide, calcium molybdate and silicon carbide, and also, if they contain less than 4 % by weight of iron, calcium silicide and manganese silicide (**Chapter 28**).

(b) Ferro-uranium (**heading 28.44**).

(c) Ferro-cerium and other pyrophoric ferrous alloys in all forms (**heading 36.06**).

(d) Products which in some countries are sometimes known as ferro-nickels or ferro-nickel-chromes, and which are malleable and are not normally used as " addition materials " in iron and steel metallurgy (**headings 72.18 to 72.29** or **Chapter 75**).

7202.1

- Ferro-manganese :
7202.11

-- Containing by weight more than 2 % of carbon
7202.19

-- Other
7202.2

- Ferro-silicon :
7202.21

-- Containing by weight more than 55 % of silicon
7202.29

-- Other
7202.30

- Ferro-silico-manganese
7202.4

- Ferro-chromium :
7202.41

-- Containing by weight more than 4 % of carbon
7202.49

-- Other
7202.50

- Ferro-silico-chromium
7202.60

- Ferro-nickel
7202.70

- Ferro-molybdenum
7202.80

- Ferro-tungsten and ferro-silico-tungsten
7202.9

- Other :
7202.91

-- Ferro-titanium and ferro-silico-titanium
7202.92

-- Ferro-vanadium
7202.93

-- Ferro-niobium
7202.99

-- Other

Heading 7203

Ferrous products obtained by direct reduction of iron ore and other spongy ferrous products, in lumps, pellets or similar forms; iron having a minimum purity by weight of 99.94 %, in lumps, pellets or similar forms.

EXPLANATORY NOTES

72.03 - Ferrous products obtained by direct reduction of iron ore and other spongy ferrous products, in lumps, pellets or similar forms; iron having a minimum purity by weight of 99.94 %, in lumps, pellets or similar forms.

7203.10 - Ferrous products obtained by direct reduction of iron ore

7203.90 - Other

This heading covers ferrous products produced by reducing the ore without fusion (see the General Explanatory Notes to this Chapter, Part (I) - (B). These products are obtained from ore in lumps or in granules or from concentrated ore in the form of briquettes or pellets. They usually contain more than 80 % by weight of metallic iron and have a spongy structure (sponge iron). They are used in the manufacture of steel. The products of this heading, in the form of briquettes or pellets, should not be confused with those consisting of concentrated ores of heading 26.01; the former differ from the latter, notably, by the shiny appearance of their cut surface.

Ferrous products obtained by direct reduction are easily differentiated from other spongy ferrous products (obtained from molten pig iron by the atomisation technique) by the fact that the former has a rough and porous surface, whereas the latter has a rounded surface showing clearly that it has gone through the molten state.

The heading also covers very pure iron (i.e., iron having an impurity content not exceeding 0.06 %). This iron, used in research laboratories and by certain branches of the iron-working industry (e.g., in powder metallurgy), is a good diluent for metals.

The heading also **excludes** steel wool, etc., sometimes known as “steel sponge” (**heading 73.23**).

7203.10

- Ferrous products obtained by direct reduction of iron ore

7203.90

- Other

Heading 7204

Ferrous waste and scrap; remelting scrap ingots of iron or steel.

EXPLANATORY NOTES

72.04 - Ferrous waste an scrap; remelting scrap ingots of iron or steel.

7204.10 - Waste and scrap of cast iron

- Waste and scrap of alloy steel :

7204.21 - - Of stainless steel

7204.29 - - Other

7204.30 - Waste and scrap of tinned iron or steel

- Other waste and scrap :

7204.41 - - Turnings, shavings, chips, milling waste, sawdust, filings, trimmings qand stampings, whether or not in bundles

7204.49 - - Other

7204.50 - Remelting scrap ingots

(A) WASTE AND SCRAP

The heading covers waste and scrap of iron or steel, as defined in Note 8 (a) to Section XV.

Such waste and scrap of iron or steel is of a miscellaneous nature and generally takes the form of :

(1) Waste and scrap from the manufacture or mechanical working of iron or steel (e.g., crop ends, filings and turnings).

(2) Articles of iron or steel, definitively not usable as such because of breakage, cutting-up, wear or other reasons and waste and scrap of such articles; such iron or steel waste and scrap is usually prepared by means of the following processes, in order to adapt it to the dimensions and qualities required by the users :

(a) Shearing or flame-cutting of heavy and long pieces.

(b) Compression into bales, particularly in the case of light scrap, using for example a hydraulic press.

(c) Fragmentation (shredding) of motor vehicle bodies and other light scrap, followed by separation (which may be magnetic) with a view to obtaining a high density product that is fairly clean.

(d) Crushing and agglomeration into briquettes of iron and steel filings and turnings.

(e) Breaking up of old iron articles.

Waste and scrap is generally used for the recovery of metal by remelting or for the manufacture of chemicals.

But the heading **excludes** articles which, with or without repair or renovation, can be re-used for their former purposes or can be adapted for other uses; it also **excludes** articles which can be refashioned into other goods without first being recovered as metal. Thus, it **excludes**, for example, structural steelwork usable after renewal of worn-out parts; worn railway lines which are usable as pitprops or may be converted into other articles by re-rolling; steel files capable of re-use after cleaning and sharpening.

The heading also **excludes** :

(a) Slag, dross, scalings or other waste from the manufacture of iron or steel, even if suitable for the recovery of the metal (**heading 26.19**).

(b) Waste and scrap not usable directly in the iron or steel industry, since it is radio-active (**heading 28.44**).

(c) Broken pieces of pig iron or spiegeleisen (**heading 72.01**).

(B) REMELTING SCRAP INGOTS

These products are defined in Note 1 (g) to this Chapter. They consist of ingots or pigs normally of high alloy steel, obtained by remelting and casting of fine shaped waste or scrap (e.g., grinding dust or fine turning chips). They are not rolled and are used as addition products in steel manufacture. They have a rough and uneven surface, with bubbles, crevices, splits and shrinkage holes, caused by the fact that casting was done in used chill moulds. The casting in ingot form is done without a funnel. Consequently, they show no sign of feeder heads or hot tops (deadheads), but have an irregular surface, sometimes in the shape of a trough at the upper end. This surface often has splits in the shape of craters in which proportions of porous dross can be observed.

7204.10

- Waste and scrap of cast iron

7204.2

- Waste and scrap of alloy steel :

7204.21

-- Of stainless steel

7204.29

-- Other

7204.30

- Waste and scrap of tinned iron or steel

7204.4

- Other waste and scrap :

7204.41

-- Turnings, shavings, chips, milling waste, sawdust, filings, trimmings and stampings, whether or not in bundles

7204.49

-- Other

7204.50

- Remelting scrap ingots

Heading 7205

Granules and powders, of pig iron, spiegeleisen, iron or steel.

EXPLANATORY NOTES

72.05 - Granules and powders, of pig iron, spiegeleisen, iron or steel.

7205.10 - Granules

- Powders :

7205.21 - - Of alloy steel

7205.29 - - Other

(A) GRANULES

Granules are defined in Note 1 (h) to this Chapter.

This heading covers granules, i.e., shot, more or less round in shape, and angular “grits”.

Shot is produced by pouring liquid iron or steel into cold water or into a jet of steam; the grits are obtained by the crushing of shot, or by cold crushing sheets, etc., of hardened metal.

These goods remain in this heading whether or not they have been graded by size.

Shot and grit are used for cleaning up and descaling or surface hardening (shot peening) metal, for polishing or engraving on metal or glass, for working stone, etc. They are also sometimes added to concrete as a hardener or to increase its impermeability to X-rays or gamma rays.

This heading also covers **wire pellets** produced by cutting iron or steel wire, and used for the purposes mentioned above.

(B) POWDERS

Powders are defined in Note 8 (b) to Section XV.

Powders of pig iron, spiegeleisen, iron or steel are materials suitable for compacting or agglomeration and are produced by atomisation of molten iron or steel, by the reduction of iron oxides (dry process), by crushing pig iron, sponge iron or steel wire, by precipitation (wet process), by decomposition of ferro-carbonyl, by the electrolysis of aqueous solutions of iron salts or by pulverising iron or steel (including pulverised filings).

These powders (including sponge iron powder) can be sintered into various articles, including cores for electromagnetic coils in telephony, in magnetos, etc. They are also used in the manufacture of welding electrodes and welding powders, in the chemical industry (especially as reducing agents), and sometimes in the preparation of pharmaceutical products (powder obtained by pulverising iron filings).

*

* *

The heading **does not cover** :

(a) Radioactive iron powders (isotopes) (**heading 28.44**).

(b) Iron powders put up as medicaments in the sense of **heading 30.03** or **30.04**.

(c) Granules and powders of ferro-alloys (**heading 72.02**).

(d) Waste filings and turnings of iron or steel (**heading 72.04**).

(e) Small defective bearing balls which, though often used for the same purposes as shot, are classified in **heading 73.26** in accordance with Note 7 to Chapter 84. Such bearing balls differ from shot because they have a more regular and finished appearance and are made of better quality steel.

7205.10

- Granules

7205.2

- Powders :

7205.21

-- Of alloy steel

7205.29

-- Other

II.-

IRON AND NON-ALLOY STEEL

EXPLANATORY NOTES

Sub-chapter II

IRON AND NON-ALLOY STEEL

GENERAL

Provided that they are of iron or non-alloy steel this sub-Chapter covers :

(1) Ingots or other primary forms such as puddled bars, pilings, blocks, lumps, including steel in the molten state (heading 72.06).

(2) Semi-finished products such as blooms, billets, rounds, slabs, sheet bars, pieces roughly shaped by forging, blanks for angles, shapes and sections (heading 72.07).

(3) Flat-rolled products (headings 72.08 to 72.12).

(4) Bars and rods, hot-rolled, in irregularly wound coils (heading 72.13) and other bars and rods (heading 72.14 or 72.15).

(5) Angles, shapes and sections (heading 72.16).

(6) Wire (heading 72.17).

Heading 7206

Iron and non-alloy steel in ingots or other primary forms (excluding iron of heading 72.03).

EXPLANATORY NOTES

Sub-chapter II

IRON AND NON-ALLOY STEEL

GENERAL

Provided that they are of iron or non-alloy steel this sub-Chapter covers :

(1) Ingots or other primary forms such as puddled bars, pilings, blocks, lumps, including steel in the molten state (heading 72.06).

(2) Semi-finished products such as blooms, billets, rounds, slabs, sheet bars, pieces roughly shaped by forging, blanks for angles, shapes and sections (heading 72.07).

(3) Flat-rolled products (headings 72.08 to 72.12).

(4) Bars and rods, hot-rolled, in irregularly wound coils (heading 72.13) and other bars and rods (heading 72.14 or 72.15).

(5) Angles, shapes and sections (heading 72.16).

(6) Wire (heading 72.17).

72.06 - Iron and non-alloy steel in ingots or other primary forms (excluding iron of heading72.03).

7206.10 - Ingots

7206.90 - Other

(I) INGOTS

Ingots are the primary form into which ferrous metal is cast after production by one of the processes described in the General Explanatory Note to this Chapter. They are usually square, rectangular or octagonal in cross-section, and one end is thicker than the other to facilitate removal from the moulds. They have a regular and uniform surface and are essentially free from faults.

Ingots are subsequently rolled or forged generally into semi-finished products but sometimes directly into bars, sheets or other finished products.

(II) OTHER PRIMARY FORMS

In addition to steel in the molten state, the heading also covers blocks, lumps, puddled bars and pilings.

Blocks and lumps are chiefly obtained from “agglomerates” or “build-ups” produced by direct reduction of iron ore or by electrolytic deposition. When the major part of the slag is removed from the lumps or balls, in the pasty state, using a press or by “shingling” or hammering them, **puddled bars and pilings** are obtained which after rolling, provide a product with a characteristic fibrous structure by virtue of its slag content. These products are useful for special applications, e.g., anchor chains and hoisting hooks.

The heading **does not cover :**

(a) Remelting scrap ingots**(heading 72.04)**.

(b) Products obtained by continuous casting **(heading 72.07)**.

7206.10

- Ingots

7206.90

- Other

Heading 7207

Semi-finished products of iron or non-alloy steel.

EXPLANATORY NOTES

72.07 - Semi-finished products of iron or non-alloy steel.

- Containing by weight less than 0.25 % of carbon :

7207.11 - - Of rectangular (including square) cross-section, the width measuring less than twice the thickness

7207.12 - - Other, of rectangular (other than square) cross-section

7207.19 - - Other

7207.20 - Containing by weight 0.25 % or more of carbon

Semi-finished products are defined in Note 1 (ij) to this Chapter. For the purpose of this Note, the expression “subjected to primary hot-rolling” applies to products which have been subjected to a rolling operation which has given them a rough appearance.

The heading covers blooms, billets, rounds, slabs, sheet bars, pieces roughly shaped by forging, blanks for angles, shapes or sections, and all products obtained by continuous casting.

(A) BLOOMS, BILLETS, ROUNDS, SLABS AND SHEET BARS

All these products are obtained by hot-rolling or forging the ingots, puddled bars or pilings classified in heading 72.06. They are semi-finished products intended for further hot-rolling or forging. They are therefore not required to be made exactly to size; the edges are not accurate and the surfaces are often convex or concave and may retain marks caused during the manufacturing processes (e.g., roller marks).

Blooms are usually square in cross-section and are larger than **billets**; the latter may be either square or rectangular. Both are used for re-rolling to bars, rods, angles, shapes and sections, or for the manufacture of forgings.

Rounds are of circular or of polygonal cross-section of more than four sides and are chiefly used as intermediate products for the manufacture of seamless steel tubes. They may be distinguished from

bars and rods not only by the general characteristics common to the semi-finished products but also by the fact that they are usually supplied in lengths of from 1 to 2 metres and their ends are often cut by blow lamp, which is not the case for bars, which are normally cut more accurately.

Slabs and sheet bars are also rectangular (other than square) in section but they have widths considerably greater than their thicknesses, slabs being thicker than sheet bars. Slabs are therefore usually re-rolled to plates, while sheet bars are normally used to produce sheets or strip. Tinplate bars are a type of sheet bar used in the production of tinplate. With regard to the distinction between slabs and sheet bars and certain plates, see the Explanatory Note to heading 72.08 below.

(B) PIECES ROUGHLY SHAPED BY FORGING

These are semi-finished products of rough appearance and large dimensional tolerances, produced from blocks or ingots by the action of power hammers or forging presses. They may take the form of crude recognisable shapes in order that the final article can be fabricated without excessive waste, but the heading covers **only** those pieces which require considerable further shaping in the forge, press, lathe, etc. The heading would, for example, cover an ingot roughly hammered into the shape of a flattened zig-zag and requiring further shaping to produce a marine crankshaft, but it would **not cover** a crankshaft forging ready for final machining. The heading similarly **excludes** drop forgings and pressings produced by forging between matrices since the articles produced by these operations are ready for final machining.

(C) BLANKS FOR ANGLES, SHAPES OR SECTIONS

Blanks for angles, shapes or sections may have a cross-section of complex form adapted to that of the finished product and the corresponding rolling process. The heading covers, for example, blanks for wide-flanged beams or girders.

(D) SEMI-FINISHED PRODUCTS OBTAINED BY CONTINUOUS CASTING

This group covers all semi-finished products of iron or non-alloy steel, under any form, obtained by continuous casting.

In this process steel is conveyed from the ladle in a distributor which feeds the different casting flow lines. These flow lines include :

(a) A mould, without bottom, with its cooling devices;

(b) Outside the mould a system for atomising water in order to cool the cast metal;

(c) A group of conveyor rollers allowing the regular extraction of the solidified metal; and

(d) A system of cutting-off machines, followed by an evacuation device.

For the criteria to differentiate between products obtained by continuous casting and other products, see paragraph (III) of the General Explanatory Note to this Chapter.

7207.1

- Containing by weight less than 0.25 % of carbon :

7207.11

-- Of rectangular (including square) cross-section, the width measuring less than twice the thickness

7207.12

-- Other, of rectangular (other than square) cross-section

7207.19

-- Other

7207.20

- Containing by weight 0.25 % or more of carbon

Heading 7208

Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or more, hot-rolled, not clad, plated or coated.

EXPLANATORY NOTES

72.08 - Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or more, hot-rolled, not clad, plated or coated (+).

7208.10 - In coils, not further worked than hot-rolled, with patterns in relief

- Other, in coils, not further worked than hot-rolled, pickled :

7208.25 - - Of a thickness of 4.75 mm or more

7208.26 - - Of a thickness of 3 mm or more but less than 4.75 mm

7208.27 - - Of a thickness of less than 3 mm

- Other, in coils, not further worked than hot-rolled :

7208.36 - - Of a thickness exceeding 10 mm

7208.37 - - Of a thickness of 4.75 mm or more but not exceeding 10 mm

7208.38 - - Of a thickness of 3 mm or more but less than 4.75 mm

7208.39 - - Of a thickness of less than 3 mm

7208.40 - Not in coils, not further worked than hot-rolled, with patterns in relief

- Other, not in coils, not further worked than hot-rolled :

7208.51 - - Of a thickness exceeding 10 mm

7208.52 - - Of a thickness of 4.75 mm or more but not exceeding 10 mm

7208.53 - - Of a thickness of 3 mm or more but less than 4.75 mm

7208.54 - - Of a thickness of less than 3 mm

7208.90 - Other

Flat-rolled products are defined in Note 1 (k) to this Chapter.

The products of this heading may have been subjected to the following surface treatments :

(1) Descaling, pickling, scraping and other processes to remove the oxide scale and crust formed during the heating of metal.

(2) Rough coating intended solely to protect products from rust or other oxidation, to prevent slipping during transport and to facilitate handling e.g., paints containing an active anti-rust pigment for example, red lead, zinc powder, zinc oxide, zinc chromate, iron oxide (iron minium, jewellers' rouge), and non-pigmented coatings with a basis of oil, grease, wax, paraffin wax, graphite, tar or bitumen.

(3) Polishing, burnishing or similar treatments.

(4) Artificial oxidation (by various chemical processes, such as immersion in an oxidising solution), patina finishing, blueing (blue annealing), browning or bronzing (by various techniques), which also form a film of oxide on the surface of the product, to improve its appearance. The operations increase resistance to rusting.

(5) Chemical surface treatments, such as :

- phosphatising, which consists of immersing the product in a solution of metallic acid phosphates, particularly those of manganese, iron and zinc; this process is known as parkerising or bonderising, depending on the period of the operation and the temperature of the bath;

- oxalating, borating, etc., using methods similar to those for phosphatising, with the appropriate salts or acids;

- chromating, which consists of immersing the product in a solution whose main contents are chromic acid or chromates.

Thesechemical surface treatments have the advantage of protecting the surface of metal, facilitating any later cold deformation of the products treated and the application of paints or other non-metallic protective coatings.

Flat-rolled products of this heading may have patterns in relief derived directly from rolling, such as grooves, ribs, chequers, tears, buttons, lozenges, or they may have been worked after rolling (e.g., perforated, corrugated, bevelled or rounded at the edges), **provided** they do not thereby assume the character of articles or products of other headings.

The heading **does not**, however, **include** flat-rolled products which have been coated, plated or clad with metal or coated with non-metallic substances such as paints, enamels or plastics **(heading 72.10)**.

The heading also **excludes** such flat-rolled products which have been clad with precious metals **(Chapter 71)**.

" Corrugated flat-rolled products " means those having a regular wave pattern in the form of a curved (e.g., sinusoidal) line. For the purpose of determining classification, the width of the corrugated side is to be taken as its effective width in the corrugated form. However, the heading **excludes** so-called ribbed products having an angular profile (e.g., square, triangular or trapezoidal) (generally **heading 72.16**).

The heading also includes flat-rolled products of a shape **other than** rectangular or square, of any size, **provided** they do not assume the character of articles or products of other headings.

The heading covers, *inter alia*, " wide coils ", " sheets " and " plates ".

This heading also covers certain products named " wide flats " (some of which are called " universal plates " in some parts of the world).

For the purposes of this heading, " wide flats " are products of rectangular (**other than** square) cross-section, not in coils, hot-rolled on four faces in a closed box pass or universal mill, of a thickness of not less than 4 mm, and of a width of 600 mm or more but not exceeding 1,250 mm.

Therefore, " wide flats " have much straighter and more accurately finished sides and sharper edges than those of " wide coil ", " sheets " or " plates ". They are never re-rolled but are used in structural steelwork, etc., without further machining of the edges.

" Wide coil ", " plates " and " sheets " are produced by hot-rolling ingots, slabs and sheet bars, sometimes followed by cutting transversally or longitudinally.

" Wide coil " can be distinguished from " sheets " and " plates " since " plates " and " sheets " are presented flat while " wide coil " is presented wound in coils of successively superimposed layers with almost flat sides.

Hot-rolled " wide coils " are either used direct in the same way as " sheets " and " plates " or converted into other products such as " sheets " and " plates ", welded tubes, formed angles, shapes or sections.

" Sheets " and " plates " are used in the construction of ships, railway rolling-stock, tanks, boilers, bridges and other structural work where great strength is required. Certain " sheets " and " plates " may have dimensions similar to those of slabs and sheet bars. However, they can be distinguished from slabs and sheet bars since :

(1) They are most often cross-rolled (longitudinally and transversely) and sometimes oblique-rolled whereas slabs and sheet bars are roughly rolled longitudinally only (in the slabbing or roughing mill).

(2) Their edges are normally sheared or flame-cut and show traces of the shears or flame whereas slabs and sheet bars have round edges.

(3) Tolerances as to thickness and surface defects are very strict whereas slabs and sheet bars are not of uniform thickness and show various surface defects.

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The heading **does not cover** :

(a) Expanded metal of iron or steel **(heading 73.14)**.

(b) Blanks of articles of**Chapter 82**.

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Subheading Explanatory Note.

Subheadings 7208.10, 7208.25, 7208.26, 7208.27, 7208.36, 7208.37, 7208.38, 7208.39, 7208.40, 7208.51, 7208.52, 7208.53 and 7208.54

In addition to hot-rolling, the products of these subheadings may have been subjected to the following working or surface treatments :

(1) Hot flattening.

(2) Annealing, hardening, tempering, case-hardening, nitriding and similar heat treatments to improve the properties of the metal.

(3) Except where the context otherwise requires, the surface treatments described in Items (1) and (2) of the second paragraph of the Explanatory Note to heading 72.08.

Descaling may be achieved :

(a) by acid pickling or reduction treatment (chemical or heat processes), whether or not in conjunction with milk of lime treatment (liming);

(b) by mechanical descaling (planing, rough grinding, rough sanding, sand-blasting, etc.).

Mechanically descaled products can generally be identified by the following characteristics :

(i) planed steel has a bright surface with rough continuous parallel marks which are clearly visible to the naked eye and perceptible to the touch;

(ii) roughly ground or roughly sanded surfaces are generally uneven, with a dull finish. The marks left by the grinding tool are clearly visible. Fine abrasion, on the other hand, produces an absolutely smooth surface with a bright finish which may even be reflective. Often, the marks left by the working tool are virtually invisible.

(4) Skin or pinch passing as described in the last paragraph of Section (IV) (B) of the General Explanatory Note to this Chapter.

(5) Stamping, punching, printing, etc., with simple inscriptions, such as trademarks.

(6) Cutting into rectangular (including square) shape.

(7) Operations intended exclusively to detect flaws in the metal.

7208.10

- In coils, not further worked than hot-rolled, with patterns in relief

7208.2

- Other, in coils, not further worked than hot-rolled, pickled :

7208.25

-- Of a thickness of 4.75 mm or more

7208.26

-- Of a thickness of 3 mm or more but less than 4.75 mm

7208.27

-- Of a thickness of less than 3 mm

7208.3

- Other, in coils, not further worked than hot-rolled :

7208.36

-- Of a thickness exceeding 10 mm

7208.37

-- Of a thickness of 4.75 mm or more but not exceeding 10 mm

7208.38

-- Of a thickness of 3 mm or more but less than 4.75 mm

7208.39

-- Of a thickness of less than 3 mm

7208.40

- Not in coils, not further worked than hot-rolled, with patterns in relief

7208.5

- Other, not in coils, not further worked than hot-rolled :

7208.51

-- Of a thickness exceeding 10 mm

CLASSIFICATION OPINIONS

1. Hot rolled steel plates of non-alloy steel (Dimension (width x length x thickness, in mm): 3100 x 6096 x 130), which have undergone the following processes of production: pre-heating, shot blasting, primer spraying, drying and marking respectively.

The steel plates have been unevenly coated with polymer primer in order to protect it from rust.

The chemical components of the primer are titanium dioxide (0.5 - 10 %), tetraethyl orthosilicate (25 - 40 %), zinc powder (30 - 50 %), ethyl alcohol (10 - 25 %), isopropanol (10 - 15 %), butanol (2.5 - 10

%) and xylene (2 - 8 %).

Application of GIRs 1 and 6.
Adoption : 2021

7208.52

-- Of a thickness of 4.75 mm or more but not exceeding 10 mm
CLASSIFICATION OPINIONS

1. Hot rolled steel plates of non-alloy steel (Dimension (width x length x thickness, in mm): 2440 x 6096 x 6), which have undergone the following processes of production: pre-heating, shot blasting, primer spraying, drying and marking respectively.

The steel plates have been unevenly coated with polymer primer in order to protect it from rust.

The chemical components of the primer are titanium dioxide (0.5 - 10 %), tetraethyl orthosilicate (25 - 40 %), zinc powder (30 - 50 %), ethyl alcohol (10 - 25 %), isopropanol (10 - 15 %), butanol (2.5 - 10 %) and xylene (2 - 8 %).

Application of GIRs 1 and 6.
Adoption : 2021

7208.53

-- Of a thickness of 3 mm or more but less than 4.75 mm
7208.54

-- Of a thickness of less than 3 mm
7208.90

- Other
CLASSIFICATION OPINIONS

1. Flat plates in round, hexagonal or octagonal shape, which are stamped from hotrolled sheet steel. These are industrial products which have to undergo substantial and specific further processing before becoming finished wheel centres for assembling to a rim to form a complete motor vehicle wheel.
Application of Note 1 (k) to Chapter 72.
Adoption : 1992

Heading 7209

Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or more, cold-rolled (cold-reduced), not clad, plated or coated.
EXPLANATORY NOTES

72.09 - Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or more, cold-rolled (cold-reduced), not clad, plated or coated (+).

- In coils, not further worked than cold-rolled (cold-reduced) :

7209.15 - - Of a thickness of 3 mm or more

7209.16 - - Of a thickness exceeding 1 mm but less than 3 mm

7209.17 - - Of a thickness of 0.5 mm or more but not exceeding 1 mm

7209.18 - - Of a thickness of less than 0.5 mm

- Not in coils, not further worked than cold-rolled (cold-reduced) :

7209.25 - - Of a thickness of 3 mm or more

7209.26 - - Of a thickness exceeding 1 mm but less than 3 mm

7209.27 - - Of a thickness of 0.5 mm or more but not exceeding 1 mm

7209.28 - - Of a thickness of less than 0.5 mm

7209.90 - Other

The provisions of the Explanatory Note to heading 72.08 apply, *mutatis mutandis*, to the products of this heading.

Criteria for distinguishing between the cold-rolled products of this heading and the hot-rolled products of heading 72.08 are set out in the General Explanatory Note to this Chapter - see Part (IV) (B).

Because of their special properties (better surface finish, better aptitude to cold-forming, stricter tolerances, generally reduced thickness, higher mechanical strength, etc.), the products of this heading are in general used for purposes different from those of their hot-rolled counterparts, which they increasingly tend to replace. They are used, in particular, in the manufacture of automobile bodies, metal furniture, domestic appliances, central heating radiators and for producing angles, shapes and sections by a cold process (either forming or profiling). They are easy to coat (by tin-plating, electroplating, varnishing, enamelling, lacquering, painting, coating with plastics, etc.).

They are often delivered after annealing, normalising or other heat treatment. If they are very thin (generally less than 0.5 mm) and if their surface has been pickled to render them suitable for tin-plating, varnishing or printing, they may be described as “black plate”, even when coiled.

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Subheading Explanatory Note.

Subheadings 7209.15, 7209.16, 7209.17, 7209.18, 7209.25, 7209.26, 7209.27 and 7209.28

In addition to cold-rolling, the products of these subheadings may have been subjected to the following working or surface treatments :

(1) Flattening.

(2) Annealing, hardening, tempering, case-hardening, nitriding and similar heat treatments to improve the properties of the metal.

(3) Pickling.

(4) Surface treatments described in Item (2) of the second paragraph of the Explanatory Note to heading 72.08.

(5) Stamping, punching, printing, etc., with simple inscriptions, such as trademarks.

(6) Cutting into rectangular (including square) shape.

(7) Operations intended exclusively to detect flaws in the metal.

7209.1

- In coils, not further worked than cold-rolled (cold-reduced) :
7209.15

-- Of a thickness of 3 mm or more
7209.16

-- Of a thickness exceeding 1 mm but less than 3 mm
7209.17

-- Of a thickness of 0.5 mm or more but not exceeding 1 mm
7209.18

-- Of a thickness of less than 0.5 mm
7209.2

- Not in coils, not further worked than cold-rolled (cold-reduced) :
7209.25

-- Of a thickness of 3 mm or more
7209.26

-- Of a thickness exceeding 1 mm but less than 3 mm
7209.27

-- Of a thickness of 0.5 mm or more but not exceeding 1 mm
7209.28

-- Of a thickness of less than 0.5 mm
7209.90

- Other
Heading 7210

Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or more, clad, plated or coated.
EXPLANATORY NOTES

72.10 - Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or more, clad, plated or coated (+).

- Plated or coated with tin :

7210.11 - - Of a thickness of 0.5 mm or more

7210.12 - - Of a thickness of less than 0.5 mm

7210.20 - Plated or coated with lead, including terne-plate

7210.30 - Electrolytically plated or coated with zinc

- Otherwise plated or coated with zinc :

7210.41 - - Corrugated

7210.49 - - Other

7210.50 - Plated or coated with chromium oxides or with chromium and chromium oxides

- Plated or coated with aluminium :

7210.61 - - Plated or coated with aluminium-zinc alloys

7210.69 - - Other

7210.70 - Painted, varnished or coated with plastics

7210.90 - Other

This heading covers the same kind of products as described in heading 72.08 or 72.09, but, to fall in this heading, they must be clad, plated or coated.

For the purpose of this heading, the expression “clad, plated or coated” applies to the products which were subjected to one of the treatments described in Part (C) (2), Items (d) (iv), (d) (v) and (e) of the General Explanatory Note to this Chapter.

This heading **excludes :**

(a) Flat products clad with precious metal (**Chapter 71**).

(b) Products of **heading 83.10**.

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Subheading Explanatory Notes.

For the purpose of the subheadings of heading 72.10, products subjected to more than one type of coating, plating, or cladding are to be classified according to the last process. However, chemical surface treatments, such as chromating, are not regarded as the last process.

Subheadings 7210.30, 7210.41 and 7210.49

The products of subheading 7210.30 have been subjected to the processing described in Part (IV) (C) (2) (d) (iv), second indent of the General Explanatory Note to Chapter 72 and the products of subheadings 7210.41 and 7210.49 to any of the other processing operations described in Part (IV) (C) (2) (d) (iv) of that Explanatory Note.

To distinguish between products electrolytically plated or coated with zinc and products otherwise plated or coated with zinc, the following procedure can be used :

- The products are first to be examined for the presence or otherwise of spangle by visual or microscopic observations.

- If spangle is detected, they are hot-dipped zinc-coated products. If spangle is not detected, even when magnified 50 times, the coating should be chemically analysed.

- If aluminium is detected, or lead is detected in excess of 0.5 %, they are hot-dipped zinc-coated products. If not, they are electrolytically zinc-coated products.

7210.1

- Plated or coated with tin :
7210.11

-- Of a thickness of 0.5 mm or more
7210.12

-- Of a thickness of less than 0.5 mm
7210.20

- Plated or coated with lead, including terne-plate
7210.30

- Electrolytically plated or coated with zinc
7210.4

- Otherwise plated or coated with zinc :
7210.41

-- Corrugated
7210.49

-- Other
7210.50

- Plated or coated with chromium oxides or with chromium and chromium oxides
7210.6

- Plated or coated with aluminium :
7210.61

-- Plated or coated with aluminium-zinc alloys
7210.69

-- Other
7210.70

- Painted, varnished or coated with plastics

CLASSIFICATION OPINIONS

1. Laminated steel products, consisting of two flat-rolled sheets of steel which constitute the outer layers of the laminated product, and one sheet or layer of plastics which constitutes the inner layer or core. The outer layers usually have individual thicknesses up to 2.54 mm, and the core thicknesses may range from approximately 0.02 mm to 2.29 mm. The products are usually in coils, with a width up to approximately 1,500 mm, or may be cut into sheets. The core imparts superior sound-damping quality to the products. The products are used for external cladding of buildings, internal decoration, automotive body panels, home appliances, business machines, etc.
Adoption : 1998

7210.90

- Other

Heading 7211

Flat-rolled products of iron or non-alloy steel, of a width of less than 600 mm, not clad, plated or coated.

EXPLANATORY NOTES

72.11 - Flat-rolled products of iron or non-alloy steel, of a width of less than 600 mm, not clad, plated or coated (+).

- Not further worked than hot-rolled :

7211.13 - - Rolled on four faces or in a closed box pass, of a width exceeding 150 mm and a thickness of not less than 4 mm, not in coils and without patterns in relief

7211.14 - - Other, of a thickness of 4.75 mm or more

7211.19 - - Other

- Not further worked than cold-rolled (cold-reduced) :

7211.23 - - Containing by weight less than 0.25 % of carbon

7211.29 - - Other

7211.90 - Other

This heading covers the same kind of products described in heading 72.08 or 72.09 but, to fall in this heading, they must be of a width of less than 600 mm.

The provisions of the Explanatory Notes to headings 72.08 and 72.09 apply, *mutatis mutandis*, to products of this heading except those relating to width (see also the General Explanatory Note to this Chapter).

Products of this heading include “wide flats” (“universal plates”) of a width exceeding 150 mm but less than 600 mm, and hoop and strip.

Hoop and strip are usually produced by hot re-rolling the semi-finished products of heading 72.07. They may be subsequently cold-rolled to give a thinner product and a better quality finish. Strip is also produced by slitting “wide coil”, “sheets” or “plates” of heading 72.08 or 72.09.

Products of this heading may be worked (e.g., corrugated, ribbed, chequered, embossed, bevelled or rounded at the edges), **provided** that they do not thereby assume the character of articles or of products of other headings.

They are used for many purposes, e.g., hooping of boxes, casks and other containers; as a basis for tin-plate; manufacture of welded tubes, tools (e.g., saw blades), cold-formed angles, shapes or sections, conveyor and machinery belting, in the automobile industry and for the production of many other articles (by stamping, folding, etc.).

The heading **does not cover** :

(a) Twisted hoop of a kind used for fencing, of iron or steel **(heading 73.13)**.

(b) Corrugated strip with one edge serrated or bevelled, being corrugated nails in the length used for assembling wooden parts **(heading 73.17)**.

(c) Blanks of articles of **Chapter 82** (including razor blade blanks in strips).

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Subheading Explanatory Notes.

Subheadings 7211.13, 7211.14 and 7211.19

See the Explanatory Note to subheadings 7208.10, 7208.25, 7208.26, 7208.27, 7208.36, 7208.37, 7208.38, 7208.39, 7208.40, 7208.51, 7208.52, 7208.53 and 7208.54.

Subheadings 7211.23 and 7211.29

See the Explanatory Note to subheadings 7209.15, 7209.16, 7209.17, 7209.18, 7209.25, 7209.26, 7209.27 and 7209.28.

7211.1

- Not further worked than hot-rolled :

7211.13

-- Rolled on four faces or in a closed box pass, of a width exceeding 150 mm and a thickness of not less than 4 mm, not in coils and without patterns in relief

7211.14

-- Other, of a thickness of 4.75 mm or more

7211.19

-- Other

7211.2

- Not further worked than cold-rolled (cold-reduced) :

7211.23

-- Containing by weight less than 0.25 % of carbon

7211.29

-- Other

7211.90

- Other

Heading 7212

Flat-rolled products of iron or non-alloy steel, of a width of less than 600 mm, clad, plated or coated.

EXPLANATORY NOTES

72.12 - Flat-rolled products of iron or non-alloy steel, of a width of less than 600 mm, clad, plated or coated (+).

7212.10 - Plated or coated with tin

7212.20 - Electrolytically plated or coated with zinc

7212.30 - Otherwise plated or coated with zinc

7212.40 - Painted, varnished or coated with plastics

7212.50 - Otherwise plated or coated

7212.60 - Clad

This heading covers the same kind of products as described in heading 72.10 but, to fall in this heading, they must be of a width of less than 600 mm.

This heading **does not cover** insulated electric strip (**heading 85.44**).

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Subheading Explanatory Notes.

See the Explanatory Note to the subheadings of heading 72.10 in respect of products subjected to more than one type of coating, plating or cladding.

Subheadings 7212.20 and 7212.30

See the Explanatory Note to subheadings 7210.30, 7210.41 and 7210.49.

7212.10

- Plated or coated with tin

7212.20

- Electrolytically plated or coated with zinc

7212.30

- Otherwise plated or coated with zinc

7212.40

- Painted, varnished or coated with plastics

7212.50

- Otherwise plated or coated

7212.60

- Clad

Heading 7213

Bars and rods, hot-rolled, in irregularly wound coils, of iron or non-alloy steel.

EXPLANATORY NOTES

72.13 - Bars and rods, hot-rolled, in irregularly wound coils, of iron or non-alloy steel.

7213.10 - Containing indentations, ribs, grooves or other deformations produced during the rolling process

7213.20 - Other, of free-cutting steel

- Other :

7213.91 - - Of circular cross-section measuring less than 14 mm in diameter

7213.99 - - Other

Bars and rods, hot-rolled, in irregularly wound coils, are defined in Note 1 (l) to this Chapter.

These products (also known as wire rod) are mainly used for drawing into wire (heading 72.17) but they are also used for other purposes especially in building work (e.g., as welded netting), in the nut and bolt industry, in the cold-drawing industry, etc., and for the manufacture of welding rods.

The heading also includes bars and rods for concrete reinforcement; such products are rolled with protuberances or indentations (e.g., teeth, grooves, flanges), **provided** their general cross-sectional shape corresponds to one of the geometrical shapes defined in Chapter Note 1 (l). These protuberances or indentations must be designed solely to improve the bond with concrete, etc.

The heading **does not cover** bars and rods of this kind, straightened and cut to length **(heading 72.14)**.

7213.10

- Containing indentations, ribs, grooves or other deformations produced during the rolling process

7213.20

- Other, of free-cutting steel

7213.9

- Other :

7213.91

-- Of circular cross-section measuring less than 14 mm in diameter

7213.99

-- Other

Heading 7214

Other bars and rods of iron or non-alloy steel, not further worked than forged, hot-rolled, hot-drawn or hot-extruded, but including those twisted after rolling.

EXPLANATORY NOTES

72.14 - Other bars and rods of iron or non-alloy steel, not further worked than forged, hot-rolled, hot-drawn or hot-extruded, but including those twisted after rolling.

7214.10 - Forged

7214.20 - Containing indentations, ribs, grooves or other deformations produced during the rolling process or twisted after rolling

7214.30 - Other, of free-cutting steel

- Other :

7214.91 - - Of rectangular (other than square) cross-section

7214.99 - - Other

Other **bars and rods** are defined in Note 1 (m) to this Chapter.

Bars and rods of this heading are usually produced by hot-rolling or forging blooms, billets, puddled bars or pilings; they are also sometimes produced by hot-drawing or hot-extrusion. In general, bars and rods can be distinguished from other rolled, forged or drawn products since :

(1) They present a more accurate and finished appearance than puddled bars (heading 72.06), blooms, billets, rounds, slabs and sheet bars (heading 72.07). Their cross-section is uniform and when it is square or rectangular has sharp edges.

(2) They have a greater thickness relative to their width than the products of heading 72.08 or 72.11.

The bars and rods of this heading are mainly delivered in straight lengths or in folded bundles.

The products of this heading may have been subjected to the following surface treatments :

(1) Descaling, pickling, scraping and other processes to remove the oxide scale and crust formed during the heating of metal.

(2) Rough coating intended solely to protect products from rust or other oxidation, to prevent slipping during transport and to facilitate handling e.g., paints containing an active anti-rust pigment for

example, red lead, zinc powder, zinc oxide, zinc chromate, iron oxide (iron minium, jewellers' rouge), and non-pigmented coatings with a basis of oil, grease, wax, paraffin wax, graphite, tar or bitumen.

(3) Removal of small portions of the metal for testing purposes.

The heading also covers :

(1) Bars and rods which are rolled with protuberances or indentations (e.g. teeth, grooves, flanges), **provided** their general cross-sectional shape corresponds to one of the geometrical shapes defined in Chapter Note 1 (m); these protuberances or indentations must be designed solely to improve the bond with concrete, etc.

(2) Bars and rods which have been individually twisted after rolling, e.g., bars which are rolled with two or more longitudinal flanges, which are given a spiral form by twisting (steel " twists "); and

(3) Bars and rods having a single perforation to facilitate transportation.

The heading, however, **excludes** :

(a) Products consisting of two or more rolled bars twisted together (**heading 73.08**).

(b) Pieces cut from bars and rods with a length not exceeding the greatest cross-sectional dimension (**heading 73.26**).

7214.10

- Forged

7214.20

- Containing indentations, ribs, grooves or other deformations produced during the rolling process or twisted after rolling

7214.30

- Other, of free-cutting steel

7214.9

- Other :

7214.91

-- Of rectangular (other than square) cross-section

7214.99

-- Other

Heading 7215

Other bars and rods of iron or non-alloy steel.

EXPLANATORY NOTES

72.15 - Other bars and rods of iron or non-alloy steel (+).

7215.10 - Of free-cutting steel, not further worked than cold-formed or cold-finished

7215.50 - Other, not further worked than cold-formed or cold-finished

7215.90 - Other

The heading covers bars and rods **other than** those of heading **72.13** or **72.14**.

The bars and rods of this heading may :

(1) be obtained by cold-forming or cold-finishing, i.e., have been subjected either to a cold pass through one or more dies (cold-drawn bars) or to a grinding or turning process (grinded or sized bars).

(2) have been subjected to working (such as drilling or sizing, or to further surface treatments than are allowed for products of heading 72.14, such as plating, coating, or cladding (see Part (IV) (C) of the General Explanatory Note to this Chapter), provided that they do not thereby assume the character of articles or of products falling within other headings;

Bars and rods, cold-formed or cold-finished, are delivered in straight lengths and can therefore be distinguished from wire of heading 72.17 which is always in coils.

The heading **excludes** :

(a) Other bars and rods of iron or non-alloy steel twisted after hot-rolling (**heading 72.14**).

(b) Hollow drill bars and rods (**heading 72.28**).

(c) Products consisting of two or more rolled bars twisted together (**heading 73.08**).

(d) Tapered bars and rods of iron or steel (**heading 73.26**).

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Subheading Explanatory Note.

Subheadings 7215.10 and 7215.50

In addition to cold-forming or cold-finishing, the products of these subheadings may have been subjected to the following working or surface treatments :

(1) Straightening.

(2) Surface treatments described in Item (2) of the second paragraph of the Explanatory Note to heading 72.08.

(3) Stamping, punching, printing, etc., with simple inscriptions, such as trademarks.

(4) Operations intended exclusively to detect flaws in the metal.

7215.10

- Of free-cutting steel, not further worked than cold-formed or cold-finished

7215.50

- Other, not further worked than cold-formed or cold-finished

7215.90

- Other

Heading 7216

Angles, shapes and sections of iron or non-alloy steel.

EXPLANATORY NOTES

72.16 - Angles, shapes and sections of iron or non-alloy steel (+).

7216.10 - U, I or H sections, not further worked than hot-rolled, hot-drawn or extruded, of a height of less than 80 mm

- L or T sections, not further worked than hot-rolled, hot-drawn or extruded, of a height of less than 80 mm :

7216.21 - - L sections

7216.22 - - T sections

- U, I or H sections, not further worked than hot-rolled, hot-drawn or extruded of a height of 80 mm or more :

7216.31 - - U sections

7216.32 - - I sections

7216.33 - - H sections

7216.40 - L or T sections, not further worked than hot-rolled, hot-drawnor extruded, of a height of 80 mm or more

7216.50 - Other angles, shapes and sections, not further worked than hot-rolled, hot-drawn or extruded

- Angles, shapes and sections, not further worked than cold-formed or cold-finished :

7216.61 - - Obtained from flat-rolled products

7216.69 - - Other

- Other :

7216.91 - - Cold-formed or cold-finished from flat-rolled products

7216.99 - - Other

Angles, shapes and sections are defined in Note 1 (n) to this Chapter.

The sections most commonly falling in this heading are H, I, T, capital omega, Z and U (including channels), obtuse, acute and right (L) angles. The corners may be square or rounded, the limbs equal or unequal, and the edges may or may not be “bulbed” (bulb angles or shipbuilding beams).

Angles, shapes and sections are usually produced by hot-rolling, hot-drawing, hot-extrusion or hot-forging or forging blooms or billets.

The heading includes goods which have been cold-formed or cold-finished (by cold-drawing, etc.) and also covers angles, shapes and sections made by forming on a roll type machine or by forming sheets, plates or strip on a press. So-called “ribbed sheets and plates” having an angular profile are also classified here.

The products of this heading may have been subjected to working such as drilling, punching or twisting or to surface treatment such as coating, plating or cladding - see Part IV (C) of the General Explanatory Note to this Chapter, **provided** they do not thereby assume the character of articles or of products falling in other headings.

The heavier angles, shapes and sections (e.g., girders, beams, pillars and joists) are used in the construction of bridges, buildings, ships, etc.; lighter products are used in the manufacture of agricultural implements, machinery, automobiles, fences, furniture, sliding door or curtain tracks, umbrella ribs and numerous other articles.

The heading **does not cover** :

(a) Welded angles, shapes and sections, and sheet piling (**heading 73.01**), and railway or tramway track construction material (**heading 73.02**).

(b) Articles prepared for use in structures (**heading 73.08**).

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Subheading Explanatory Notes.

Subheadings 7216.10, 7216.21, 7216.22, 7216.31, 7216.32, 7216.33 and 7216.40

In order to classify **U**, **I**,**H**, **L** or **T sections** in these subheadings, the height should be determined as follows :

- **U**, **I** or **H** sections : the distance between the external surfaces of the two parallel planes.

- **L** sections : the height of the largest external side.

- **T** sections : the total height of the section.

An **I section** (narrow or medium flange) is a product with flanges of a width not exceeding 0.66 of the height of the section and less than 300 mm.

Subheadings 7216.10, 7216.21, 7216.22, 7216.31, 7216.32, 7216.33, 7216.40 and 7216.50

The provisions of the Explanatory Note to heading 72.14 concerning surface treatments also apply to the products of these subheadings.

Subheadings 7216.61 and 7216.69

See the Explanatory Note to subheadings 7215.10 and 7215.50.

7216.10

- U, I or H sections, not further worked than hot-rolled, hot-drawn or extruded, of a height of less than 80 mm

7216.2

- L or T sections, not further worked than hot-rolled, hot-drawn or extruded, of a height of less than 80 mm :

7216.21

-- L sections

7216.22

-- T sections

7216.3

- U, I or H sections, not further worked than hot-rolled, hot-drawn or extruded of a height of 80 mm or more :

7216.31

-- U sections

7216.32

-- I sections

7216.33

-- H sections

7216.40

- L or T sections, not further worked than hot-rolled, hot-drawn or extruded, of a height of 80 mm or more

7216.50

- Other angles, shapes and sections, not further worked than hot-rolled, hot-drawn or extruded

7216.6

- Angles, shapes and sections, not further worked than cold-formed or cold-finished :

7216.61

-- Obtained from flat-rolled products

7216.69

-- Other

7216.9

- Other :
7216.91

-- Cold-formed or cold-finished from flat-rolled products
7216.99

-- Other
Heading 7217

Wire of iron or non-alloy steel.
EXPLANATORY NOTES

72.17 - Wire of iron or non-alloy steel (+).

7217.10 - Not plated or coated, whether or not polished

7217.20 - Plated or coated with zinc

7217.30 - Plated or coated with other base metals

7217.90 - Other

Wire of this heading is defined in Note 1 (o) to this Chapter.

Wire is mostly produced from hot-rolled bars and rods of heading 72.13 by drawing them through a die but may also be obtained by any other cold-forming process (e.g., cold-rolling). Wire is presented in coils (with non-aligned spirals or with aligned spirals, with or without support).

Wire which has been worked (e.g., by crimping) remains in this heading, **provided** it does not thereby assume the character of articles or of products of other headings.

Wire covered with a material such as textile where the iron or steel core is the essential element and the other material serves solely as covering (e.g., iron and steel wire for the manufacture of hat frames (milliners' wire), and stems for artificial flowers or hair curlers) is also classified in this heading.

Wire is put to very many uses, e.g., manufacture of fencing, gauze, netting, nails, rope, pins, needles, tools and springs.

The heading **does not cover** :

(a) Metallised yarn **(heading 56.05)**, twine or cord reinforced with wire **(heading 56.07)**.

(b) Stranded wire, ropes, cables and the like of **heading 73.12**.

(c) Barbed wire; twisted single flat wire (barbed or not) of a kind used for fencing (**heading 73.13**).

(d) "Duplex" wire as used for making textile loom healds and formed by soldering together two wire strands after drawing, wire twisted into eyelets or loops at one or both ends for tying (**heading 73.26**).

(e) Coated welding electrodes, etc. (**heading 83.11**).

(f) Saw-toothed wire for use as card clothing (all-steel card clothing) (**heading 84.48**).

(g) Insulated electric wire (including enamelled wire) (**heading 85.44**).

(h) Musical instrument strings (**heading 92.09**).

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Subheading Explanatory Note.

See the Explanatory Note to the subheadings of heading 72.10 in respect of products subjected to more than one type of coating, plating or cladding.

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7217.10

- Not plated or coated, whether or not polished

7217.20

- Plated or coated with zinc

7217.30

- Plated or coated with other base metals

7217.90

- Other

III.-

STAINLESS STEEL

EXPLANATORY NOTES

Sub-Chapter III

STAINLESS STEEL

GENERAL

Heat-resisting steel, creep-resisting steel and any other steel complying with the specified criteria in Note 1 (e) to this Chapter are to be classified as stainless steel.

Because of its high resistance to corrosion, stainless steel is put to a very wide range of uses, e.g., in the manufacture of silencers, catalytic converters or transformer tanks.

This sub-Chapter covers stainless steel in the forms mentioned in headings 72.18 to 72.23.

Heading 7218

Stainless steel in ingots or other primary forms; semi-finished products of stainless steel.

EXPLANATORY NOTES

Sub-Chapter III

STAINLESS STEEL

GENERAL

Heat-resisting steel, creep-resisting steel and any other steel complying with the specified criteria in Note 1 (e) to this Chapter are to be classified as stainless steel.

Because of its high resistance to corrosion, stainless steel is put to a very wide range of uses, e.g., in the manufacture of silencers, catalytic converters or transformer tanks.

This sub-Chapter covers stainless steel in the forms mentioned in headings 72.18 to 72.23.

72.18 - Stainless steel in ingots or other primary forms; semi-finished products of stainless steel.

7218.10 - Ingots and other primary forms

- Other :

7218.91 - - Of rectangular (other than square) cross-section

7218.99 - - Other

The provisions of the Explanatory Note to headings 72.06 and 72.07 apply, *mutatis mutandis*, to the products of this heading.

7218.10

- Ingots and other primary forms

7218.9

- Other :

7218.91

-- Of rectangular (other than square) cross-section

7218.99

-- Other

Heading 7219

Flat-rolled products of stainless steel, of a width of 600 mm or more.

EXPLANATORY NOTES

72.19 - Flat-rolled products of stainless steel, of a width of 600 mm or more (+).

- Not further worked than hot-rolled, in coils :

7219.11 - - Of a thickness exceeding 10 mm

7219.12 - - Of a thickness of 4.75 mm or more but not exceeding 10 mm

7219.13 - - Of a thickness of 3 mm or more but less than 4.75 mm

7219.14 - - Of a thickness of less than 3 mm

- Not further worked than hot-rolled, not in coils :

7219.21 - - Of a thickness exceeding 10 mm

7219.22 - - Of a thickness of 4.75 mm or more but not exceeding 10 mm

7219.23 - - Of a thickness of 3 mm or more but less than 4.75 mm

7219.24 - - Of a thickness of less than 3 mm

- Not further worked than cold-rolled (cold-reduced) :

7219.31 - - Of a thickness of 4.75 mm or more

7219.32 - - Of a thickness of 3 mm or more but less than 4.75 mm

7219.33 - - Of a thickness exceeding 1 mm but less than 3 mm

7219.34 - - Of a thickness of 0.5 mm or more but not exceeding 1 mm

7219.35 - - Of a thickness of less than 0.5 mm

7219.90 - Other

The provisions of the Explanatory Notes to headings 72.08 to 72.10 apply, *mutatis mutandis*, to the products of this heading.

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Subheading Explanatory Notes.

Subheadings 7219.11, 7219.12, 7219.13, 7219.14, 7219.21, 7219.22, 7219.23 and 7219.24

See the Explanatory Note to subheadings 7208.10, 7208.25, 7208.26, 7208.27, 7208.36, 7208.37, 7208.38, 7208.39, 7208.40, 7208.51, 7208.52, 7208.53 and 7208.54.

Subheadings 7219.31, 7219.32, 7219.33, 7219.34 and 7219.35

See the Explanatory Note to subheadings 7209.15, 7209.16, 7209.17, 7209.18, 7209.25, 7209.26, 7209.27 and 7209.28.

- Not further worked than hot-rolled, in coils :
7219.11
-- Of a thickness exceeding 10 mm
7219.12
-- Of a thickness of 4.75 mm or more but not exceeding 10 mm
7219.13
-- Of a thickness of 3 mm or more but less than 4.75 mm
7219.14
-- Of a thickness of less than 3 mm
7219.2
- Not further worked than hot-rolled, not in coils :
7219.21
-- Of a thickness exceeding 10 mm
7219.22
-- Of a thickness of 4.75 mm or more but not exceeding 10 mm
7219.23
-- Of a thickness of 3 mm or more but less than 4.75 mm
7219.24
-- Of a thickness of less than 3 mm
7219.3
- Not further worked than cold-rolled (cold-reduced) :
7219.31
-- Of a thickness of 4.75 mm or more
7219.32
-- Of a thickness of 3 mm or more but less than 4.75 mm
7219.33
-- Of a thickness exceeding 1 mm but less than 3 mm
7219.34
-- Of a thickness of 0.5 mm or more but not exceeding 1 mm
7219.35
-- Of a thickness of less than 0.5 mm
7219.90
- Other
Heading 7220

Flat-rolled products of stainless steel, of a width of less than 600 mm.
EXPLANATORY NOTES

72.20 - Flat-rolled products of stainless steel, of a width of less than 600 mm (+).

- Not further worked than hot-rolled :

7220.11 - - Of a thickness of 4.75 mm or more

7220.12 - - Of a thickness of less than 4.75 mm

7220.20 - Not further worked than cold-rolled (cold-reduced)

7220.90 - Other

The provisions of the Explanatory Note to heading 72.11 or 72.12 apply, *mutatis mutandis*, to the products of this heading.

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Subheading Explanatory Notes.

Subheadings 7220.11 and 7220.12

See the Explanatory Note to subheadings 7208.10, 7208.25, 7208.26, 7208.27, 7208.36, 7208.37, 7208.38, 7208.39, 7208.40, 7208.51, 7208.52, 7208.53 and 7208.54.

Subheading 7220.20

See the Explanatory Note to subheadings 7209.15, 7209.16, 7209.17, 7209.18, 7209.25, 7209.26, 7209.27 and 7209.28.

7220.1

- Not further worked than hot-rolled :

7220.11

-- Of a thickness of 4.75 mm or more

7220.12

-- Of a thickness of less than 4.75 mm

7220.20

- Not further worked than cold-rolled (cold-reduced)

7220.90

- Other

Heading 7221

Bars and rods, hot-rolled, in irregularly wound coils, of stainless steel.

EXPLANATORY NOTES

72.21 - Bars and rods, hot-rolled, in irregularly wound coils, of stainless steel.

The provisions of the Explanatory Note to heading 72.13 apply, *mutatis mutandis*, to the products of this heading.

7221.00

Bars and rods, hot-rolled, in irregularly wound coils, of stainless steel.

Heading 7222

Other bars and rods of stainless steel; angles, shapes and sections of stainless steel.

EXPLANATORY NOTES

72.22 - Other bars and rods of stainless steel; angles, shapes and sections of stainless steel (+).

- Bars and rods, not further worked than hot-rolled, hot-drawn or extruded :

7222.11 - - Of circular cross-section

7222.19 - - Other

7222.20 - Bars and rods, not further worked than cold-formed or cold-finished

7222.30 - Other bars and rods

7222.40 - Angles, shapes and sections

The provisions of the Explanatory Notes to headings 72.14 to 72.16 apply, *mutatis mutandis*, to the products of this heading.

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Subheading Explanatory Note.

Subheading 7222.20

See the Explanatory Note to subheadings 7215.10 and 7215.50.

7222.1

- Bars and rods, not further worked than hot-rolled, hot-drawn or extruded :

7222.11

-- Of circular cross-section

7222.19

-- Other

7222.20

- Bars and rods, not further worked than cold-formed or cold-finished

7222.30

- Other bars and rods

7222.40

- Angles, shapes and sections

Heading 7223

Wire of stainless steel.

EXPLANATORY NOTES

72.23 - Wire of stainless steel.

The provisions of the Explanatory Note to heading 72.17 apply, *mutatis mutandis*, to the products of this heading.

The heading **does not cover** very fine sterile stainless steel wire used for surgical sutures (**heading 30.06**).

7223.00

Wire of stainless steel.

IV.-

OTHER ALLOY STEEL; HOLLOW DRILL BARS AND RODS, OF ALLOY OR NON-ALLOY STEEL

EXPLANATORY NOTES

Sub-Chapter IV

OTHER ALLOY STEEL; HOLLOW DRILL BARS AND RODS, OF ALLOY OR NON-ALLOY STEEL

GENERAL

Other alloy steel is defined in Note 1 (f) to this Chapter and **hollow drill bars and rods** in Note 1 (p) to this Chapter.

This sub-Chapter covers alloy steel other than stainless steel, in the form of ingots or other primary forms, semi-finished products (e.g., blooms, billets, rounds, slabs, sheet bars, pieces roughly shaped by forging), flat-rolled products, whether or not in coils (so-called wide-flats, wide coil, sheets, plates or strip), bars and rods, angles, shapes or sections, or wire.

All these products may be worked **provided** that they do not thereby assume the character of articles or of products falling in other headings (see the Explanatory Notes to headings 72.06 to 72.17).

The metals most commonly present in other alloy steel are manganese, nickel, chromium, tungsten (wolfram), molybdenum, vanadium and cobalt; the most common non-metal additive is silicon. These alloying materials confer special properties to the steel, e.g., resistance to shock and wear (e.g., manganese steels); improved electrical qualities (silicon steels); improved tempering qualities (e.g., vanadium steels); or increased cutting speed (e.g., chrome-tungsten steels).

Other alloy steels are used for many purposes requiring special qualities (e.g., durability, increased hardness, resilience, strength), for example, in armaments, tools and cutlery, and machinery.

Alloy steels of this sub-Chapter include :

(1) Alloy engineering and structural steels usually containing the following elements : chromium, manganese, molybdenum, nickel, silicon and vanadium.

(2) Alloy steels having improved tensile strength and welding properties containing in particular very small quantities of boron (0.0008 % or more by weight) or of niobium (0.06 % or more by weight).

(3) Alloy steels, containing chromium or copper, which are weather resistant.

(4) Alloy steels for so-called “magnetic” sheets (having a low magnetic loss) generally containing 3 to 4 % of silicon and possibly aluminium.

(5) Free-cutting alloy steels which not only conform to the requirements of Note 1 (f) but also contain at least one of the following elements : lead, sulphur, selenium, tellurium or bismuth.

(6) Alloy bearing steels (generally containing chromium).

(7) Alloy manganese silicon spring steels (containing manganese, silicon and possibly chromium or molybdenum) and other alloy steels for springs.

(8) Non-magnetic alloy steels resistant to shock and abrasion, having a high manganese content.

(9) High speed steels : alloy steels containing, with or without other alloy elements, at least two of the three elements molybdenum, tungsten and vanadium with a combined content by weight of 7 % or more, 0.6 % or more of carbon and 3 to 6 % of chromium.

(10) Non-distorting tool steels : containing generally by weight 12 % or more of chromium and 2 % or more of carbon.

(11) Other alloy tool steels.

(12) Permanent magnet steels containing aluminium, nickel, and cobalt.

(13) Non-magnetic alloy steels which are characterised by their manganese or nickel content, other than those covered by sub-Chapter III.

(14) Steels for control rods in nuclear reactors (with high boron content).

This sub-Chapter also includes hollow drill bars and rods, of alloy or non-alloy steel (**heading 72.28**).

Heading 7224

Other alloy steel in ingots or other primary forms; semi-finished products of other alloy steel.

EXPLANATORY NOTES

Sub-Chapter IV

OTHER ALLOY STEEL; HOLLOW DRILL BARS AND RODS,

OF ALLOY OR NON-ALLOY STEEL

GENERAL

Other alloy steel is defined in Note 1 (f) to this Chapter and **hollow drill bars and rods** in Note 1 (p) to this Chapter.

This sub-Chapter covers alloy steel other than stainless steel, in the form of ingots or other primary forms, semi-finished products (e.g., blooms, billets, rounds, slabs, sheet bars, pieces roughly shaped by forging), flat-rolled products, whether or not in coils (so-called wide-flats, wide coil, sheets, plates or strip), bars and rods, angles, shapes or sections, or wire.

All these products may be worked **provided** that they do not thereby assume the character of articles or of products falling in other headings (see the Explanatory Notes to headings 72.06 to 72.17).

The metals most commonly present in other alloy steel are manganese, nickel, chromium, tungsten (wolfram), molybdenum, vanadium and cobalt; the most common non-metal additive is silicon. These alloying materials confer special properties to the steel, e.g., resistance to shock and wear (e.g., manganese steels); improved electrical qualities (silicon steels); improved tempering qualities (e.g., vanadium steels); or increased cutting speed (e.g., chrome-tungsten steels).

Other alloy steels are used for many purposes requiring special qualities (e.g., durability, increased hardness, resilience, strength), for example, in armaments, tools and cutlery, and machinery.

Alloy steels of this sub-Chapter include :

(1) Alloy engineering and structural steels usually containing the following elements : chromium, manganese, molybdenum, nickel, silicon and vanadium.

(2) Alloy steels having improved tensile strength and welding properties containing in particular very small quantities of boron (0.0008 % or more by weight) or of niobium (0.06 % or more by weight).

(3) Alloy steels, containing chromium or copper, which are weather resistant.

(4) Alloy steels for so-called “magnetic” sheets (having a low magnetic loss) generally containing 3 to 4 % of silicon and possibly aluminium.

(5) Free-cutting alloy steels which not only conform to the requirements of Note 1 (f) but also contain at least one of the following elements : lead, sulphur, selenium, tellurium or bismuth.

(6) Alloy bearing steels (generally containing chromium).

(7) Alloy manganese silicon spring steels (containing manganese, silicon and possibly chromium or molybdenum) and other alloy steels for springs.

(8) Non-magnetic alloy steels resistant to shock and abrasion, having a high manganese content.

(9) High speed steels : alloy steels containing, with or without other alloy elements, at least two of the three elements molybdenum, tungsten and vanadium with a combined content by weight of 7 % or more, 0.6 % or more of carbon and 3 to 6 % of chromium.

(10) Non-distorting tool steels : containing generally by weight 12 % or more of chromium and 2 % or more of carbon.

(11) Other alloy tool steels.

(12) Permanent magnet steels containing aluminium, nickel, and cobalt.

(13) Non-magnetic alloy steels which are characterised by their manganese or nickel content, other than those covered by sub-Chapter III.

(14) Steels for control rods in nuclear reactors (with high boron content).

This sub-Chapter also includes hollow drill bars and rods, of alloy or non-alloy steel (**heading 72.28**).

72.24 - Other alloy steel in ingots or other primary forms; semi-finished products of other alloy steel.

7224.10 - Ingots and other primary forms

7224.90 - Other

The provisions of the Explanatory Note to headings 72.06 and 72.07 apply, *mutatis mutandis*, to the products of this heading.

7224.10

- Ingots and other primary forms

7224.90

- Other

Heading 7225

Flat-rolled products of other alloy steel, of a width of 600 mm or more.

EXPLANATORY NOTES

72.25 - Flat-rolled products of other alloy steel, of a width of 600 mm or more (+).

- Of silicon-electrical steel :

7225.11 - - Grain-oriented

7225.19 - - Other

7225.30 - Other, not further worked than hot-rolled, in coils

7225.40 - Other, not further worked than hot-rolled, not in coils

7225.50 - Other, not further worked than cold-rolled (cold-reduced)

- Other :

7225.91 - - Electrolytically plated or coated with zinc

7225.92 - - Otherwise plated or coated with zinc

7225.99 - - Other

The provisions of the Explanatory Notes to headings 72.08 to 72.10 apply, *mutatis mutandis*, to the products of this heading.

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Subheading Explanatory Notes.

Subheadings 7225.30 and 7225.40

See the Explanatory Note to subheadings 7208.10, 7208.25, 7208.26, 7208.27, 7208.36, 7208.37, 7208.38, 7208.39, 7208.40, 7208.51, 7208.52, 7208.53 and 7208.54.

Subheading 7225.50

See the Explanatory Note to subheadings 7209.15, 7209.16, 7209.17, 7209.18, 7209.25, 7209.26, 7209.27 and 7209.28.

Subheadings 7225.91 and 7225.92

See the Explanatory Note to subheadings 7210.30, 7210.41 and 7210.49.

7225.1

- Of silicon-electrical steel :
7225.11

-- Grain-oriented
7225.19

-- Other
7225.30

- Other, not further worked than hot-rolled, in coils
7225.40

- Other, not further worked than hot-rolled, not in coils
7225.50

- Other, not further worked than cold-rolled (cold-reduced)
7225.9

- Other :
7225.91

-- Electrolytically plated or coated with zinc
7225.92

-- Otherwise plated or coated with zinc
7225.99

-- Other
Heading 7226

Flat-rolled products of other alloy steel, of a width of less than 600 mm.
EXPLANATORY NOTES

72.26 - Flat-rolled products of other alloy steel, of a width of less than 600 mm (+).

- Of silicon-electrical steel :

7226.11 - - Grain-oriented

7226.19 - - Other

7226.20 - Of high speed steel

- Other :

7226.91 - - Not further worked than hot-rolled

7226.92 - - Not further worked than cold-rolled (cold-reduced)

7226.99 - - Other

The provisions of the Explanatory Note to heading 72.11 and 72.12 apply, *mutatis mutandis*, to the products of this heading.

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Subheading Explanatory Notes.

Subheading 7226.91

See the Explanatory Note to subheadings 7208.10, 7208.25, 7208.26, 7208.27, 7208.36, 7208.37, 7208.38, 7208.39, 7208.40, 7208.51, 7208.52, 7208.53 and 7208.54.

Subheading 7226.92

See the Explanatory Note to subheadings 7209.15, 7209.16, 7209.17, 7209.18, 7209.25, 7209.26, 7209.27 and 7209.28.

7226.1

- Of silicon-electrical steel :
7226.11

-- Grain-oriented
7226.19

-- Other
7226.20

- Of high speed steel
7226.9

- Other :
7226.91

-- Not further worked than hot-rolled
7226.92

-- Not further worked than cold-rolled (cold-reduced)
7226.99

-- Other
Heading 7227

Bars and rods, hot-rolled, in irregularly wound coils, of other alloy steel.
EXPLANATORY NOTES

72.27 - Bars and rods, hot-rolled, in irregularly wound coils, of other alloy steel.

7227.10 - Of high speed steel

7227.20 - Of silico-manganese steel

7227.90 - Other

The provisions of the Explanatory Note to heading 72.13 apply, *mutatis mutandis*, to the products of this heading.

7227.10

- Of high speed steel
7227.20

- Of silico-manganese steel
7227.90

- Other
Heading 7228

Other bars and rods of other alloy steel; angles, shapes and sections, of other alloy steel; hollow drill bars and rods, of alloy or non-alloy steel.
EXPLANATORY NOTES

72.28 - Other bars and rods of other alloy steel; angles, shapes and sections, of other alloy steel; hollow drill bars and rods, of alloy or non-alloy steel (+).

7228.10 - Bars and rods, of high speed steel

7228.20 - Bars and rods, of silico-manganese steel

7228.30 - Other bars and rods, not further worked than hot-rolled, hot-drawn or extruded

7228.40 - Other bars and rods, not further worked than forged

7228.50 - Other bars and rods, not further worked than cold-formed or cold-finished

7228.60 - Other bars and rods

7228.70 - Angles, shapes and sections

7228.80 - Hollow drill bars and rods

(A) OTHER BARS AND RODS; ANGLES, SHAPES AND SECTIONS

The provisions of the Explanatory Notes to headings 72.14 to 72.16 apply, *mutatis mutandis*, to the products of this heading.

(B) HOLLOW DRILL BARS AND RODS

Hollow drill bars and rods are defined in Note 1 (p) to this Chapter. They are also known as drill steel.

Drill steel is produced by piercing billets of alloy or non-alloy steel which are then re-rolled. The usual cross-sections are round, hexagonal, octagonal or quarter octagonal (square with the corners lopped off). The steel may be cut into short pieces for the manufacture of drill bits which fall in heading 82.07; they are also used in lengths up to five or six metres to transmit power when drilling at a distance. The hole down the length conducts liquid to the cutting point both for lubrication and to minimise the spreading of dust.

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Subheading Explanatory Note.

Subheading 7228.50

See the Explanatory Note to subheadings 7215.10 and 7215.50.

7228.10

- Bars and rods, of high speed steel

7228.20

- Bars and rods, of silico-manganese steel

7228.30

- Other bars and rods, not further worked than hot-rolled, hot-drawn or extruded

7228.40

- Other bars and rods, not further worked than forged

7228.50

- Other bars and rods, not further worked than cold-formed or cold-finished

7228.60

- Other bars and rods

7228.70

- Angles, shapes and sections

7228.80

- Hollow drill bars and rods

Heading 7229

Wire of other alloy steel.

EXPLANATORY NOTES

72.29 - Wire of other alloy steel.

7229.20 - Of silico-manganese steel

7229.90 - Other

The provisions of the Explanatory Note to heading 72.17 apply, *mutatis mutandis*, to the products of this heading.

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7229.20

- Of silico-manganese steel

7229.90

- Other

Chapter 73

Articles of iron or steel

LEGAL NOTES

Notes.

1.- In this Chapter the expression “cast iron” applies to products obtained by casting in which iron predominates by weight over each of the other elements and which do not comply with the chemical composition of steel as defined in Note 1 (d) to Chapter 72.

2.- In this Chapter the word “wire” means hot or cold-formed products of any cross-sectional shape, of which no cross-sectional dimension exceeds 16 mm.

EXPLANATORY NOTES

Chapter 73

Articles of iron or steel

Notes.

1.- In this Chapter the expression “cast iron” applies to products obtained by casting in which iron predominates by weight over each of the other elements and which do not comply with the chemical composition of steel as defined in Note 1 (d) to Chapter 72.

2.- In this Chapter the word “wire” means hot or cold-formed products of any cross-sectional shape, of which no cross-sectional dimension exceeds 16 mm.

GENERAL

This Chapter covers a certain number of specific articles in headings 73.01 to 73.24, and in headings 73.25 and 73.26 a group of articles not specified or included in Chapter 82 or 83 and not falling in other Chapters of the Nomenclature, of iron (including cast iron as defined in Note 1 to this Chapter) or steel.

For the purposes of this Chapter, the expressions “tubes and pipes” and “hollow profiles” have the following meanings hereby assigned to them :

(1) **Tubes and pipes**

Concentric hollow products, of uniform cross-section with only one enclosed void along their whole length, having their inner and outer surfaces of the same form. Steel tubes are mainly of circular, oval, rectangular (including square) cross-sections but in addition may include equilateral triangular and other regular convex polygonal cross-sections. Products of cross-section other than circular, with rounded corners along their whole length, and tubes with upset ends, are also to be

considered as tubes. They may be polished, coated, bent (including coiled tubing), threaded and coupled or not, drilled, waisted, expanded, cone shaped or fitted with flanges, collars or rings.

(2) **Hollow profiles**

Hollow products not conforming to the above definition and mainly those not having their inner and outer surfaces of the same form.

The General Explanatory Note to Chapter 72 applies, *mutatis mutandis*, to this Chapter.

Heading 7301

Sheet piling of iron or steel, whether or not drilled, punched or made from assembled elements; welded angles, shapes and sections, of iron or steel.

EXPLANATORY NOTES

73.01 - Sheet piling of iron or steel, whether or not drilled, punched or made from assembled elements; welded angles, shapes and sections, of iron or steel.

7301.10 - Sheet piling

7301.20 - Angles, shapes and sections

Sheet piling consists of sections obtained by rolling, drawing, pressing, press-folding or forming on roller machines, or by assembling rolled parts (e.g. by riveting, welding, crimping). These sections can be fitted to each other by being simply interlocked or even by having their longitudinal sides juxtaposed. For this purpose, both types have, on the longitudinal sides at least, connecting devices (e.g. grooves, flanges, interlocks).

This heading includes :

(1) Sheet piling angle or corner pieces, which are sections intended to form corners; for this purpose either folded sections or sections which are cut along their length are used, the parts so obtained being then welded or riveted to form an angle.

(2) Joining sheet piling sections with three or four arms for making partition walls.

(3) Connecting sheet piling sections whose shape enables them to be used for connecting different types of sheet piling.

(4) Sheet piling conduits and columns which are driven into the ground in such a manner that they join together without being forcibly interlocked. The sheet piling conduits are corrugated in shape. Sheet piling columns are made up of two sections welded together.

Sheet piling is generally used for making walls in sandy, waterlogged or submerged ground for civil engineering works such as dams, dykes or trenches.

The heading also includes welded angles, shapes and sections. The Explanatory Note to heading 72.16 applies, *mutatis mutandis*, to profiles obtained by welding.

The heading **does not cover** :

(a) Welded hollow profiles (**heading 73.06**).

(b) Sheet piling assembled into piles which have no “interlocks” available for external connection (**heading 73.08**).

7301.10

- Sheet piling

7301.20

- Angles, shapes and sections

Heading 7302

Railway or tramway track construction material of iron or steel, the following : rails, check-rails and rack rails, switch blades, crossing frogs, point rods and other crossing pieces, sleepers (cross-ties), fish-plates, chairs, chair wedges, sole plates (base plates), rail clips, bedplates, ties and other material specialized for jointing or fixing rails.

EXPLANATORY NOTES

73.02 - Railway or tramway track construction material of iron or steel, the following : rails, check-rails and rack rails, switch blades, crossing frogs, point rods and other crossing pieces, sleepers (cross-ties), fish-plates, chairs, chair wedges, sole plates (base plates), rail clips, bedplates, ties and other material specialized for jointing or fixing rails.

7302.10 - Rails

7302.30 - Switch blades, crossing frogs, point rods and other crossing pieces

7302.40 - Fish-plates and sole plates

7302.90 - Other

This heading covers iron or steel railway and tramway track construction material, whether of normal or narrow gauge.

(1) **Rails** for railways or tramways are hot-rolled products. The heading covers all lengths of such rails including bull head rails, flange (or flat-bottomed) rails, grooved tram rails, slot rails for electric tramways, and conductor-rails, etc.

This heading covers all rails of the type normally used for railway or tramway track, irrespective of their intended use (over-head transporters, mobile cranes, etc.). It **does not**, however, **cover** rails not of the railway or tramway type (e.g., sliding door rails and lift rails).

Check-rails, also known as guard rails or safety rails, are fixed to track rails to prevent derailments at crossings and curves.

Rack rails are intended for steep gradient railways. One type consists of two long parallel bars connected by closely spaced transverse rods; the spaces between these rods are designed to

engage the teeth of the cogged wheel beneath the locomotive. A second type consists of a toothed rail which engages similarly with the cogged wheel.

All the above rails may be straight, curved or drilled with bolt holes.

(2) **Switch blades, crossing frogs, point rods and other crossing pieces** which may be cast or otherwise obtained, are used at the junctions or intersections of the permanent way.

(3) **Iron or steel "sleepers" (cross-ties)** are used to support the rails and keep them parallel.

They are usually pressed into final shape after rolling, but they may also be assembled by welding or riveting several elements together. They normally have a cross-section in the form of a "U" or a very short-legged capital omega, and they remain in the heading whether or not drilled, punched, slotted, or fitted with chairs or sole plates, or with integral formed rail fastening housings.

(4) **Fish-plates** are hot-rolled, forged or cast products of various shapes (flat, shouldered, angled, etc.) used for jointing one rail to the next. They fall in the heading whether or not drilled or punched.

(5) **Chairs** (usually of cast iron) are used to fix bull-head rails to the sleepers; they are secured by coach screws or bolts.

Chair wedges are used to hold the rails in the chairs.

Sole plates (base plates, sleeper plates) are used in fixing flat-bottomed rails to sleepers. They protect the sleepers and are fixed to them by cramps, bolts, coach screws, spikes or, in the case of steel, by welding.

Rail clips are likewise used to fix flat-bottomed rails to the sleepers; they are bolted to the sleepers and clamp the flat bottom of the rail to them.

The heading also covers other **rigid railway rail fixing devices**, such as those obtained by bending a steel bar into an approximate L-shape, the shortest side pressing against the flange of the rail and the longest side, with its end slightly flattened but not pointed, being fixed in a hole previously drilled in the sleeper.

Furthermore, **resilient rail fastening devices** are covered by this heading. These are manufactured from spring steel and clamp the rail to the sleeper or sole plate. The clamping force is obtained by a geometrical deflection of the fastening from the "as manufactured" condition. A pad or insulating device, usually of rubber or plastics, is interposed between the fastening and the rail or the fastening and the sleeper.

(6) **Bedplates and ties** are used to fix the rails in their parallel position.

Some special spacing-ties and angle-bars are designed to be bolted on to a number of successive wooden sleepers; being thus fixed at right angles to the sleepers they serve to prevent deformation (or "creep") of the track at certain points.

(7) **Other specialised rail anchors** are devices attached or clamped to the rail where longitudinal creep occurs. These bear against the sleeper or sole plate tending to prevent such longitudinal movement.

The heading **does not cover** :

(a) Screws, bolts, nuts, rivets and spikes used for fixing track construction materials (**headings 73.17** and **73.18**).

(b) Assembled track, turntables, platform buffers and loading gauges (**heading 86.08**).

7302.10

- Rails

7302.30

- Switch blades, crossing frogs, point rods and other crossing pieces

7302.40

- Fish-plates and sole plates

7302.90

- Other

Heading 7303

Tubes, pipes and hollow profiles, of cast iron.

EXPLANATORY NOTES

73.03 - Tubes, pipes and hollow profiles, of cast iron.

This heading applies to tubes, pipes and hollow profiles manufactured of cast iron as defined in Note 1 to this Chapter.

They may be manufactured by casting in moulds or by centrifugal casting; in the latter case, the molten iron is poured into a horizontal cylinder which is rapidly rotated so that the metal is forced centrifugally against the walls where it solidifies.

These tubes, pipes and hollow profiles may be straight or curved, plain, finned or gilled. They may be socketed, flanged integrally or flanged by welding or threading. To facilitate assembly, socketed pipes have one end expanded to receive the end of a second pipe. Flanged pipes can be assembled by means of collars, nuts, bolts, clamps, etc., while threaded or plain end pipes are assembled by means of couplings, rings or collars.

This heading also covers tubes, pipes and hollow profiles with multiple or branch openings, and those which are covered, for example, with zinc, plastics, bitumen.

Tubes and pipes of this heading are mainly used for pressure or gravity pipelines for water, sewer evacuation, for low pressure gas distribution, as gutter or drain-pipes or for drainage.

The heading **does not cover** :

(a) Tube or pipe fittings (**heading 73.07**).

(b) Tubes, pipes and hollow profiles made up into identifiable parts of articles, classified in their respective headings, such as sections of central heating radiators (**heading 73.22**) and machinery parts (**Section XVI**).

7303.00

Tubes, pipes and hollow profiles, of cast iron.

Heading 7304

Tubes, pipes and hollow profiles, seamless, of iron (other than cast iron) or steel.

EXPLANATORY NOTES

73.04 - Tubes, pipes and hollow profiles, seamless, of iron (other than cast iron) or steel (+).

- Line pipe of a kind used for oil or gas pipelines :

7304.11 - - Of stainless steel

7304.19 - - Other

- Casing, tubing and drill pipe, of a kind used in drilling for oil or gas :

7304.22 - - Drill pipe of stainless steel

7304.23 - - Other drill pipe

7304.24 - - Other, of stainless steel

7304.29 - - Other

- Other, of circular cross-section, of iron or non-alloy steel :

7304.31 - - Cold-drawn or cold-rolled (cold-reduced)

7304.39 - - Other

- Other, of circular cross-section, of stainless steel :

7304.41 - - Cold-drawn or cold-rolled (cold-reduced)

7304.49 - - Other

- Other, of circular cross-section, of other alloy steel :

7304.51 - - Cold-drawn or cold-rolled (cold-reduced)

7304.59 - - Other

7304.90 - Other

Tubes, pipes and hollow profiles of this heading may be manufactured by the following processes :

(A) Hot-rolling of an intermediate product, which can be either an ingot, rolled and peeled, a billet or a round obtained by rolling or continuous casting. This process of manufacture includes :

(1) Piercing in a cross rolling mill (Mannesmann process), in a disc mill or in a cone type piercer to obtain a hollow blank of greater wall thickness and outside diameter and of lesser length than the final product.

(2) Hot-rolling upon a mandrel or a plug :

- in a three slanted rolls elongator (Assel or Transval) used in major part for the manufacture of bearing tubes or a two slanted rolls elongator with guiding discs (Diescher process) or a three slanted planetary elongator or

- in a “continuous tube rolling mill” having different sets of rolls upon a “free floating” or semi-floating restrained mandrel (Neuval or Dalmine process) or

- in a pilger mill or

- in a Stiefel mill or

- in a push bench by pushing the blank in a series of rolls or

- in a stretch reducing mill. In this case the product obtained is a finished tube.

(B) Hot-extrusion in a press using glass (Ugine-Sejournet process) or another lubricant, of a round. This method actually includes the following operations : piercing, expansion or not, and extrusion.

The operations described above are followed by different finishing operations :

- hot-finishing : in this case, the blank after reheating passes through a sizing mill or a stretching mill and finally a straightening mill or

- cold-finishing on a mandrel, by cold-drawing on a bench or cold-rolling (cold-reducing) in a pilger mill (Mannesmann or Megaval process). These operations give the possibility to obtain from hot-rolled or extruded tubes, used as blanks, tubes of lesser wall thickness (it should be noted that the Transval process allows tubes of reduced wall thickness to be directly produced) or diameter, also tubes of tighter tolerances on diameter or wall thickness. Cold-working methods also cover honing and roller burnishing to obtain polished surfaces (tubes with a low degree of roughness) required, e.g., for pneumatic jacks or hydraulic cylinders.

(C) Casting or centrifugal casting.

(D) Deep drawing of a disc placed over a forming mould, the blank produced being subsequently hot-drawn.

(E) Forging.

(F) Machining of bars followed by cold-drawing or cold-rolling (cold-reducing) operations (**excluding** hollow drill bars of **heading 72.28**).

See the General Explanatory Note to this Chapter concerning the distinction between tubes and pipes on the one hand and hollow profiles on the other.

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The products of this heading may be coated, for example, with plastics or with glass wool combined with bitumen.

This heading also covers finned or gilled tubes or pipes and hollow profiles such as integrally finned or gilled tubes with longitudinal or transversal fins.

The products of this heading include, in particular, line pipes of a kind used for oil or gas, casing, tubing and drill pipes of a kind used in drilling for oil or gas, tubes and pipes suitable for use in boilers, superheaters, heat exchangers, condensers, refining furnaces, feedwater heaters for power stations, galvanised or black tubes (so-called gas tubes) for high or medium pressure steam, or gas or water distribution in buildings, as well as tubes for water or gas street distribution mains. In addition tubes and pipes are used for the manufacture of parts for automobiles or for machinery, of rings for ball bearings, cylindrical, tapered or needle bearings or for other mechanical uses, for scaffolding, tubular structures or building construction.

The heading **excludes** :

(a) Tubes and pipes of cast iron (**heading 73.03**) and tubes and pipes of iron or steel of **heading 73.05** or **73.06.**

(b) Hollow profiles of cast iron (**heading 73.03**) and hollow profiles of iron or steel of **heading 73.06**.

(c) Tube or pipe fittings of iron or steel (**heading 73.07**).

(d) Flexible tubing of iron or steel with or without fittings (including thermostatic bellows and expansion joints) (**heading 83.07**).

(e) Insulated electrical conduit tubing (**heading 85.47**).

(f) Tubes, pipes and hollow profiles made up into specific identifiable articles, e.g., those prepared for use in structures (**heading 73.08**), tubular sections of central heating radiators (**heading 73.22**), exhaust manifolds for internal combustion piston engines (**heading 84.09**), other machinery parts (**Section XVI**), exhaust boxes (silencers) and exhaust pipes of vehicles of Chapter 87 (e.g., **heading 87.08** or **87.14**), saddle pillars and frames for cycles (**heading 87.14**).

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Subheading Explanatory Notes.

Subheadings 7304.11, 7304.19, 7304.22, 7304.23, 7304.24 and 7304.29

These subheadings cover all such articles irrespective of the standards or technical specifications which they meet (e.g., American Petroleum Institute (API) standards 5L or 5LU for line pipe and API standards 5A, 5AC or 5AX for casing, tubing and drill pipe).

Subheadings 7304.31, 7304.39, 7304.41, 7304.49, 7304.51 and 7304.59

In order to distinguish between the cold worked products and the other products of these subheadings, see the General Explanatory Note to Chapter 72, Part IV (B), second paragraph.

7304.1

- Line pipe of a kind used for oil or gas pipelines :
7304.11

-- Of stainless steel
7304.19

-- Other
7304.2

- Casing, tubing and drill pipe, of a kind used in drilling for oil or gas :
7304.22

-- Drill pipe of stainless steel
7304.23

-- Other drill pipe
7304.24

-- Other, of stainless steel
7304.29

-- Other
7304.3

- Other, of circular cross-section, of iron or non-alloy steel :
7304.31

-- Cold-drawn or cold-rolled (cold-reduced)
7304.39

-- Other
7304.4

- Other, of circular cross-section, of stainless steel :
7304.41

-- Cold-drawn or cold-rolled (cold-reduced)
7304.49

-- Other
7304.5

- Other, of circular cross-section, of other alloy steel :
7304.51

-- Cold-drawn or cold-rolled (cold-reduced)
7304.59

-- Other
7304.90

- Other
Heading 7305

Other tubes and pipes (for example, welded, riveted or similarly closed), having circular cross-sections, the external diameter of which exceeds 406.4 mm, of iron or steel.
EXPLANATORY NOTES

73.05 - Other tubes and pipes (for example, welded, riveted or similarly closed), having circular cross-sections, the external diameter of which exceeds 406.4 mm, of iron or steel (+).

- Line pipe of a kind used for oil or gas pipelines :

7305.11 - - Longitudinally submerged arc welded

7305.12 - - Other, longitudinally welded

7305.19 - - Other

7305.20 - Casing of a kind used in drilling for oil or gas

- Other, welded :

7305.31 - - Longitudinally welded

7305.39 - - Other

7305.90 - Other

The tubes and pipes of this heading are obtained, for example, by welding or riveting preformed, unclosed, tubular shapes produced from flat-rolled products.

The tubular shapes can be produced :

- longitudinally or spirally in a continuous operation by means of a set of rollers, for flat-rolled products in coils; or

- longitudinally in a non-continuous operation by means of a press or rolling machine, for flat-rolled products not in coils.

In the case of welded articles, the abutting edges are welded without filler metal by flash-welding, by electrical resistance or induction welding, or by submerged arc welding with filler metal and flux or gas protection to prevent oxidation. As regards products obtained by riveting, the abutting edges are overlapped and joined by rivets.

The products of this heading may be coated with, for example, plastics or with glass wool combined with bitumen.

They include line pipes of a kind used for oil or gas, casings for oil or gas wells, tubes for long distance waterlines or slurry mains for coal or other solid materials, tubes for piling or structural columns, as well as hydroelectric conduits, usually reinforced with rings.

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The heading **does not cover** :

(a) Tubes, pipes and hollow profiles, of heading **73.03, 73.04** or **73.06**.

(b) Tube or pipe fittings of iron or steel (**heading 73.07**).

(c) Tubes or pipes made up into specific identifiable articles.

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Subheading Explanatory Notes.

Subheadings 7305.11, 7305.12, 7305.19 and 7305.20

The provisions of the Explanatory Note to subheadings 7304.11, 7304.19, 7304.22, 7304.23, 7304.24 and 7304.29 apply, *mutatis mutandis*, to these subheadings.

Subheading 7305.11

This subheading covers tubes manufactured from steel plate by forming in a press or by rolling, and by welding by an electric arc with the addition of metal and with flux to prevent oxidation of the metal at the moment of fusion.

After welding there is a raised bead of metal, the “weld bead”, which is clearly visible on the external surface of the finished tube.

Subheading 7305.12

This subheading covers mainly tubes manufactured from coils of steel by continuous forming through a train of forming rolls and electric welding by resistance or induction without the addition of metal. After welding there is no raised bead of metal on the external surface of the finished tube.

7305.1

- Line pipe of a kind used for oil or gas pipelines :
7305.11

-- Longitudinally submerged arc welded
7305.12

-- Other, longitudinally welded
7305.19

-- Other
7305.20

- Casing of a kind used in drilling for oil or gas
7305.3

- Other, welded :
7305.31

-- Longitudinally welded
7305.39

-- Other
7305.90

- Other
Heading 7306

Other tubes, pipes and hollow profiles (for example, open seam or welded, riveted or similarly closed), of iron or steel.

EXPLANATORY NOTES

73.06 - Other tubes, pipes and hollow profiles (for example, open seam or welded, riveted or similarly closed), of iron or steel (+).

- Line pipe of a kind used for oil or gas pipelines :

7306.11 - - Welded, of stainless steel

7306.19 - - Other

- Casing and tubing of a kind used in drilling for oil or gas :

7306.21 - - Welded, of stainless steel

7306.29 - - Other

7306.30 - Other, welded, of circular cross-section, of iron or non-alloy steel

7306.40 - Other, welded, of circular cross-section, of stainless steel

7306.50 - Other, welded, of circular cross-section, of other alloy steel

- Other, welded, of non-circular cross-section :

7306.61 - - Of square or rectangular cross-section

7306.69 - - Of other non-circular cross-section

7306.90 - Other

The provisions of the Explanatory Note to heading 73.05 apply, *mutatis mutandis*, to the articles of this heading.

This heading also includes :

(1) Tubes and pipes welded by forging, known as butt-welded tubes and pipes.

(2) Tubes and pipes with closed edges, i.e. tubes and pipes, in which the edges touch or cover each other and which are known as open seam tubes. However, products having an open slit along the whole length are classified as sections in **heading 72.16, 72.22** or **72.28**.

(3) Tubes and pipes in which the abutting edges are joined by clipping.

Certain longitudinally welded tubes and pipes of this heading have undergone hot or cold drawing or rolling to obtain products having a reduced outside diameter or wall thickness and tighter size tolerances. These cold-working methods also allow different surface finishes to be obtained including **polished surfaces**, as mentioned in the Explanatory Note to heading 73.04.

See the General Explanatory Note to this Chapter concerning the distinction between tubes and pipes and hollow profiles.

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This heading includes, in particular, line pipes of a kind used for oil or gas, casing and tubing of a kind used in drilling for oil or gas, tubes and pipes suitable for use in boilers, superheaters, heat exchangers, condensers, feed-water heaters for power stations, galvanised or black tubes (so-called gas tubes) for high or medium pressure steam or water distribution in buildings, as well as tubes for water or gas street distribution mains. In addition tubes, pipes and hollow profiles are used for the manufacture of parts for automobiles or for machinery, bicycle frames, prams, or for other structural uses, scaffolding or tubular structures or building construction. “Open seam” tubes are used, for example, as frames for metal furniture.

This heading also includes tubes, pipes and hollow profiles coated with plastics or with glass wool combined with bitumen as well as finned or gilled tubes with longitudinal or transversal fins.

The heading **excludes** :

(a) Tubes and pipes of cast iron (**heading 73.03**) and tubes and pipes of iron or steel of **heading 73.04** or **73.05**.

(b) Hollow profiles of cast iron (**heading 73.03**) and hollow profiles of iron or steel of **heading 73.04**.

(c) Tube or pipe fittings of iron or steel (**heading 73.07**).

(d) Flexible tubing of iron or steel, with or without fittings (including thermostatic bellows and expansion joints) (**heading 83.07**).

(e) Insulated electrical conduit tubing (**heading 85.47**).

(f) Tubes, pipes and hollow profiles made up into specific identifiable articles, e.g., those prepared for use in structures (**heading 73.08**), tubular sections of central heating radiators (**heading 73.22**), exhaust manifolds for internal combustion piston engines (**heading 84.09**), other machinery parts (**Section XVI**), exhaust boxes (silencers) and exhaust pipes of vehicles of Chapter 87 (e.g., **heading 87.08** or **87.14**), saddle pillars and frames for cycles (**heading 87.14**).

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Subheading Explanatory Note.

Subheadings 7306.11, 7306.19, 7306.21 and 7306.29

The provisions of the Explanatory Note to subheadings 7304.11, 7304.19, 7304.22, 7304.23, 7304.24 and 7304.29 apply, *mutatis mutandis*, to these subheadings.

7306.1

- Line pipe of a kind used for oil or gas pipelines :

7306.11

-- Welded, of stainless steel

7306.19

-- Other

7306.2

- Casing and tubing of a kind used in drilling for oil or gas :

7306.21

-- Welded, of stainless steel

7306.29

-- Other

7306.30

- Other, welded, of circular cross-section, of iron or non-alloy steel

7306.40

- Other, welded, of circular cross-section, of stainless steel

7306.50

- Other, welded, of circular cross-section, of other alloy steel

7306.6

- Other, welded, of non-circular cross-section :

7306.61

-- Of square or rectangular cross-section

7306.69

-- Of other non-circular cross-section
7306.90

- Other
Heading 7307

Tube or pipe fittings (for example, couplings, elbows, sleeves), of iron or steel.
EXPLANATORY NOTES

73.07 - Tube or pipe fittings (for example, couplings, elbows, sleeves), of iron or steel.

- Cast fittings :

7307.11 - - Of non-malleable cast iron

7307.19 - - Other

- Other, of stainless steel :

7307.21 - - Flanges

7307.22 - - Threaded elbows, bends and sleeves

7307.23 - - Butt welding fittings

7307.29 - - Other

- Other :

7307.91 - - Flanges

7307.92 - - Threaded elbows, bends and sleeves

7307.93 - - Butt welding fittings

7307.99 - - Other

This heading covers fittings of iron or steel, mainly used for connecting the bores of two tubes together, or for connecting a tube to some other apparatus, or for closing the tube aperture. This heading **does not** however **cover** articles used for installing pipes and tubes but which do not form an integral part of the bore (e.g., hangers, stays and similar supports which merely fix or support the tubes and pipes on walls, clamping or tightening bands or collars (hose clips) used for clamping flexible tubing or hose to rigid piping, taps, connecting pieces, etc.) (**heading 73.25** or **73.26**).

The connection is obtained :

- by screwing, when using cast iron or steel threaded fittings;

- or by welding, when using butt-welding or socket-welding steel fittings. In the case of butt-welding, the ends of the fittings and of the tubes are square cut or chamfered;

- or by contact, when using removable steel fittings.

This heading therefore includes flat flanges and flanges with forged collars, elbows and bends and return bends, reducers, tees, crosses, caps and plugs, lap joint stub-ends, fittings for tubular railings and structural elements, off sets, multi-branch pieces, couplings or sleeves, clean out traps, nipples, unions, clamps and collars.

The heading **excludes** :

(a) Clamps and other devices specially designed for assembling parts of structures (**heading 73.08**).

(b) Bolts, nuts, screws, etc., suitable for use in the assembly of tube or pipe fittings (**heading 73.18**).

(c) Thermostatic bellows and expansion joints (**heading 83.07**).

(d) Hangers, stays and the like, as described above; and tube plugs, threaded or not, fitted with a ring, hook, etc. (e.g., those used for fixing washing lines) (**heading 73.26**).

(e) Fittings equipped with taps, cocks, valves, etc. (**heading 84.81**).

(f) Insulated joints for electrical conduit tubing (**heading 85.47**).

(g) Connections for assembling bicycle or motorcycle frames (**heading 87.14**).

7307.1

- Cast fittings :

7307.11

-- Of non-malleable cast iron

7307.19

-- Other

7307.2

- Other, of stainless steel :

7307.21

-- Flanges

7307.22

-- Threaded elbows, bends and sleeves

7307.23

-- Butt welding fittings

7307.29

-- Other

7307.9

- Other :

7307.91

-- Flanges

7307.92

-- Threaded elbows, bends and sleeves
7307.93

-- Butt welding fittings
7307.99

-- Other
Heading 7308

Structures (excluding prefabricated buildings of heading 94.06) and parts of structures (for example, bridges and bridge-sections, lock-gates, towers, lattice masts, roofs, roofing frame-works, doors and windows and their frames and thresholds for doors, shutters, balustrades, pillars and columns), of iron or steel; plates, rods, angles, shapes, sections, tubes and the like, prepared for use in structures, of iron or steel.

EXPLANATORY NOTES

73.08 - Structures (excluding prefabricated buildings of heading 94.06) and parts of structures (for example, bridges and bridge-sections, lock-gates, towers, lattice masts, roofs, roofing frame-works, doors and windows and their frames and thresholds for doors, shutters, balustrades, pillars and columns), of iron or steel; plates, rods, angles, shapes, sections, tubes and the like, prepared for use in structures, of iron or steel (+).

7308.10 - Bridges and bridge-sections

7308.20 - Towers and lattice masts

7308.30 - Doors, windows and their frames and thresholds for doors

7308.40 - Equipment for scaffolding, shuttering, propping or pit-propping

7308.90 - Other

This heading covers complete or incomplete metal structures, as well as parts of structures. For the purpose of this heading, these structures are characterised by the fact that once they are put in position, they generally remain in that position. They are usually made up from bars, rods, tubes, angles, shapes, sections, sheets, plates, wide flats including so-called universal plates, hoop, strip, forgings or castings, by riveting, bolting, welding, etc. Such structures sometimes incorporate products of other headings such as panels of woven wire or expanded metal of heading 73.14. Parts of structures include clamps and other devices specially designed for assembling metal structural elements of round cross-section (tubular or other). These devices usually have protuberances with tapped holes in which screws are inserted, at the time of assembly, to fix the clamps to the tubing.

Apart from the structures and parts of structures mentioned in the heading, the heading also includes products such as :

Pit head frames and superstructures; adjustable or telescopic props, tubular props, extensible coffering beams, tubular scaffolding and similar equipment; sluice-gates, piers, jetties and marine moles; lighthouse superstructures; masts, gangways, rails, bulkheads, etc., for ships; balconies and verandahs; shutters, gates, sliding doors; assembled railings and fencing; level-crossing gates and similar barriers; frameworks for greenhouses and forcing frames; large-scale shelving for assembly

and permanent installation in shops, workshops, storehouses, etc.; stalls and racks; certain protective barriers for motorways, made from sheet metal or from angles, shapes or sections.

The heading also covers parts such as flat-rolled products, “wide flats” including so-called universal plates, strip, rods, angles, shapes, sections and tubes, which have been prepared (e.g., drilled, bent or notched) for use in structures.

The heading further covers products consisting of separate rolled bars twisted together, which are also used for reinforced or pre-stressed concrete work.

The heading **does not cover** :

(a) Assembled sheet piling (**heading 73.01**).

(b) Coffering panels intended for pouring concrete, having the character of moulds (**heading 84.80**).

(c) Constructions clearly identifiable as machinery parts (**Section XVI**).

(d) Constructions of **Section XVII** such as railway and tramway track fixtures and fittings, and mechanical signalling equipment, of **heading 86.08**; chassis frames for railway rolling-stock, etc., or motor vehicles (**Chapter 86** or **87**), and the floating structures of **Chapter 89**.

(e) Movable shelved furniture (**heading 94.03**).

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Subheading Explanatory Notes.

Subheading 7308.30

This subheading also covers security doors of steel, for all types of dwellings.

7308.10

- Bridges and bridge-sections

7308.20

- Towers and lattice masts

7308.30

- Doors, windows and their frames and thresholds for doors

CLASSIFICATION OPINIONS

1. **Automatic sliding steel door with accompanying mechanism for lifts (elevators)**, intended to be fitted into the walls at the entrance to the lift shaft on each floor of a building. The door and mechanism does not travel up and down the building with the lift cage. **Application of GIRs 1 and 6.** *Adoption : 2003*

2. Security doors of steel, for dwellings, consisting of the following components :

- a steel exterior panel;

- an anti-drill shield;

- exterior steel panel assembly profiles;

- a steel panel;

- a longitudinal reinforcement;

- a longitudinal reinforcement and 3-point lock;

- sealing gaskets;

- an omega shaped profile reinforcing structure (skeleton);

- a wood interior panel;

- interior steel panel assembly profiles;

- a steel profile frame;

- a retractable draught-exclusion system.

Application of GIRs 1 and 6.
Adoption : 2012

7308.40

- Equipment for scaffolding, shuttering, propping or pitpropping

7308.90

- Other

CLASSIFICATION OPINIONS

1. Prefabricated construction elements, the external surface consisting of steel plate, and the internal surface of a steel sheet, of an asbestos-cement panel, or of a sheet of plaster, etc., the space between the two surfaces being filled with insulating material (tarred paperboard, cellular plastics, mineral wool, expanded mica or vermiculite, wood fibres, etc.). *Adoption : 1959*

2. Angles, perforated, prepared for use in the assembly of metal structures (racks, sets of shelves, furniture, stairs, scaffolding, roofing frameworks, etc.), presented separately or in sets :

(i) Not being unassembled or disassembled articles classifiable with assembled articles of the corresponding kind :

Of steel.

(ii) Being unassembled or disassembled articles classifiable with assembled articles of the corresponding kind :

(heading applicable to the assembled article).

See also Opinion 7610.90/1.
Adoption : 1962

3. Iron gratings consisting of E-section margining, supporting bars of a thickness ranging between 2 and 5 mm and a width of 20 to 50 mm, and connection bars, for use as structural elements for stair treads, footplates, etc.
Adoption : 1963

4. Sections of approximately omega-shaped cross-section, with slits at irregular intervals along the back, slightly humped to permit insertion of an anchor strip, intended for embedding in concrete floors, ceilings or walls, for the purpose of securing, by means of special bolts, various types of equipment (machines, railway track, conveyor track, monorails, mobile cranes, piping, etc.).
Adoption : 1963

5. Angles, shapes and sections, cold-formed on roller machines from galvanised sheet or strip, of a thickness of 0.75 to 1 mm, with diagonal indentations on the side walls stamped after cold-forming, in elements of a length of up to 10 m and a width of from 0.30 to 1 m, used in buildings, (in casting concrete floors, etc.).
Adoption : 1967

6. Profiles of indeterminate length, made by cold-folding iron or steel strip, provided throughout their length with holes specially shaped and arranged for fixing to walls, partitions, ceilings, etc. and for attaching electric cables or other conduits, junction boxes, etc.
Adoption : 1967

7. Octagonal steel columns, measuring between 4 and 9 metres, presented unassembled with the following elements :

- tubular brackets, 60 mm in diameter, comprising one or more branches equipped with a fixing or fastening device for the lighting sources

- anchor bolts to attach these columns to the ground, and,

- a pack of accessories to assemble the constituent parts (bolts, nuts, washers).

- The columns and their elements are not fitted with electrical devices or with a lighting source.

Application of GIRs 1 and 6.
Adoption : 2010



Heading 7309

Reservoirs, tanks, vats and similar containers for any material (other than compressed or liquefied gas), of iron or steel, of a capacity exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment.

EXPLANATORY NOTES

73.09 - Reservoirs, tanks, vats and similar containers for any material (other than compressed or liquefied gas), of iron or steel, of a capacity exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment.

These containers are normally installed as fixtures for storage or manufacturing use, e.g., in factories, chemical works, dye works, gasworks, breweries, distilleries and refineries, and to a smaller extent in houses, shops, etc. This heading covers containers for any material **other than** compressed or liquefied gas. Containers for such gas are classified in **heading 73.11**, irrespective of their capacity. Containers fitted with mechanical or thermal equipment such as agitators, heating or cooling coils or electrical elements fall in **Chapter 84** or **85**.

On the other hand containers which have simply been fitted with taps, valves, level gauges, safety valves, manometers, etc., remain in this heading.

The containers may be open or closed, lined with ebonite, plastics or non-ferrous metals, or fitted with heat-insulating covering (e.g., asbestos, slag wool or glass wool), whether or not this lagging is protected by an outer sheet metal casing.

The heading also includes containers insulated by means of double walls or double bottoms **subject** to there being no provision for circulating heating or cooling fluids between the walls. (Containers with such provision are **excluded**, see **heading 84.19**.)

The heading includes :

Petrol or oil reservoirs; vats used in malt-houses for soaking barley; fermentation vats for liquids (wine, beer, etc.); decanting or clarifying vats for liquids of all kinds; vats for tempering and annealing metal goods; water storage tanks (domestic or otherwise) including expansion reservoirs for central heating equipment; containers for solids.

The heading also **excludes** containers specially designed and equipped for carriage by one or more modes of transport (**heading 86.09**).

7309.00

Reservoirs, tanks, vats and similar containers for any material (other than compressed or liquefied gas), of iron or steel, of a capacity exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment.

Heading 7310

Tanks, casks, drums, cans, boxes and similar containers, for any material (other than compressed or liquefied gas), of iron or steel, of a capacity not exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment.

EXPLANATORY NOTES

73.10 - Tanks, casks, drums, cans, boxes and similar containers, for any material (other than compressed or liquefied gas), of iron or steel, of a capacity not exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment.

7310.10 - Of a capacity of 50 l or more

- Of a capacity of less than 50 l :

7310.21 - - Cans which are to be closed by soldering or crimping

7310.29 - - Other

Whereas the preceding heading applies to containers of a capacity exceeding 300 l, normally installed as fixtures in factories, etc., this heading covers sheet or plate iron or steel containers of a capacity

not exceeding 300 l, but of a size easily moved or handled, commonly used for the commercial conveyance and packing of goods, and such containers installed as fixtures.

The larger containers covered by this heading include tar or oil drums; petrol cans; milk churns; casks and drums for alcohol, latex, caustic soda, calcium carbide, dyestuffs or other chemicals. The smaller containers include boxes, cans, tins, etc., mainly used as sales packings for butter, milk, beer, preserves, fruit or fruit juices, biscuits, tea, confectionery, tobacco, cigarettes, shoe cream, medicaments, etc.

Casks and drums in particular may be hooped or otherwise fitted to facilitate rolling or handling, or be reinforced. All the containers may be equipped with tap-holes, bungs, lids or other closures to facilitate filling and emptying.

The heading also includes casks, etc., insulated by means of double walls or bottoms **subject** to there being no provision for circulating heating or cooling fluids between the walls. (Containers with such provisions are **excluded**, see **heading 84.19**.)

This heading also **excludes** :

(a) Articles of **heading 42.02**.

(b) Biscuit barrels, tea caddies, sugar tins and similar household or kitchen containers and canisters (**heading 73.23**).

(c) Cigarette cases, powder compacts, tool boxes and similar containers for personal or professional use (**heading 73.25** or **73.26**).

(d) Safes, cash or deed boxes, and the like (**heading 83.03**).

(e) Articles of **heading 83.04**.

(f) Ornamental boxes (**heading 83.06**).

(g) Containers specially designed and equipped for carriage by one or more modes of transport **(heading 86.09**).

(h) Vacuum flasks and other vacuum vessels complete, of **heading 96.17**.

7310.10

- Of a capacity of 50 l or more
7310.2

- Of a capacity of less than 50 l :
7310.21

-- Cans which are to be closed by soldering or crimping
7310.29

-- Other

Heading 7311

Containers for compressed or liquefied gas, of iron or steel.

EXPLANATORY NOTES

73.11 - Containers for compressed or liquefied gas, of iron or steel.

This heading covers containers of any capacity used for the transport or storage of compressed or liquefied gases (e.g., helium, oxygen, argon, hydrogen, acetylene, carbon dioxide or butane).

Some are strong cylinders, tubes, bottles, etc., tested at high pressure; these may be weldless or welded (e.g., at the bases, round the middle or along the length). Others consist of an inner vessel and one or more outer shells, the intervening space being packed with insulating material, maintained under vacuum or arranged to contain a cryogenic fluid, thus enabling certain liquefied gases to be kept at atmospheric pressure or low pressure.

These containers may be fitted with control, regulating and measuring devices such as valves, taps, pressure gauges, level indicators, etc.

Some (e.g., for acetylene) contain an inert porous substance such as kieselguhr, charcoal or asbestos, with a binder such as cement and sometimes impregnated with acetone, to facilitate filling and to prevent the risk of explosion if acetylene were compressed alone.

In others, such as those designed to supply liquid or gas as required, the liquefied gas is vapourised solely under the influence of the atmospheric temperature, by passing through a coil attached to the inner wall of the outer shell.

The heading **excludes** steam accumulators (**heading 84.04**).

7311.00

Containers for compressed or liquefied gas, of iron or steel.

Heading 7312

Stranded wire, ropes, cables, plaited bands, slings and the like, of iron or steel, not electrically insulated.

EXPLANATORY NOTES

73.12 - Stranded wire, ropes, cables, plaited bands, slings and the like, of iron or steel, not electrically insulated.

7312.10 - Stranded wire, ropes and cables

7312.90 - Other

The heading covers stranded wire (or wire strand) obtained by closely twisting together two or more single wires, and cables and ropes of all sizes which are in turn formed by twisting such strands together. **Provided** they remain essentially articles of iron or steel wire, ropes and cables may be laid on textile cores (hemp, jute, etc.) or covered with textiles, plastics, etc.

Ropes and cables are generally round in cross-section, but the heading also includes bands, usually of rectangular (including square) section, formed by plaiting single or stranded wires.

The heading includes such ropes, cables, bands, etc., whether or not they are cut to length, or fitted with hooks, spring hooks, swivels, rings, thimbles, clips, sockets, etc. (**provided** that they do not thereby assume the character of articles of other headings), or made up into single or multiple slings, strops, etc.

These goods are used for hoisting (with cranes, winches, pulleys, lifts, etc.) in mining, quarrying, shipping, etc.; for hauling or towing; as hawsers; as transmission belting; as rigging or guying for masts, pylons, etc.; as fencing strand; as stone sawing strand (usually three-ply stranded wire of special steel), etc.

The heading **does not include :**

(a) Barbed wire, and loosely twisted, non-barbed, double fencing wire ("torsades") (**heading 73.13**).

(b) Insulated electric cable (**heading 85.44**).

(c) Brake cables, accelerator cables and similar cables suitable for use in vehicles of **Chapter 87**.

7312.10

- Stranded wire, ropes and cables

CLASSIFICATION OPINIONS

1. Stranded steel cable (wireline) being an 8-strand cable (each strand is composed of 49 wires), 12.06 cm in diameter and 242.32 m in length.
The cable, without insulation, is presented on reels. It has compression closures, thimbles or hooks on the ends used as an anchoring point for installation.
It is intended to be coiled around a metallic reel of certain machines for dragging loads.
Application of GIRs 1 and 6.
Adoption : 2021

2. Stranded steel cable (wireline) being a 6-strand cable (each strand is composed of 36 wires), 5.71 cm in diameter and 396.24 m in length.
The cable, without insulation, is presented on reels. It has compression closures, thimbles or hooks on the ends used as an anchoring point for installation.
It is intended to be coiled around a metallic reel of certain machines for dragging loads.
Application of GIRs 1 and 6.
Adoption : 2021

7312.90

- Other

Heading 7313

Barbed wire of iron or steel; twisted hoop or single flat wire, barbed or not, and loosely twisted double wire, of a kind used for fencing, of iron or steel.

EXPLANATORY NOTES

73.13 - Barbed wire of iron or steel; twisted hoop or single flat wire, barbed or not, and loosely twisted double wire, of a kind used for fencing, of iron or steel.

This heading covers the following types of fencing or enclosure hoop and wire (wire as defined in Chapter Note 2) :

(1) Barbed wire consisting of iron or steel wires twisted together rather loosely, with barbs or sometimes small sharp pieces of strip metal at frequent intervals.

(2) Narrow flat hoop or wire toothed at intervals and used as an alternative to barbed wire.

(3) Twisted hoop or single flat wire. This ribbon fencing wire is often used under the name of "torsades". It consists of narrow hoop, strip or flat wire which may be lightly twisted. These goods fall in the heading whether or not they are barbed.

(4) Loosely twisted wire consisting of two wires of iron or steel and clearly suitable for fencing uses. This is also known as "torsades".

The heading also includes "dannerts" and similar barbed wire entanglements, sometimes already mounted on wooden or metal poles, used for military purposes, for fencing, etc.

The hoop and wire used are generally galvanised or otherwise coated (e.g., covered with plastics).

The heading **excludes** closely twisted stranded wire or cable, also sometimes used for fencing (**heading 73.12**).

7313.00

Barbed wire of iron or steel; twisted hoop or single flat wire, barbed or not, and loosely twisted double wire, of a kind used for fencing, of iron or steel.

Heading 7314

Cloth (including endless bands), grill, netting and fencing, of iron or steel wire; expanded metal of iron or steel.

EXPLANATORY NOTES

73.14 - Cloth (including endless bands), grill, netting and fencing, of iron or steel wire; expanded metal of iron or steel (+).

- Woven cloth :

7314.12 - - Endless bands for machinery, of stainless steel

7314.14 - - Other woven cloth, of stainless steel

7314.19 - - Other

7314.20 - Grill, netting and fencing, welded at the intersection, of wire with a maximum cross-sectional dimension of 3 mm or more and having a mesh size of 100 cm^2 or more

- Other grill, netting and fencing, welded at the intersection :

7314.31 - - Plated or coated with zinc

7314.39 - - Other

- Other cloth, grill, netting and fencing :

7314.41 - - Plated or coated with zinc

7314.42 - - Coated with plastics

7314.49 - - Other

7314.50 - Expanded metal

(A) CLOTH (INCLUDING ENDLESS BANDS), GRILL, NETTING AND FENCING

The products of this group are, in the main, produced by interlacing, interweaving, netting, etc., iron or steel wire by hand or machine. The methods of manufacture broadly resemble those used in the textile industry (for simple warp and weft fabrics, knitted or crocheted fabrics, etc.).

The group includes wire grill in which the wires are welded at the points of contact or bound at those points by means of an additional wire, whether or not the wires are also interlaced.

The term “wire” means hot- or cold-formed products of any cross-sectional shape, of which no cross-sectional dimension exceeds 16 mm, such as rolled wire, wire rod and flat strip cut from sheet (see Note 2 to this Chapter).

The material of the heading may be used for many purposes e.g., for the washing, drying or filtering of many materials; to make fencing, food protecting covers and insect screening, safety guards for machinery, conveyor belting, shelving, mattresses, upholstery, sieves and riddles, etc.; and for reinforcing concrete, etc.

The material may be in rolls, in endless bands (e.g., for belting) or in sheets, whether or not cut to shape; it may be of two or more ply.

(B) EXPANDED METAL

Expanded metal is a network of diamond shaped meshes formed by stretching sheet or strip metal in which parallel incisions have been cut.

The material is fairly rigid and strong, and is used instead of wire grill or perforated sheets for fencing, safety guards for machines, flooring of foot-bridges or crane runways, reinforcement of various building materials (e.g., concrete, cement, plaster, glass), etc.

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Apart from articles made up of wire netting which are **excluded** generally from this heading, the following fall in other Chapters, viz. :

(a) Woven fabric of metal thread, of a kind used in articles of apparel, as furnishing fabric or the like (**heading 58.09**).

(b) Plastics or asbestos reinforced with wire mesh, wired glass (**Chapters 39, 68** and **70**, respectively); bricanion lath (a wire mesh incorporated in kilned clay and used for building purposes) (**Chapter 69**); paper roofing sheets usually tarred and reinforced with wire mesh (**Chapter 48**). However, woven wire, etc., lightly coated in plastics (even if the meshes are filled), and wire netting or grill with a backing of paper as used in cementing, plastering, etc., remain in this heading.

(c) Wire cloth, etc., made into the form of machinery parts, e.g., by assembly with other materials (**Chapter 84** or **85**).

(d) Wire cloth, etc., made up into hand sieves and riddles (**heading 96.04**).

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Subheading Explanatory Note.

Subheadings 7314.12, 7314.14 and 7314.19

The term “woven cloth” applies only to wire products manufactured in the same manner as textile woven fabrics, with two thread systems crossing at right angles.

Cloth is generally plain weave, although it may also be twill or other weave. The weft is a continuous strand which runs back and forth across the warp. Cloth is produced on continuous action looms. The points at which the strands intersect may be reinforced (for example, by binding with an extra strand). Wovens of this kind may consist of relatively widely-spaced strands, giving a square-mesh grill effect. The crimped varieties are made from crimped strands; the crimps interlock, making the points of intersection more rigid. Alternatively, the cloth may be woven from straight strands, then pressed; the resulting deformation at the points of intersection reinforces the weave.

Cloth may be put up in rolls or in sheets cut to length or cut to shape; the edges of the sheets may be welded or brazed.

7314.1

- Woven cloth :

7314.12

-- Endless bands for machinery, of stainless steel

7314.14

-- Other woven cloth, of stainless steel

7314.19

-- Other

7314.20

- Grill, netting and fencing, welded at the intersection, of wire with a maximum cross-sectional dimension of 3 mm or more and having a mesh size of 100 cm² or more

7314.3

- Other grill, netting and fencing, welded at the intersection :

7314.31

-- Plated or coated with zinc

7314.39

-- Other

7314.4

- Other cloth, grill, netting and fencing :

7314.41

-- Plated or coated with zinc

7314.42

-- Coated with plastics

7314.49

-- Other

CLASSIFICATION OPINIONS

1. Conveyor belting in the length, in various widths (15 cm or more), consisting of a series of slightly flattened spirals of carbon steel wire, each linked to the next by inserting a crimped section of similar wire and welding its ends to those of one of the spirals, each spiral thus being free to rotate round the crimped sections.
Adoption : 1967

7314.50

- Expanded metal

Heading 7315

Chain and parts thereof, of iron or steel.

EXPLANATORY NOTES

73.15 - Chain and parts thereof, of iron or steel.

- Articulated link chain and parts thereof :

7315.11 - - Roller chain

7315.12 - - Other chain

7315.19 - - Parts

7315.20 - Skid chain

- Other chain :

7315.81 - - Stud-link

7315.82 - - Other, welded link

7315.89 - - Other

7315.90 - Other parts

This heading covers chains of cast iron (usually malleable cast iron), wrought iron or steel, regardless of their dimensions, process of manufacture or, in general, their intended use.

It includes articulated link chain (e.g., roller chain, inverted tooth ("silent") chain and Galle chain), non-articulated link chain including stud-link chain (whether forged, cast, welded, stamped from sheet or strip metal or made from wire, etc.), and ball chain.

The heading includes :

(1) Transmission chains for cycles, automobiles or machinery.

(2) Anchor or mooring chains; lifting, haulage or towing chains; automobile skid chains.

(3) Mattress chains, chains for sink stoppers, lavatory cisterns, etc.

All these chains may be fitted with terminal parts or accessories (e.g., hooks, spring hooks, swivels, shackles, sockets, rings and split rings and tee pieces). They may or may not be cut to length, or obviously intended for particular uses.

Iron or steel parts of chains specialised as such e.g., side links, rollers, spindles, etc., for articulated chain, links and shackles for non-articulated chain, also fall in this heading.

The heading **does not cover** :

(a) Chains having the character of imitation jewellery in the sense of **heading 71.17** (e.g., watch chains and trinket chains).

(b) Chains fitted with cutting teeth, etc., and used as chain saws or cutting tools (**Chapter 82**), or other articles in which chains play a subsidiary role such as bucket chains, conveyor hook chains or stretchers for textile finishing.

(c) Door guards fitted with chains (**heading 83.02**).

(d) Surveying chains (**heading 90.15**).

7315.1

- Articulated link chain and parts thereof :

7315.11

-- Roller chain

7315.12

-- Other chain

7315.19

-- Parts
7315.20

- Skid chain
7315.8

- Other chain :
7315.81

-- Stud-link
7315.82

-- Other, welded link
7315.89

-- Other
7315.90

- Other parts
Heading 7316

Anchors, grapnels and parts thereof, of iron or steel.
EXPLANATORY NOTES

73.16 - Anchors, grapnels and parts thereof, of iron or steel.

This heading refers **only** to the type of **anchors** used for mooring ships of all tonnages, offshore-platforms, buoys, beacons, floating mines, etc.; it **does not include** other articles sometimes called “anchors” (e.g., those used for joining masonry or for fixing rafters to the walls of buildings).

Anchors may be fitted with a cross piece or stock, sometimes of wood, and the arms of flukes may or may not be rigid.

The heading also covers **grapnels**; these are smaller than anchors and have more than two arms (usually four) but no stock. They are used for anchoring small craft, to seize hold of other craft, etc., to retrieve sunken objects and to obtain a grip on trees, rocks, etc.

The heading also covers **parts** of anchors or grapnels.

7316.00

Anchors, grapnels and parts thereof, of iron or steel.
Heading 7317

Nails, tacks, drawing pins, corrugated nails, staples (other than those of heading 83.05) and similar articles, of iron or steel, whether or not with heads of other material, but excluding such articles with heads of copper.
EXPLANATORY NOTES

73.17 - Nails, tacks, drawing pins, corrugated nails, staples (other than those of heading 83.05) and similar articles, of iron or steel, whether or not with heads of other material, but excluding such articles with heads of copper.

The heading covers :

(A) **Nails, tacks, staples (other than those of heading 83.05) and similar articles**, usually manufactured by the following methods :

(1) Cold pressing from wire of the required thickness. Such wire nails usually have flat or rounded heads, though some are headless and pointed at one or both ends. Tapered shank nails and tacks are made in the same way except that they are sheared obliquely.

(2) Forging (by hand or machine) from an iron shank of the required thickness which is hammered to a point, after which the head is stamped out by a nail-making machine.

(3) Cutting from sheet or strip followed, if necessary, by finishing either mechanically or by hand.

(4) Hot-rolling bars in nail mills which shape the head and shank simultaneously.

(5) Die stamping of the head from a small disc of metal, the previously prepared shank being fixed at the same time. This process is normally used for nails with rounded heads such as upholstery nails.

(6) Casting.

There are many types of these goods including :

Wire nails of uniform cross-section as used by carpenters, etc.; moulders' nails; glazing nails; cobblers' nails; staples (insulated or not) pointed at both ends, for electric wiring, picture frames, fencing, etc. and other staples not presented in strips; pointed screw-nails with twisted shanks and unslotted heads; tacks and sprigs for cobblers, upholsterers, etc.; hobnails for heavy duty footwear; nails for pictures, mirrors, fencing, etc.; unthreaded nails for shoeing animals; unthreaded frost studs for animals; small triangles, etc. (usually of tin-plate) used for fixing window-panes; decorative studs for upholsterers; studs for marking railway sleepers.

(B) **Other special types of nails, spikes,** etc., such as :

(1) **Forged cramps or dogs** (generally with angular shanks which are bent at right angles and pointed at the ends) used for fastening masonry, heavy timbers, etc.; dog spikes used for fixing the rails to the sleepers.

(2) **Corrugated nails** with one edge serrated or bevelled, for assembling wooden parts; they are classified in this heading even if presented in the length (in the form of strip).

(3) **Hook-nails and ring nails** which may be stamped from sheet metal or forged. One end is pointed and the other bent at right angles or into a ring used to suspend various objects.

(4) **Drawing pins** of all kinds, for drawing-boards, offices, etc., with flat or rounded heads.

(5) **Carding tacks** for textile carding machines and the like.

All the above-mentioned goods remain in the heading whether or not they have heads of non-ferrous metal (**other than** copper or its alloys) or of other substances (porcelain, glass, wood, rubber, plastics, etc.), and whether or not they have been plated, copper-plated, gilded, silvered, varnished, etc., or covered with other material.

The heading **does not include** :

(a) Screw hooks, screw rings, pointed drive screws with slotted heads and unpointed drive screws (**heading 73.18**).

(b) Shoe-protectors, with or without affixing points; picture hooks with fixing nails; belt fasteners (**heading 73.26**).

(c) Nails, tacks, etc., with heads of copper or copper alloys (**heading 74.15**).

(d) Staples in strips (e.g., for offices, upholstery, packaging) (**heading 83.05**).

(e) Piano pegs (**heading 92.09**).

7317.00

Nails, tacks, drawing pins, corrugated nails, staples (other than those of heading 83.05) and similar articles, of iron or steel, whether or not with heads of other material, but excluding such articles with heads of copper.

Heading 7318

Screws, bolts, nuts, coach screws, screw hooks, rivets, cotters, cotter-pins, washers (including spring washers) and similar articles, of iron or steel.

EXPLANATORY NOTES

73.18 - Screws, bolts, nuts, coach screws, screw hooks, rivets, cotters, cotter-pins, washers (including spring washers) and similar articles, of iron or steel (+).

- Threaded articles :

7318.11 - - Coach screws

7318.12 - - Other wood screws

7318.13 - - Screw hooks and screw rings

7318.14 - - Self-tapping screws

7318.15 - - Other screws and bolts, whether or not with their nuts or washers

7318.16 - - Nuts

7318.19 - - Other

- Non-threaded articles :

7318.21 - - Spring washers and other lock washers

7318.22 - - Other washers

7318.23 - - Rivets

7318.24 - - Cotters and cotter-pins

7318.29 - - Other

(A) SCREWS, BOLTS AND NUTS

Bolts and nuts (including bolt ends), screw studs and other screws for metal, whether or not threaded or tapped, screws for wood and coach-screws are threaded (in the finished state) and are used to assemble or fasten goods so that they can readily be disassembled without damage.

Bolts and screws for metal are cylindrical in shape, with a close and only slightly inclined thread; they are rarely pointed, and may have slotted heads or heads adapted for tightening with a spanner or they may be recessed. A bolt is designed to engage in a nut, whereas screws for metal are more usually screwed into a hole tapped in the material to be fastened and are therefore generally threaded throughout their length whereas bolts usually have a part of the shank unthreaded.

The heading includes all types of fastening bolts and metal screws regardless of shape and use, including **U-bolts**, **bolt ends** (i.e., cylindrical rods threaded at one end), **screw studs** (i.e., short rods threaded at both ends), and **screw studding** (i.e., rods threaded throughout).

Nuts are metal pieces designed to hold the corresponding bolts in place. They are usually tapped throughout but are sometimes blind. The heading includes wing nuts, butterfly nuts, etc. Lock nuts (usually thinner and castellated) are sometimes used with bolts.

Blanks for bolts and untapped nuts are also included in the heading.

Screws for wood differ from bolts and screws for metal in that they are tapered and pointed, and they have a steeper cutting thread since they have to bite their own way into the material. Further, wood screws almost always have slotted or recessed heads and they are never used with nuts.

Coach screws (screw spikes) are large wood screws with square or hexagonal unslotted heads. They are used to fix railway lines to the sleepers and to assemble rafters and similar heavy woodwork.

The heading includes **self-tapping (Parker) screws**; these resemble wood screws in that they have a slotted head and a cutting thread and are pointed or tapered at the end. They can therefore cut their own passage into thin sheets of metal, marble, slate, plastics, etc.

The heading also covers all **unpointed drive screws (or screw nails)**, and also those which are pointed **provided** that their heads are slotted. Drive screws have very steep threads and are often driven into the material with a hammer, but often can be withdrawn only by use of a screwdriver.

This group **excludes** :

(a) Pointed screw-nails with unslotted heads (**heading 73.17**).

(b) Screw stoppers (**heading 83.09**).

(c) Threaded mechanisms, sometimes called screws, used to transmit motion, or otherwise to act as an active part of a machine, (e.g., Archimedian screws; worm mechanisms and threaded shafts for presses; valve and cock closing mechanisms, etc.) (**Chapter 84**).

(d) Piano pegs and similar threaded parts of musical instruments (**heading 92.09**).

(B) SCREW HOOKS AND SCREW RINGS

These are used to suspend or fix other objects and differ from the hook-nails of the preceding heading only in that they are threaded.

(C) RIVETS

Rivetsdiffer from the goods described above in that they are non-threaded; they are usually cylindrical with round, flat, pan shaped or countersunk heads.

They are used for the permanent assembly of metal parts (e.g., in large frameworks, ships and containers).

The heading **excludes** tubular or bifurcated rivets for all purposes (**heading 83.08**) but rivets which are only partly hollow remain classified in this heading.

(D) COTTER-PINS AND COTTERS

Cotter-pins, usually of bifurcated form, are used for fitting in holes in spindles, shafts, bolts, etc., to prevent objects mounted thereon from moving along them.

Cotters and taper pins are used for similar purposes but are usually larger and more solid, they may be designed, like cotter-pins, to pass through holes (in which case they are often wedge-shaped), or for fitting into grooves or slots cut round the shaft, spindle, etc., in which case they may be of various shapes such as horseshoe or conical.

Circlipsare produced in different forms ranging from a simple ring with a gap to more complex shapes (with eyelets or notches to facilitate application by means of special pliers). They are always intended, whatever their shape, to be placed in a groove, either around a shaft or inside a cylindrical bore, to prevent the relative movement of parts.

(E) WASHERS

Washers are usually small, thin discs with a hole in the centre; they are placed between the nut and one of the parts to be fixed to protect the latter. They may be plain, cut, split (e.g., Grower's spring washers), curved, cone shaped, etc.

°

° °

Subheading Explanatory Notes.

Subheading 7318.12

The term "screw" **does not cover** screw hooks and screw rings; these are classified in **subheading 7318.13**.

Subheading 7318.14

This subheading covers the **Parker** (self-tapping) **screws** described in Explanatory Note to heading 73.18, Part (A), eighth paragraph.

7318.1

- Threaded articles :
7318.11

-- Coach screws
7318.12

-- Other wood screws
7318.13

-- Screw hooks and screw rings
7318.14

-- Self-tapping screws
7318.15

-- Other screws and bolts, whether or not with their nuts or washers
7318.16

-- Nuts
7318.19

-- Other
CLASSIFICATION OPINIONS

1. Articles consisting of a shank of hardened steel, pointed at one end so as to be driven in like a nail, the other end being threaded or tapped.
Adoption : 1963

7318.2

- Non-threaded articles :
7318.21

-- Spring washers and other lock washers
7318.22

-- Other washers
7318.23

-- Rivets
7318.24

-- Cotters and cotter-pins
7318.29

-- Other
CLASSIFICATION OPINIONS

1. Vibration absorbing mountings consisting of :

(i) a steel round-head stud with a cotter-pin hole in the shank;

(ii) an unhardened vulcanised rubber sleeve, and if necessary one or two washers, which fit over the stud shank;

(iii) a steel cam with two semi-helicoidal paths terminating in locking slots;

(iv) a cotter-pin which is inserted in the stud shank, compresses the rubber element when turned across the cam, and locks the complete device by fitting into the slots;

used, inter alia, for fixing sensitive instruments, etc., to the walls of the cabinets or cases in which they are contained.

Application of Note 1 (g) to Section XVI. *See also Opinions 4016.99/1 and 8487.90/5. Adoption : 1966*

Heading 7319

Sewing needles, knitting needles, bodkins, crochet hooks, embroidery stilettos and similar articles, for use in the hand, of iron or steel; safety pins and other pins of iron or steel, not elsewhere specified or included.

EXPLANATORY NOTES

73.19 - Sewing needles, knitting needles, bodkins, crochet hooks, embroidery stilettos and similar articles, for use in the hand, of iron or steel; safety pins and other pins of iron or steel, not elsewhere specified or included.

7319.40 - Safety pins and other pins

7319.90 - Other

(A) SEWING NEEDLES, KNITTING NEEDLES, BODKINS, CROCHET HOOKS, EMBROIDERY STILETTOS AND SIMILAR ARTICLES

This heading covers needles used by hand for sewing, knitting, embroidering, crochet work, carpet-making, etc.

It includes :

(1) **Sewing needles**, darning needles, embroidery needles, packing needles, mattress needles, sail-making needles, book-binding needles, upholstery needles, carpet-making and rug-making needles, cobblers' needles (including awls with an eye), needles with triangular ends for leatherwork, etc.

(2) **Knitting needles** (long needles without eyes).

(3) **Bodkins** of all kinds (including football lacers) for threading laces, string, ribbon, etc.

(4) **Crochet hooks** (needles tapered to a hook at one end and used for crochet-work).

(5) **Embroidery stilettos**, used to perforate the fabric in embroidery work.

(6) **Netting needles**, pointed at one or both ends.

Certain of these articles are sometimes fitted with handles.

The heading also includes **blanks**, e.g., unfinished shanks (whether or not with eyes); needles with eyes but not sharpened or polished; embroidery stiletto and bodkin blades not yet fitted with a handle.

The heading **does not cover** :

(a) Shoemakers' awls without eyes, and stiletto-type leather-working, office, etc., pricking or piercing tools (**heading 82.05**).

(b) Machine needles for knitting, lace-making, embroidery, etc. (**heading 84.48**); sewing machine needles (**heading 84.52**).

(c) Pick-up cartridge needles (**heading 85.22**).

(d) Needles for medical, surgical, dental or veterinary use (**heading 90.18**).

(B) SAFETY PINS AND OTHER PINS NOT ELSEWHERE

SPECIFIED OR INCLUDED

The pins of this group may have heads or other accessory parts of other base metals, glass, plastics, etc., **provided** that they do not become articles of an ornamental character and that they remain essentially iron or steel pins. The group includes :

(1) Safety pins.

(2) Ordinary pins.

The group also includes pointed shanks for brooches, badges (whether or not with swivel joints or connections), hatpins, etc.; pins and pointed shanks for fixing labels, mounting insects, etc.

The heading **does not cover** :

(a) Tie-pins, badges, etc., hat-pins and similar articles of personal adornment (**heading 71.17**).

(b) Drawing pins (**heading 73.17**).

(c) Hair-slides; hair-pins; curling pins, curling grips, hair-curlers and the like (**heading 85.16** or **96.15**).

7319.40

- Safety pins and other pins

7319.90

- Other

Heading 7320

Springs and leaves for springs, of iron or steel.

EXPLANATORY NOTES

73.20 - Springs and leaves for springs, of iron or steel.

7320.10 - Leaf-springs and leaves therefor

7320.20 - Helical springs

7320.90 - Other

The heading covers iron or steel springs of all types, irrespective of their use, **other than** clock or watch springs of **heading 91.14**.

Springs are made from sheet metal, wire or rod of an elastic quality, in such a way that they have the property of returning to their original form even after considerable displacement.

The heading includes the following types of springs :

(A) **Leaf-springs** (single or laminated) chiefly used in the suspension systems of vehicles (e.g., railway locomotives and rolling stock, automobiles and carts).

(B) **Helical springs** of which the two major groups are :

(1) **Helical coil springs**, comprising compression, tension and torsion springs, made from wire or rod of round or rectangular section. They are used for numerous purposes (e.g., in vehicles and general engineering).

(2) **Volute springs**, usually conical and made from wire or rod of rectangular or oval section or from flat strip. They are mainly used in shock-absorbers, buffers on rolling stock couplings, secateurs, hair clippers, etc.

(C) **Flat springs and flat spiral springs** as used in spring operated motors, in locks, etc.

(D) **Discs springs and ring springs** (as used in railway buffers, etc.).

Springs may be equipped with U-bolts (e.g., for leaf-springs) or other fittings for assembly or attachment.

Leaves for springs are also classified in this heading.

The heading **excludes** :

(a) Springs for shafts or sticks of umbrellas or sunshades (**heading 66.03**).

(b) Spring washers (**heading 73.18**).

(c) Springs assembled with other articles to form, for example, automatic door closers (**heading 83.02**), identifiable parts of machinery (**Section XVI**) or of the apparatus and instruments of**Chapters 90, 91**, etc.

(d) Shock absorbers, and torsion bars of **Section XVII**.

7320.10

- Leaf-springs and leaves therefor

7320.20

- Helical springs

7320.90

- Other

Heading 7321

Stoves, ranges, grates, cookers (including those with subsidiary boilers for central heating), barbecues, braziers, gas-rings, plate warmers and similar non-electric domestic appliances, and parts thereof, of iron or steel.

EXPLANATORY NOTES

73.21 - Stoves, ranges, grates, cookers (including those with subsidiary boilers for central heating), barbecues, braziers, gas-rings, plate warmers and similar non-electric domestic appliances, and parts thereof, of iron or steel.

- Cooking appliances and plate warmers :

7321.11 - - For gas fuel or for both gas and other fuels

7321.12 - - For liquid fuel

7321.19 - - Other, including appliances for solid fuel

- Other appliances :

7321.81 - - For gas fuel or for both gas and other fuels

7321.82 - - For liquid fuel

7321.89 - - Other, including appliances for solid fuel

7321.90 - Parts

This heading covers a group of appliances which meet all of the following requirements :

(i) be designed for the production and utilisation of heat for space heating, cooking or boiling purposes;

(ii) use solid, liquid or gaseous fuel, or other source of energy (e.g., solar energy);

(iii) be normally used in the household or for camping.

These appliances are identifiable, according to type, by one or more characteristic features such as overall dimensions, design, maximum heating capacity, furnace or grate capacity in the case of solid fuel, size of tank where liquid fuel is used. The yardstick for judging these characteristics is that the appliances in question must not operate at a level in excess of household requirements.

This heading includes :

(1) Stoves, heaters, grates and fires of the type used for space heating, braziers, etc.

(2) Gas and oil radiators incorporating heating elements, for the same use.

(3) Kitchen ranges, stoves and cookers.

(4) Ovens incorporating heating elements (e.g., for roasting, pastry and bread-making).

(5) Spirit or pressure stoves, camping stoves, travelling stoves, etc.; gas-rings; plate warmers incorporating provision for heating elements.

(6) Wash boilers with grates or other heating elements.

The heading also covers stoves incorporating subsidiary boilers for central heating. On the other hand the heading **excludes** appliances also using electricity for heating purposes, as in the case of combined gas-electric cookers for example (**heading 85.16**).

All these articles may be enamelled, nickel-plated, copper-plated, etc., fitted with accessories of other base metals, or lined with heat-resisting materials.

The heading also covers clearly identifiable iron or steel parts of the above-mentioned appliances (e.g., internal oven shelves, cooking-plates and rings, ash-pans, removable fire-boxes and fire-baskets, gas burners, oil burners, doors, grills, feet, guard rails, towel rails and plate racks).

The heading also **excludes** :

(a) Central heating radiators, air heaters or hot air distributors, and parts thereof, of **heading 73.22**.

(b) Ovens and boilers not adapted for fitting with heating elements (**heading 73.23**).

(c) Blow lamps and portable forges (**heading 82.05**).

(d) Furnace burners (**heading 84.16**).

(e) Industrial or laboratory furnaces and ovens of **heading 84.17**.

(f) Heating, cooking, roasting, distilling, etc., machinery or plant, and similar laboratory equipment of **heading 84.19**. That heading covers, *inter alia* :

(i) Non-electrical instantaneous or storage water-heaters (whether for domestic or non-domestic use).

(ii) Certain specialised heating, cooking, etc., apparatus which are not normally used in the household (for example, counter-type coffee percolators; deep fat friers; sterilisers, warming cupboards, drying cabinets and other steam or indirectly heated apparatus, often incorporating heating coils, double walls, double bottoms, etc.).

(g) Electro-thermic apparatus of **heading 85.16**.

7321.1

- Cooking appliances and plate warmers :

7321.11

-- For gas fuel or for both gas and other fuels

7321.12

-- For liquid fuel

7321.19

-- Other, including appliances for solid fuel

CLASSIFICATION OPINIONS

1. Non-electric domestic barbecue, of stainless steel, operating by means of steel mirrors and using only solar energy for cooking.
Application of GIRs 1 and 6.
Adoption : 2001

7321.8

- Other appliances :

7321.81

-- For gas fuel or for both gas and other fuels

7321.82

-- For liquid fuel

7321.89

-- Other, including appliances for solid fuel

CLASSIFICATION OPINIONS

1. Charcoal chimney starter in the form of a steel drum with openings at both ends, fitted with a handle on the side and divided into two interior chambers by a perforated metal plate. The cylinder is 275 mm high and 170 mm in diameter. The lower chamber is perforated to facilitate air circulation. Charcoal is placed in the top chamber while the bottom chamber is filled with paper. The charcoal starter is placed on a barbecue or grill, and the paper is ignited. The product's design creates a chimney effect that accelerates the ignition and heating of the charcoal until it is ready to be scattered onto the barbecue or grill.
Application of GIRs 1 and 6.
Adoption : 2013




7321.90

- Parts

Heading 7322

Radiators for central heating, not electrically heated, and parts thereof, of iron or steel; air heaters and hot air distributors (including distributors which can also distribute fresh or conditioned air), not electrically heated, incorporating a motor-driven fan or blower, and parts thereof, of iron or steel.

EXPLANATORY NOTES

73.22 - Radiators for central heating, not electrically heated, and parts thereof, of iron or steel; air heaters and hot air distributors (including distributors which can also distribute fresh or conditioned air), not electrically heated, incorporating a motor-driven fan or blower, and parts thereof, of iron or steel.

- Radiators and parts thereof :

7322.11 - - Of cast iron

7322.19 - - Other

7322.90 - Other

This heading includes :

(1) **Radiators** for central heating, i.e., space heating appliances consisting usually of an assembly of "sections" of flanged or gilled tubes or of hollow panels through which the water or steam from the boiler is circulated. Such radiators may be enclosed in casings of wood or metal.

This group also includes apparatus consisting of a combination of a radiator through which hot or cold water is circulated and of ejector nozzles through which conditioned air under pressure is passed. The two components are mounted in a common housing fitted with a grille. When the radiator unit is turned off, this apparatus serves as a distributor of conditioned air.

The heading **does not cover** air conditioning units (**heading 84.15**) or electric radiators (**heading 85.16**).

(2) **Identifiable "sections" and other parts of radiators.**

The following are **not** regarded as parts :

(a) Pipes and fittings to connect up central heating boilers and radiators (**headings 73.03** to **73.07**).

(b) Radiator stands (**heading 73.25** or **73.26**).

(c) Steam or hot water taps, cocks, etc. (**heading 84.81**).

(3) **Air heaters**, using any type of fuel (e.g., coal, fuel oil, gas).

These self-contained heaters, fixed or mobile, consist mainly of a combustion chamber (with burner) or a grate, a heat exchanger (tube assembly, etc.) which transfers the heat given off by the combustion gases passing through it to the air travelling along its outer surface, and a motor-driven fan or blower. Generally these heaters are furnished with an exhaust flue for burnt gases.

Air heaters (fixed or mobile), which generate hot air for direct diffusion, differ from radiators incorporating their own heating elements (as described in the Explanatory Note to heading 73.21) by the fact that they incorporate a blowing device (fan or blower) which serves to distribute or direct the supply of hot air to the various areas which are to be heated.

Air heaters may be equipped with various ancillary devices such as burners (with their pump), electric fans to supply air to the burners, regulating or control instruments (thermostats, pyrostats, etc.), air filters, etc.

(4) **Hot air distributors** which consist of an air heating element usually comprising an assembly of flanged or gilled tubes and an electric fan, mounted in a common housing provided with air outlets (grille or adjustable shutters).

These distributors are designed for connection to a central heating boiler and may be designed to stand on the ground, to be fixed to a wall or to be hung from the ceiling, from beams, pillars, etc.

Some of these appliances may also be provided with an outside-air intake enabling them to be used as fresh air distributors when their heating element is turned off.

The heading **does not**, however, **include** distributors of conditioned air which mix, under the control of a room thermostat, hot and cold air supplied under high pressure and which consist essentially of a mixing chamber and two inlet nozzles fitted with control valves operated by pneumatic actuators, the whole being mounted in a common housing and incorporating neither a radiator nor a motor-driven fan or blower (**heading 84.79**).

*

* *

Air heaters and hot air distributors are included in this heading wherever they are intended to be used. The heading therefore covers air heaters for space heating and for drying various materials (fodder, grain, etc.), and apparatus for heating vehicles of Section XVII. However, hot air

distributors which use the heat produced by the engine of the vehicle and must necessarily be connected to the engine, fall to be classified in **Section XVII** by application of Note 1 (g) to Section XV and Note 3 to Section XVII.

(5) **Identifiable parts** of air heaters or hot air distributors (heat exchangers, nozzles, direct diffusion conduits, dampers, grilles, etc.).

The following are, however, **not** regarded as **parts** :

(a) Pipes and fittings to connect up boilers with certain hot air distributors (**headings 73.03 to 73.07**).

(b) Fans (**heading 84.14**), air filters (**heading 84.21**), checking and automatically controlling appliances (**Chapter 90**), etc.

7322.1

- Radiators and parts thereof :

7322.11

-- Of cast iron

7322.19

-- Other

7322.90

- Other

Heading 7323

Table, kitchen or other household articles and parts thereof, of iron or steel; iron or steel wool; pot scourers and scouring or polishing pads, gloves and the like, of iron or steel.

EXPLANATORY NOTES

73.23 - Table, kitchen or other household articles and parts thereof, of iron or steel; iron or steel wool; pot scourers and scouring or polishing pads, gloves and the like, of iron or steel.

7323.10 - Iron or steel wool; pot scourers and scouring or polishing pads, gloves and the like

- Other :

7323.91 - - Of cast iron, not enamelled

7323.92 - - Of cast iron, enamelled

7323.93 - - Of stainless steel

7323.94 - - Of iron (other than cast iron) or steel, enamelled

7323.99 - - Other

(A) TABLE, KITCHEN OR OTHER HOUSEHOLD ARTICLES

AND PARTS THEREOF

This group comprises a wide range of iron or steel articles, **not more specifically covered** by other headings of the Nomenclature, used for table, kitchen or other household purposes; it includes the same goods for use in hotels, restaurants, boarding-houses, hospitals, canteens, barracks, etc.

These articles may be cast, or of iron or steel sheet, plate, hoop, strip, wire, wire grill, wire cloth, etc., and may be manufactured by any process (moulding, forging, punching, stamping, etc.). They may be fitted with lids, handles or other parts or accessories of other materials **provided** that they retain the character of iron or steel articles.

The group includes :

(1) **Articles for kitchen use** such as saucepans, steamers, pressure cookers, preserving pans, stew pans, casseroles, fish kettles; basins; frying pans, roasting or baking dishes and plates; grid-irons, ovens **not** designed to incorporate heating elements; kettles; colanders; frying baskets; jelly or pastry moulds; water jugs; domestic milk cans; kitchen storage tins and canisters (bread bins, tea caddies, sugar tins, etc.); salad washers; kitchen type capacity measures; plate racks, funnels.

(2) **Articles for table use** such as trays, dishes, plates, soup or vegetable dishes, sauce tureens; sugar basins, butter dishes; milk or cream jugs; hors-d'oeuvres dishes; coffee pots and percolators (but **not including** domestic percolators provided with a heat source (**heading 73.21**)), tea pots; cups, mugs, tumblers; egg-cups, finger bowls; bread or fruit dishes and baskets; tea pot or similar stands; tea-strainers, cruets; knife-rests; wine cooling buckets, etc., wine pouring cradles; serviette rings, table cloth clips.

(3) **Other household articles** such as wash coppers and boilers; dustbins and mobile garbage bins (including those for outside use), buckets, coal scuttles and hods; watering-cans; ashtrays; hot water bottles; bottle baskets; movable boot-scrapers; stands for flat irons; baskets for laundry, fruit, vegetables, etc.; letter-boxes; clothes hangers, shoe trees; luncheon boxes.

The group also includes iron or steel **parts** of the articles listed above, such as lids, grips, handles, separating compartments for pressure cookers, etc.

(B) IRON OR STEEL WOOL; POT SCOURERS AND SCOURING OR POLISHING PADS, GLOVES AND THE LIKE

Iron or steel wool consists of very fine wire or strip matted together and usually put up in packets ready for retail sale.

Pot scourers, scouring or polishing pads, gloves and the like are made up from wire, strip, steel wool, etc., sometimes fitted with a handle; **provided** that they are essentially metal articles, these goods remain in the heading whether or not they are interwoven with textile materials.

Except for iron or steel wool which has a variety of uses, these goods are mainly used in the household (e.g., for scouring kitchen utensils or sanitary appliances, for polishing metal articles, for the care of floor-boards, parquet flooring, other wood floor coverings and other wood articles).

*

* *

The heading **excludes** :

(a) Cans, boxes and similar containers, of **heading 73.10**.

(b) The stoves, grates, kitchen ranges, cookers, fires, etc., covered by **heading 73.21**.

(c) Waste paper baskets (**heading 73.25** or **73.26** as the case may be).

(d) Household articles having the character of tools, e.g., shovels of all kinds; cork-screws; cheese graters, etc.; larding needles; can openers; nut-crackers; bottle openers; curling irons, pressing irons; fire-tongs; egg whisks; waffling irons; coffee-mills, pepper-mills; mincers; juice extractors, vegetable pressers, vegetable mashers (**Chapter 82**).

(e) Cutlery and spoons, forks, ladles, etc., of **headings 82.11 to 82.15**.

(f) Safes, strong boxes, cash and deed boxes (**heading 83.03**).

(g) Ornaments (**heading 83.06**).

(h) Household scales (**heading 84.23**).

(ij) Household electrical equipment of **Chapter 85** (in particular the appliances and apparatus of **headings 85.09** and **85.16**).

(k) Small hanging meat safes and other furniture of **Chapter 94**.

(l) Luminaires and lighting fittings of **heading 94.05**.

(m) Hand sieves (**heading 96.04**), cigarette lighters and other lighters (**heading 96.13**), vacuum flasks and other vacuum vessels of **heading 96.17**.

7323.10

- Iron or steel wool; pot scourers and scouring or polishing pads, gloves and the like

7323.9

- Other :

7323.91

-- Of cast iron, not enamelled

7323.92

-- Of cast iron, enamelled

7323.93

-- Of stainless steel

CLASSIFICATION OPINIONS

1. Non-electric stainless steel chafing dish, with a roll-top lid, consisting of a frame (housing) and a "retainer box", holding the lid, which is fitted with a handle, pivots on its axis and opens

backwards. The housing is designed to hold a rectangular water pan with four screws on the bottom enabling it to be fitted onto a heating unit in which three containers of fuel (e.g., in gel form) will be placed. This appliance is 65 cm long, 43 cm wide, 40 cm high, holds 9.5 litres of water, and is put up for retail sale with the unassembled heating frame (without the fuel). It is used in establishments serving buffets (especially hotels) to keep food hot using the "bain-marie" procedure (the hot water in which the food trays are placed is kept at a constant temperature by the burners). It may additionally be used to keep food cold, in which case the hot water is replaced by ice cubes. **Application of GIRs 1 and 6**
Adoption : 2000



7323.94

-- Of iron (other than cast iron) or steel, enamelled

7323.99

-- Other

CLASSIFICATION OPINIONS

1. Mobile garbage bins made of galvanized steel for the temporary storage of garbage, rubbish and waste. The bins are constructed with a lid, a handle, two wheels on a metal axle and a capacity of 120 or 240 litres. The bins are available in two combinations: a metal body and a plastic lid or a metal body and a metal lid. They are designed for outside use for storage of waste until collection for transportation to waste disposal or recycling facilities. **Application of GIRs 1 and 6.** *See also Opinion 3924.90/7.*
Adoption : 2019



Heading 7324

Sanitary ware and parts thereof, of iron or steel.

EXPLANATORY NOTES

73.24 - Sanitary ware and parts thereof, of iron or steel.

7324.10 - Sinks and wash basins, of stainless steel

- Baths :

7324.21 - - Of cast iron, whether or not enamelled

7324.29 - - Other

7324.90 - Other, including parts

This heading comprises a wide range of iron or steel articles, **not more specifically covered** by other headings of the Nomenclature, used for sanitary purposes.

These articles may be cast, or of iron or steel sheet, plate, hoop, strip, wire, wire grill, wire cloth, etc., and may be manufactured by any process (moulding, forging, punching, stamping, etc.). They may be fitted with lids, handles or other parts or accessories of other materials **provided** that they retain the character of iron or steel articles.

The heading includes, baths, bidets, hip-baths, foot-baths, sinks, wash basins, toilet sets; soap dishes and sponge baskets; douche cans, sanitary pails, urinals, bedpans, chamber-pots, water closet pans and flushing cisterns whether or not equipped with their mechanisms, spittoons, toilet paper holders.

The heading **excludes** :

(a) Cans, boxes and similar containers of **heading 73.10**.

(b) Small hanging medicine and toilet wall cabinets and other furniture of **Chapter 94**.

7324.10

- Sinks and wash basins, of stainless steel

7324.2

- Baths :

7324.21

-- Of cast iron, whether or not enamelled

7324.29

-- Other

7324.90

- Other, including parts

Heading 7325

Other cast articles of iron or steel.

EXPLANATORY NOTES

73.25 - Other cast articles of iron or steel.

7325.10 - Of non-malleable cast iron

- Other :

7325.91 - - Grinding balls and similar articles for mills

7325.99 - - Other

This heading covers **all cast** articles of iron or steel, not elsewhere specified or included.

The heading includes, inspection traps, gratings, drain covers and similar castings for sewage, water, etc. systems; hydrant pillars and covers; drinking fountains; pillar-boxes, fire alarm pillars, bollards, etc.; gutters and gutter spouts; mine tubbing; balls for use in grinding and crushing mills; metallurgical pots and crucibles **not** fitted with mechanical or thermal equipment; counterweights; imitation flowers, foliage, etc. (**except** articles of **heading 83.06**); mercury bottles.

This heading **does not cover** castings which are products falling in other headings of the Nomenclature (e.g., recognisable parts of machinery or mechanical appliances) or unfinished castings which require further working but have the essential character of such finished products.

The heading also **excludes** :

(a) Articles of a kind described above obtained by processes other than casting (e.g., sintering) (**heading 73.26**).

(b) Statues, vases, urns and crosses of the type used for decoration (**heading 83.06**).

7325.10

- Of non-malleable cast iron

CLASSIFICATION OPINIONS

1. Filling rings, being hollow cast-iron cylinders, with an inner circular flange and annular ribs on the outer surface; these "rings", are placed in a "cement slurry kiln" and mixed with the cement slurry in order to diffuse the heat and to facilitate and shorten the drying process.
Adoption : 1964

7325.9

- Other :

7325.91

-- Grinding balls and similar articles for mills

7325.99

-- Other

CLASSIFICATION OPINIONS

1. Filling rings, being hollow cast-iron cylinders, with an inner circular flange and annular ribs on the outer surface; these "rings", are placed in a "cement slurry kiln" and mixed with the cement slurry in order to diffuse the heat and to facilitate and shorten the drying process.
Adoption : 1964

Heading 7326

Other articles of iron or steel.

EXPLANATORY NOTES

73.26 - Other articles of iron or steel (+).

- Forged or stamped, but not further worked :

7326.11 - - Grinding balls and similar articles for mills

7326.19 - - Other

7326.20 - Articles of iron or steel wire

7326.90 - Other

This heading covers all iron or steel articles obtained by forging or punching, by cutting or stamping or by other processes such as folding, assembling, welding, turning, milling or perforating **other than** articles included in the preceding headings of this Chapter or covered by Note 1 to Section XV or included in **Chapter 82** or **83** or more specifically covered elsewhere in the Nomenclature.

The heading includes :

(1) Horseshoes; boot or shoe protectors whether or not incorporating affixing points; tree climbing irons; non-mechanical ventilators; Venetian blinds; binding hoops for casks; iron or steel fittings for electric wiring (e.g., stays, clips, brackets); suspension or connecting devices for insulator chains (suspension rods, shackles, extensions, eyes or rings with stud connections, ball sockets,

suspension clamps, dead-end clamps, etc.); **non-calibrated** steel balls (see Note 7 to Chapter 84); fencing posts, tent pegs, stakes for tethering livestock, etc.; hoops for garden borders, trainers for trees, sweet peas, etc.; turnbuckles for bracing fencing wires; tiles (**except** those for use in construction, which fall in **heading 73.08**) and gutters; clamping or tightening bands or collars (hose clips) used for clamping flexible tubing or hose to rigid piping, taps, etc.; hangers, stays and similar supports for fixing piping and tubing (**except** clamps and other devices specially designed for assembling tubular elements for metal structures, which fall in **heading 73.08**); capacity measures (**other than** domestic types - **heading 73.23**); thimbles; road studs; forged hooks, e.g., for cranes; snap hooks for all purposes; ladders and steps; trestles; supports or chaplets (**other than** moulders' nails, see **heading 73.17**) for foundry moulding cores; imitation flowers or foliage of wrought iron or steel (but **not including** articles of **heading 83.06** and imitation jewellery of **heading 71.17**).

(2) Articles of wire, such as snares, traps, mouse-traps, eelpots and the like; wire ties for fodder, etc.; tyre tringles; duplex or twin wire for making textile loom healds and formed by soldering together two single wires; nose-rings for animals; mattress hooks, butchers' hooks, tile hangers, etc.; waste paper baskets.

(3) Certain boxes and cases, e.g., tool boxes or cases, not specially shaped or internally fitted to contain particular tools with or without their accessories (see the Explanatory Note to heading 42.02); botanists', etc., collection or specimen cases, trinket boxes; cosmetic or powder boxes and cases; cigarette cases, tobacco boxes, cachou boxes, etc., but **not including** containers of **heading 73.10**, household containers (**heading 73.23**), nor ornaments (**heading 83.06**).

The heading also covers vacuum cup holders (suction grips) consisting of a base, a handle and a vacuum lever, and rubber discs, intended to be attached temporarily to an object (glass in particular) with a view to enabling the object to be moved.

This heading **does not cover** forgings which are products falling in other headings of the Nomenclature (e.g., recognisable parts of machinery or mechanical appliances) or unfinished forgings which require further working but have the essential character of such finished products.

The heading also **excludes** :

(a) Articles of **heading 42.02**.

(b) Reservoirs, tanks, vats and similar containers, of **heading 73.09** or **73.10**.

(c) Dustbins and mobile garbage bins (including those for outside use) of **heading 73.23**.

(d) Cast articles of iron or steel (**heading 73.25**).

(e) Office desk equipment, such as book ends, ink-stands, pen trays, blotters, paperweights and office-stamp stands (**heading 83.04**).

(f) Statues, vases, urns and crosses of the type used for decoration (**heading 83.06**).

(g) Large scale shelving for permanent installation in shops, workshops, storehouses, etc. (**heading 73.08**) and shelved furniture of **heading 94.03**.

(h) Skeleton wire frames for making textile or paper lampshades (**heading 94.05**).

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° °

Subheading Explanatory Note.

Subheadings 7326.11 and 7326.19

After forging or stamping, the products of these subheadings may have been subjected to the following working or surface treatments :

Removal of burrs, runouts and other stamping defects by rough burring, grinding, hammering, chiselling or filling; removal of annealing by acid dipping; simple sand-blasting; roughing or rough bleaching and other operations intended exclusively to detect flaws in the metal; application of rough coatings of graphite, oil, tar, red lead or similar products, clearly intended to protect the subjects against rust or other types of oxidation; stamping, punching, printing, etc., with simple inscriptions, such as trademarks.

_____

7326.1

- Forged or stamped, but not further worked :

7326.11

-- Grinding balls and similar articles for mills

7326.19

-- Other

7326.20

- Articles of iron or steel wire

CLASSIFICATION OPINIONS

1. Spiralled wire, in the length, consisting of a galvanised steel wire, of circular section, wound in tight spirals, and sheathed in plastics, for use in the seats and backs of armchairs, in bedding, etc. *Adoption : 1965*

2. Assemblies of spiral springs (innerspring units) for mattresses. *Adoption : 1983*

7326.90

- Other

CLASSIFICATION OPINIONS

1. Anti-frost burners, for the anti-frost protection of crops, consisting of an iron or steel reservoir for combustible mineral oil, and provided with a cone or funnel, or merely with a sliding lid for controlling the flame. *Adoption : 1959*

2. Transmission, conveyor or elevator belts, of iron or steel strip or sheet, endless, not combined with other goods to form machinery parts.
Adoption : 1959

3. Bowls, of iron or steel, obtained by "impact extrusion", not having acquired the approximate shape of the final article, intended, according to the nature of the metal and their dimensions, for the manufacture of cartridge bases or cases, or of bullet jackets.
These bowls may also be classified in the corresponding headings of the other Chapters of Section XV according to the constituent base metal.
Adoption : 1962

4. Steel tubes, threaded at the ends, with a bundle of steel wires fixed securely inside, intended for use in the thermal cutting or piercing of concrete, rock, metal plates, etc.
Dimensions of the product examined : external diameter : 16 mm; length : 3 m.
Adoption : 1971

5. Portable clamping workbenches, consisting of a metal screw adjustment device and wooden vice jaws (fitted with plastic pegs) which form a flat horizontal surface. They are fitted on top of a steel stand. These articles serve to clamp and hold planks or pieces to be worked by cutting, drilling, etc., or they may be used as a workbench. They can be adjusted to two different heights so that they can also be used as a sawhorse.
Application of GIR 3 (b).
Adoption : 1997

6. Key holder, of steel, consisting of a ring (22 mm in diameter) with a clasp to hold keys, attached by a chain (20 mm long) to a small case of plastics containing three small screwdrivers (54 mm long).
Adoption : 1998

7. Grounding rods in the form of solid-rod electrodes made of drawn carbon steel, with an electrolytically deposited copper jacket. The copper layer, with a maximum thickness of 254 microns (µ), ensures a perfect bond between the two metals. These rods are between 8 and 10 feet (2.5 and 3.1 meters) long, can weigh up to 5 kg and their lower ends, which can be connected together using threaded bronze couplings, are pointed. These rods are used to protect (ground) high-tension lines, substations, communication lines, buildings, street lamps, lightning arresters, antennas, etc.
Application of GIRs 1 (Note 7 to Section XV) and 6.
Adoption : 2003

8. Connecting link, of steel, consisting of two symmetrical arc-shaped elements linked into an articulated joint by means of a steel pin held in place by a retainer bushing. It is designed to be used with a hoisting device (sling end, hooks, master links, etc.) to form a hoisting assembly (with crossbeams, grabs and textile slings).
Application of GIRs 1 and 6.
Adoption : 2013

Chapter 74

Copper and articles thereof

LEGAL NOTES

Note.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Refined copper**

Metal containing at least 99.85 % by weight of copper; or

Metal containing at least 97.5 % by weight of copper, provided that the content by weight of any other element does not exceed the limit specified in the following table :

TABLE - Other elements

Element	Limiting content % by weight

Ag	Silver	0.25
As	Arsenic	0.5
Cd	Cadmium	1.3
Cr	Chromium	1.4
Mg	Magnesium	0.8
Pb	Lead	1.5
S	Sulphur	0.7
Sn	Tin	0.8
Te	Tellurium	0.8
Zn	Zinc	1
Zr	Zirconium	0.3
Other elements*, each		0.3

* Other elements are, for example, Al, Be, Co, Fe, Mn, Ni, Si.

(b) **Copper alloys**

Metallic substances other than unrefined copper in which copper predominates by weight over each of the other elements, provided that :

(i) the content by weight of at least one of the other elements is greater than the limit specified in the foregoing table; or

(ii) the total content by weight of such other elements exceeds 2.5 %.

(c) **Master alloys**

Alloys containing with other elements more than 10 % by weight of copper, not usefully malleable and commonly used as an additive in the manufacture of other alloys or as de-oxidants, de-sulphurising agents or for similar uses in the metallurgy of non-ferrous metals. However, copper phosphide (phosphor copper) containing more than 15 % by weight of phosphorus falls in heading 28.53.

Subheading Note.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Copper-zinc base alloys (brasses)**

Alloys of copper and zinc, with or without other elements. When other elements are present :

- zinc predominates by weight over each of such other elements;

- any nickel content by weight is less than 5 % (see copper-nickel-zinc alloys (nickel silvers)); and

- any tin content by weight is less than 3 % (see copper-tin alloys (bronzes)).

(b) **Copper-tin base alloys (bronzes)**

Alloys of copper and tin, with or without other elements. When other elements are present, tin predominates by weight over each of such other elements, except that when the tin content is 3 % or more the zinc content by weight may exceed that of tin but must be less than 10 %.

(c) **Copper-nickel-zinc base alloys (nickel silvers)**

Alloys of copper, nickel and zinc, with or without other elements. The nickel content is 5 % or more by weight (see copper-zinc alloys (brasses)).

(d) **Copper-nickel base alloys**

Alloys of copper and nickel, with or without other elements but in any case containing by weight not more than 1 % of zinc. When other elements are present, nickel predominates by weight over each of such other elements.

EXPLANATORY NOTES

Chapter 74

Copper and articles thereof

Note.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Refined copper**

Metal containing at least 99.85 % by weight of copper; or

Metal containing at least 97.5 % by weight of copper, provided that the content by weight of any other element does not exceed the limit specified in the following table :

TABLE - Other elements

Element		Limiting content % by weight
Ag	Silver	0.25
As	Arsenic	0.5
Cd	Cadmium	1.3
Cr	Chromium	1.4
Mg	Magnesium	0.8
Pb	Lead	1.5
S	Sulphur	0.7
Sn	Tin	0.8
Te	Tellurium	0.8
Zn	Zinc	1
Zr	Zirconium	0.3
Other elements*, each		0.3

* Other elements are, for example, Al, Be, Co, Fe, Mn, Ni, Si.

(b) **Copper alloys**

Metallic substances other than unrefined copper in which copper predominates by weight over each of the other elements, provided that :

(i) the content by weight of at least one of the other elements is greater than the limit specified in the foregoing table; or

(ii) the total content by weight of such other elements exceeds 2.5 %.

(c) **Master alloys**

Alloys containing with other elements more than 10 % by weight of copper, not usefully malleable and commonly used as an additive in the manufacture of other alloys or as de-oxidants, de-sulphurising agents or for similar uses in the metallurgy of non-ferrous metals. However, copper phosphide (phosphor copper) containing more than 15 % by weight of phosphorus falls in heading 28.53.

Subheading Note.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Copper-zinc base alloys (brasses)**

Alloys of copper and zinc, with or without other elements. When other elements are present :

- zinc predominates by weight over each of such other elements;

- any nickel content by weight is less than 5 % (see copper-nickel-zinc alloys (nickel silvers)); and

- any tin content by weight is less than 3 % (see copper-tin alloys (bronzes)).

(b) **Copper-tin base alloys (bronzes)**

Alloys of copper and tin, with or without other elements. When other elements are present, tin predominates by weight over each of such other elements, except that when the tin content is 3 % or more the zinc content by weight may exceed that of tin but must be less than 10 %.

(c) **Copper-nickel-zinc base alloys (nickel silvers)**

Alloys of copper, nickel and zinc, with or without other elements. The nickel content is 5 % or more by weight (see copper-zinc alloys (brasses)).

(d) **Copper-nickel base alloys**

Alloys of copper and nickel, with or without other elements but in any case containing by weight not more than 1 % of zinc. When other elements are present, nickel predominates by weight over each of such other elements.

GENERAL

This Chapter covers copper and its alloys, and certain articles thereof.

Copper is extracted from various ores (see Explanatory Note to heading 26.03) and is also worked up from the metal in its native state, or recovered from waste and scrap.

Copper is recovered from its sulphide ores by a dry extraction process in which the powdered and concentrated ore is roasted where necessary to drive off excess sulphur and smelted in a furnace to produce **copper matte** or regulus.

In some cases the concentrated ore is smelted in an air or oxygen flash smelting furnace (“flash smelting”) without prior roasting.

The matte is treated in a converter to eliminate most of the iron and sulphur and produce “blister copper” (so-called because it has a rough and blistery surface). The blister copper is refined in a

reverberatory furnace to produce fire-refined copper and, where required, may be further refined by electrolysis.

For oxide ores and also for certain other ores and residues a wet process (leaching) is used (see Explanatory Note to heading 74.01).

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Copper is very ductile and malleable; it is, after silver, the best conductor of heat and electricity. It is used in the pure state, particularly in the form of wire for electrical use, or in the form of coils or plates as a refrigerating element, but for general purposes it is mainly used in the form of alloys.

*

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Under the provisions of Note 5 to Section XV (see the General Explanatory Note to that Section), the **copper-base metal alloys** which may be classified with copper include :

(1) Copper-zinc base alloys (**brasses**) (see Subheading Note 1 (a)) in variable proportions of copper and zinc, e.g., common brass, used for many purposes; gilding metal (tombac) used particularly in the manufacture of imitation jewellery and fancy goods.

Copper-zinc alloys containing small quantities of other elements form special brasses, with characteristic properties. Special brasses include high-tensile brass (often known as manganese bronze), used in shipbuilding, as well as leaded brasses, iron brass, aluminium brass and silicon brass.

(2) Copper-tin base alloys (**bronzes**) (see Subheading Note 1 (b)), and sometimes containing other elements which confer special properties. The bronzes include coinage bronze; hard-bronze for gearing, bearings or other machinery parts; bell-metal; statuary bronze; leaded bronze used for bearings; phosphor bronze (or de-oxidised bronze) used in the manufacture of springs and woven wire gauze for filters, screens, etc.

(3) Copper-nickel-zinc base alloys (**nickel silvers**) (see Subheading Note 1 (c)) having a good corrosion resistance and strength. They are used mainly in telecommunications equipment (in the telephone industry *inter alia*); other uses include use in equipment for instrument parts, taps and high quality plumbing hardware, slide fasteners, various applications in the electrical field such as clamps, springs, connectors, receptacles, etc., ornamental and architectural metalwork and chemical and food processing equipment. Certain grades of these alloys are also used in the manufacture of tableware, etc.

(4) Copper-nickel base alloys (**cupro-nickels**) (see Subheading Note 1 (d)), which often contain small amounts of aluminium or iron. They represent a family of alloys featuring resistance to the corrosive effects of sea water and, therefore, find wide use in a variety of marine or shipbuilding applications, particularly for condensers or piping, and in the manufacture of coins or electrical resistors.

(5) **Aluminium bronze** composed essentially of copper with aluminium and employed in engineering where high strength properties, corrosion resistance and hardness are important factors.

(6) **Beryllium copper** (sometimes known as beryllium bronze) composed essentially of copper with beryllium and, because of its hardness, high strength and resistance to corrosion, used for springs of many types, as moulds for plastics, as resistance welding electrodes, and for non-sparking tools.

(7) **Copper-silicon** consisting essentially of copper and silicon and having high strength and resistance to corrosion. It is used, e.g., for the manufacture of storage tanks, bolts and fasteners.

(8) **Chromium copper** mainly used for resistance welding electrodes.

*

* *

This Chapter covers :

(A) Mattes and other intermediate products of copper metallurgy and unwrought copper and waste and scrap (headings 74.01 to 74.05).

(B) Copper powders and flakes (heading 74.06).

(C) Products generally obtained by rolling, extruding, drawing or forging the copper of heading 74.03 (headings 74.07 to 74.10).

(D) Various articles specified in headings 74.11 to 74.18 and other articles falling in heading 74.19 which covers all other copper articles other than those covered by Note 1 to Section XV or those included in **Chapter 82** or **83**, or more specifically covered elsewhere in the Nomenclature.

The products and articles of copper are frequently subjected to various treatments to improve the properties or appearance of the metal, etc. These treatments are generally those referred to in the General Explanatory Note to Chapter 72, and do not affect the classification of the goods.

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The classification of **composite goods**, particularly made up articles, is explained in the General Explanatory Note to Section XV.

Heading 7401

Copper mattes; cement copper (precipitated copper).

EXPLANATORY NOTES

74.01 - Copper mattes; cement copper (precipitated copper).

(A) **Copper mattes.**

This is obtained by the fusion of roasted copper sulphide ores to separate the copper sulphide from the gangue and the other metals which form a slag that floats on the surface of the matte. The matte consists essentially of copper and iron sulphides and is generally in the form of black or brown granules (obtained by pouring the molten matte into water) or a crude mass, with a dull, metallic appearance.

(B) **Cement copper (precipitated copper).**

Cement copper (precipitated copper) is a product obtained by precipitation (cementation), i.e., by adding iron to the aqueous solution resulting from the leaching of certain roasted ores or residues. It is a finely divided black powder containing oxides and insoluble impurities. It is sometimes used in anti-fouling paints and agricultural fungicides but is more often added to the charge which goes to a melting furnace to produce copper matte.

Cement copper must not be confused with the copper powder of **heading 74.06**, which does not contain impurities.

7401.00

Copper mattes; cement copper (precipitated copper).

Heading 7402

Unrefined copper; copper anodes for electrolytic refining.

EXPLANATORY NOTES

74.02 - Unrefined copper; copper anodes for electrolytic refining.

This heading covers :

(1) **Black copper**. It consists of an impure form of copper produced by smelting oxidised copper ores or impure copper scrap, usually in a blast furnace. The copper content varies widely, usually in the range of approximately 60 to 85 % by weight.

(2) **Blister copper**. It consists of an impure form of copper produced by blowing air through molten copper matte. During the conversion process, sulphur, iron and other impurities are oxidised. The copper content is normally about 98 % by weight.

(3) **Copper anodes for electrolytic refining.**

Copper **partially refined by complete fusion** is cast into anodes for further refining by electrolysis. These anodes are usually in the form of slabs cast with two lugs for suspending them in the electrolytic refining tank. They should not be confused with anodes for **electro-copper-plating** (**heading 74.19**).

7402.00

Unrefined copper; copper anodes for electrolytic refining.

Heading 7403

Refined copper and copper alloys, unwrought.

EXPLANATORY NOTES

74.03 - Refined copper and copper alloys, unwrought.

- Refined copper :

7403.11 - - Cathodes and sections of cathodes

7403.12 - - Wire-bars

7403.13 - - Billets

7403.19 - - Other

- Copper alloys :

7403.21 - - Copper-zinc base alloys (brass)

7403.22 - - Copper-tin base alloys (bronze)

7403.29 - - Other copper alloys (other than master alloys of heading 74.05)

This heading covers unwrought refined copper and copper alloys as defined in Chapter Notes 1 (a) and 1 (b) respectively.

Refined copper containing at least 99.85 % by weight of copper is obtained by electrolytic refining, electrolytic extraction, chemical refining or fire refining. Other refined copper (containing at least 97.5 % by weight of copper) is normally produced by alloying the above-mentioned refined copper with one or more other elements up to the maximum content limits as shown in the table in Chapter Note 1 (a).

Refined copper is cast into ingots or ingot-bars for remelting (e.g., for alloying purposes) or into wire-bars, slabs for rolling, billets (including those of circular cross-section) and similar forms for rolling, extruding, drawing or forging into plates, sheets, strip, wire, tubes and other products.

Electrolytically refined copper is sometimes presented in the form of cathodes consisting of plates or sheets with two loops attached by which the original starting sheets were suspended in the electrolytic refining tank, or with the loops cut off, or cut into sections.

Refined copper may also be in the form of **shot** mainly used for alloying purposes and sometimes for grinding into powder. Copper powders and flakes are, however, classified in **heading 74.06**.

This heading further covers cast and sintered slabs, bars, rods and ingots, etc., **provided** they have not been worked after production otherwise than by simple trimming or de-scaling (to remove the set or top surface consisting largely of cuprous oxide) or by shaving, chipping, grinding, etc., to eliminate setting or other casting defects or which have been machined on one surface for inspection purposes (quality control).

Sintered products are obtained from copper powder or copper alloy powders or from copper powder mixed with other metal powders, by pressing (compacting) and sintering (heating to an appropriate temperature below the fusion point of the metals). In the sintered state the products are porous and of low strength and are normally rolled, extruded, forged, etc., to achieve useful density. These rolled, etc., products are **excluded** (e.g., **headings 74.07**, **74.09**).

The heading also includes wire-bars and billets with their ends tapered or otherwise worked simply to facilitate their entry into machines for converting them into, for example, wire drawing stock (wire-rod) or tubes.

Subject to the above-mentioned conditions concerning working after production, the cast bars and rods of this heading may include, in particular :

(1) Products (sometimes known as “jets”), accurately cast in special moulds, of round, square or hexagonal section and usually not exceeding 1 m in length.

(2) Longer products obtained by the continuous casting process in which molten metal is poured continuously into a water-cooled mould where it is rapidly solidified.

Both the “jets” and the continuously cast bars are often used for the same purposes as rolled, drawn or extruded bars.

7403.1

- Refined copper :
7403.11

-- Cathodes and sections of cathodes
7403.12

-- Wire-bars
7403.13

-- Billets
7403.19

-- Other
7403.2

- Copper alloys :
7403.21

-- Copper-zinc base alloys (brass)
7403.22

-- Copper-tin base alloys (bronze)
7403.29

-- Other copper alloys (other than master alloys of heading 74.05)
Heading 7404

Copper waste and scrap.
EXPLANATORY NOTES

74.04 - Copper waste and scrap.

The provisions concerning waste and scrap in the Explanatory Note to heading 72.04 apply, *mutatis mutandis*, to this heading, **except** that cuprous slag, ash and residues fall in **heading 26.20**. Copper waste of this heading includes drawing sludge, derived from the drawing of copper and consisting mainly of copper powder mixed with the lubricants used for the drawing process.

This heading **does not cover** ingots, or similar unwrought forms cast from remelted copper waste and scrap (**heading 74.03**).

7404.00

Copper waste and scrap.

Heading 7405

Master alloys of copper.

EXPLANATORY NOTES

74.05 - Master alloys of copper.

Master alloys are defined in Chapter Note 1 (c).

The master alloys of this heading are alloys containing more than 10 % by weight of copper together with other elements, and which, because of their composition, are too brittle for normal metal working. They are therefore used either to introduce into brass, bronze or aluminium bronze, other elements with a higher melting point than those alloys, or highly oxidisable elements (e.g., aluminium, cadmium, arsenic, magnesium) or elements sublimable at the fusion temperature, or else to facilitate the preparation of certain alloys by adding de-oxidising, de-sulphurising or similar elements (e.g., calcium).

The copper acts as a solvent or diluent of the other elements and must be present in amounts sufficient to reduce the melting point or the oxidising or sublimating action of the master alloy. If the proportion of copper is too high, however, that metal unduly dilutes the other elements introduced into the alloys. The copper content generally ranges between 30 and 90 % in these products but may, in special cases, be above or below these limits.

The heading therefore **excludes**, for example, any copper-nickel alloy, even if intended for use as a master alloy, since copper-nickel alloys are usefully malleable in all proportions. Other alloys, for example copper manganese and copper-silicon alloys, may or may not be malleable according to the proportions of the constituent metals present; in such cases the heading covers **only** those alloys which are not usefully malleable.

Master alloys of this heading include copper aluminium, copper beryllium, copper boron, copper cadmium, copper chromium, copper iron, copper magnesium, copper manganese, copper molybdenum, copper silicon, copper titanium or copper vanadium.

Master alloys are generally in the form of small blocks or cakes divided for easy breaking, brittle sticks or pellets, and have the appearance of crude foundry products.

Copper phosphide (phosphor copper) containing more than 15 % by weight of phosphorus falls in **heading 28.53**.

7405.00

Master alloys of copper.

Heading 7406

Copper powders and flakes.

EXPLANATORY NOTES

74.06 - Copper powders and flakes.

7406.10 - Powders of non-lamellar structure

7406.20 - Powders of lamellar structure; flakes

This heading covers copper powders as defined in Note 8 (b) to Section XV and copper flakes, **other than** cement copper (precipitated copper) which is a black powder of **heading 74.01**. Subject to the provisions of Note 7 to Section XV, it also covers copper powders mixed with other base metal powders (e.g., “bronze powder” consisting of a simple mixture of copper and tin powders).

Copper powders are mainly produced by electrodeposition or by atomisation (i.e., by injecting a thin stream of molten metal into a high-velocity cross-jet of water, steam, air or other gases).

In addition to the above two main processes, copper powders may also be produced on a smaller scale by gaseous reduction of finely divided oxides, precipitation from solutions or by comminution of solids. Powders of lamellar structure and flakes are normally produced by grinding foil. The lamellar shape can be seen by the naked eye or through a magnifying glass in the case of flakes, but a microscope is needed for true powders.

The method of manufacture determines such characteristics as the particle size and shape (which may be more or less irregular, globular, spherical or lamellar). Powders with a lamellar structure are often polished and may retain traces of greasy or waxy substances (e.g., stearic acid or paraffin wax) used in the course of their preparation.

The powders are used for compacting and sintering into bearings, bushings and many other technical components. They are also used as chemical or metallurgical reagents, for soldering and brazing, in the manufacture of special cements, for coating non-metallic surfaces as a basis for electroplating, etc. The flakes are mainly used as a metallic pigment in the manufacture of inks and paints. The flakes are used directly as metallic colouring matter by blowing them, e.g., on to a varnished surface to which they adhere.

The heading **does not cover** :

(a) Certain powders or flake-powders used in the preparation of paints and sometimes known as “bronzes” or “golds” but which are in fact chemical compounds, such as certain antimony salts, tin disulphides, etc. (**Chapter 28**, or **Chapter 32** if in the form of prepared paints).

(b) Powders or flakes, prepared as colours, paints or the like (e.g., made up with other colouring matter or put up as suspensions, dispersions or pastes, with a binder or solvent) (**Chapter 32**).

(c) Copper shot of **heading 74.03**.

(d) Spangles cut from copper foil (**heading 83.08**).

7406.10

- Powders of non-lamellar structure

7406.20

- Powders of lamellar structure; flakes

Heading 7407

Copper bars, rods and profiles.

EXPLANATORY NOTES

74.07 - Copper bars, rods and profiles.

7407.10 - Of refined copper

- Of copper alloys :

7407.21 - - Of copper-zinc base alloys (brass)

7407.29 - - Other

Bars and rods are defined in Note 9 (a) to Section XV and **profiles** in Note 9 (b) to Section XV.

The products of this heading are usually obtained by rolling, extrusion or drawing, but may also be obtained by forging (whether with the press or hammer). They may subsequently be cold-finished (if necessary after annealing) by cold-drawing, straightening, or other processes which give the products a finish of higher precision. They may also be worked (e.g., drilled, punched, twisted or crimped), **provided** that they do not thereby assume the character of articles or of products of other headings. The heading also covers hollow profiles including finned or gilled tubes and pipes obtained by extrusion. However, tubes and pipes to which fins or gills have been attached, e.g., by welding, are **excluded** - generally **heading 74.19**.

Bars and rods obtained by casting (including the so-called “jets” and continuously cast bars) or by sintering fall in **heading 74.03 provided** they have not been subsequently worked after production otherwise than by simple trimming or descaling. If, however, they have been worked beyond this stage, they are classified in this heading, **provided** that they have not thereby assumed the character of articles or of products of other headings.

Wire-bars and billets with their ends tapered or otherwise worked simply to facilitate their entry into machines for converting them into, e.g., wire drawing stock (wire-rod) or tubes, are, however, classified in **heading 74.03**.

7407.10

- Of refined copper

7407.2

- Of copper alloys :

7407.21

-- Of copper-zinc base alloys (brass)

7407.29

-- Other

Heading 7408

Copper wire.

EXPLANATORY NOTES

74.08 - Copper wire.

- Of refined copper :

7408.11 - - Of which the maximum cross-sectional dimension exceeds 6 mm

7408.19 - - Other

- Of copper alloys :

7408.21 - - Of copper-zinc base alloys (brass)

7408.22 - - Of copper-nickel base alloys (cupro-nickel) or copper-nickel-zinc base alloys (nickel silver)

7408.29 - - Other

Note 9 (c) to Section XV defines **wire**.

Wire is obtained by rolling, extrusion or drawing, and is presented in coils. The second paragraph of the Explanatory Note to heading 74.07 applies, *mutatis mutandis*.

This heading **does not include :**

(a) Very fine sterile bronze wire used for surgical sutures (**heading 30.06**).

(b) Metallised yarn of **heading 56.05**.

(c) Twine or cord reinforced with wire (**heading 56.07**).

(d) Stranded wire, cables and other goods of **heading 74.13**.

(e) Coated welding electrodes, etc. (**heading 83.11**).

(f) Insulated electric wire and cable (including enamelled wire) (**heading 85.44**).

(g) Musical instrument strings (**heading 92.09**).

7408.1

- Of refined copper :

7408.11

-- Of which the maximum cross-sectional dimension exceeds 6 mm

7408.19

-- Other

7408.2

- Of copper alloys :

7408.21

-- Of copper-zinc base alloys (brass)

7408.22

-- Of copper-nickel base alloys (cupro-nickel) or copper-nickel-zinc base alloys (nickel silver)

7408.29

-- Other

Heading 7409

Copper plates, sheets and strip, of a thickness exceeding 0.15 mm.

EXPLANATORY NOTES

74.09 - Copper plates, sheets and strip, of a thickness exceeding 0.15 mm.

- Of refined copper :

7409.11 - - In coils

7409.19 - - Other

- Of copper-zinc base alloys (brass) :

7409.21 - - In coils

7409.29 - - Other

- Of copper-tin base alloys (bronze) :

7409.31 - - In coils

7409.39 - - Other

7409.40 - Of copper-nickel base alloys (cupro-nickel) or copper-nickel-zinc base alloys (nickel silver)

7409.90 - Of other copper alloys

This heading covers the products defined in Chapter Note 1 (g) when of a thickness exceeding 0.15 mm.

Plates and sheets are usually obtained by the hot- or cold-rolling of certain products of heading 74.03; copper strip may be rolled, or obtained by slitting sheets.

All such goods remain in the heading if worked (e.g., cut to shape, perforated, corrugated, ribbed, channelled, polished, coated, embossed or rounded at the edges) **provided** they do not thereby assume the character of articles or of products of other headings (see Chapter Note 1 (g)).

The limiting thickness of 0.15 mm includes coatings of varnish, etc.

The heading **does not include :**

(a) Foil of a thickness not exceeding 0.15 mm (**heading 74.10**).

(b) Expanded metal, of copper (**heading 74.19**).

(c) Insulated electric strip (**heading 85.44**).

7409.1

- Of refined copper :

7409.11

-- In coils

7409.19

-- Other

CLASSIFICATION OPINIONS

1. Sheets of phenol-formaldehyde resin, bonded on one or both surfaces with refined copper sheet or foil, used for the manufacture of printed circuits. Since these goods are designed for use as electrical conductors, the copper sheet or foil was considered as giving them their essential character.

Adoption : 1957 + 1968

7409.2

- Of copper-zinc base alloys (brass) :

7409.21

-- In coils

7409.29

-- Other

7409.3

- Of copper-tin base alloys (bronze) :

7409.31

-- In coils

7409.39

-- Other

7409.40

- Of copper-nickel base alloys (cupro-nickel) or copper-nickel-zinc base alloys (nickel silver)

7409.90

- Of other copper alloys

Heading 7410

Copper foil (whether or not printed or backed with paper, paperboard, plastics or similar backing materials) of a thickness (excluding any backing) not exceeding 0.15 mm.

EXPLANATORY NOTES

74.10 - Copper foil (whether or not printed or backed with paper, paperboard, plastics or similar backing materials), of a thickness (excluding any backing) not exceeding 0.15 mm.

- Not backed :

7410.11 - - Of refined copper

7410.12 - - Of copper alloys

- Backed :

7410.21 - - Of refined copper

7410.22 - - Of copper alloys

This heading covers the products defined in Note 9 (d) to Section XV when of a thickness not exceeding 0.15 mm.

Foil classified in this heading is obtained by rolling, hammering or electrolysis. It is in very thin sheets (in any case, **not exceeding 0.15 mm** in thickness). The thinnest foils, used for imitation gilding, etc., are very flimsy; they are generally interleaved with sheets of paper and put up in booklet form. Other foil, such as that used for making fancy goods, is often backed with paper, paperboard, plastics or similar backing materials, either for convenience of handling or transport, or in order to facilitate subsequent treatment, etc. Foil remains in the heading whether or not it has been embossed, cut to shape (rectangular or otherwise), perforated, coated (gilded, silvered, varnished, etc.), or printed.

The limiting thickness of 0.15 mm includes coatings of varnish, etc., but, on the other hand, backings of paper, etc., are excluded.

The heading **does not include** :

(a) Stamping foils (also known as blocking foils) composed of copper powder agglomerated with gelatin, glue or other binder, or of copper deposited on paper, plastics or other support, and used for printing book covers, hat bands, etc. (**heading 32.12**).

(b) Printed copper foil labels being identifiable individual articles by virtue of the printing (**heading 49.11**).

(c) Metallised yarn of **heading 56.05**.

(d) Plates, sheets and strip, of a thickness exceeding 0.15 mm (**heading 74.09**).

(e) Foil in the form of Christmas tree decorations (**heading 95.05**).

74.10 - Copper foil (whether or not printed or backed with paper, paperboard, plastics or similar backing materials), of a thickness (excluding any backing) not exceeding 0.15 mm.

- Not backed :

7410.11 - - Of refined copper

7410.12 - - Of copper alloys

- Backed :

7410.21 - - Of refined copper

7410.22 - - Of copper alloys

This heading covers the products defined in Note 9 (d) to Section XV when of a thickness not exceeding 0.15 mm.

Foil classified in this heading is obtained by rolling, hammering or electrolysis. It is in very thin sheets (in any case, **not exceeding 0.15 mm** in thickness). The thinnest foils, used for imitation gilding, etc., are very flimsy; they are generally interleaved with sheets of paper and put up in booklet form. Other foil, such as that used for making fancy goods, is often backed with paper, paperboard, plastics or similar backing materials, either for convenience of handling or transport, or in order to facilitate subsequent treatment, etc. Foil remains in the heading whether or not it has been embossed, cut to shape (rectangular or otherwise), perforated, coated (gilded, silvered, varnished, etc.), or printed.

The limiting thickness of 0.15 mm includes coatings of varnish, etc., but, on the other hand, backings of paper, etc., are excluded.

The heading **does not include** :

(a) Stamping foils (also known as blocking foils) composed of copper powder agglomerated with gelatin, glue or other binder, or of copper deposited on paper, plastics or other support, and used for printing book covers, hat bands, etc. (**heading 32.12**).

(b) Printed copper foil labels being identifiable individual articles by virtue of the printing (**heading 49.11**).

(c) Metallised yarn of **heading 56.05**.

(d) Plates, sheets and strip, of a thickness exceeding 0.15 mm (**heading 74.09**).

(e) Foil in the form of Christmas tree decorations (**heading 95.05**).

7410.1

- Not backed :

7410.11

-- Of refined copper

7410.12

-- Of copper alloys

7410.2

- Backed :

7410.21

-- Of refined copper

CLASSIFICATION OPINIONS

1. Sheets of phenol-formaldehyde resin, bonded on one or both surfaces with refined copper sheet or foil, used for the manufacture of printed circuits. Since these goods are designed for use as electrical conductors, the copper sheet or foil was considered as giving them their essential character.

Adoption : 1957 + 1968

7410.22

-- Of copper alloys

Heading 7411

Copper tubes and pipes.

EXPLANATORY NOTES

74.11 - Copper tubes and pipes

7411.10 - Of refined copper

- Of copper alloys :

7411.21 - - Of copper-zinc base alloys (brass)

7411.22 - - Of copper-nickel base alloys (cupro-nickel) or copper-nickel-zinc base alloys (nickel silver)

7411.29 - - Other

Note 9 (e) to Section XV defines **tubes and pipes**.

The Explanatory Notes to headings 73.04 to 73.06 apply, *mutatis mutandis*, as regards the scope of the heading and the methods of manufacture of the goods.

Most copper tubes and pipes are seamless but may sometimes be made by brazing or welding together the edges of strip or by other processes. The seamless tubes and pipes are usually produced by piercing and extruding a billet to form a tube blank which is hot-rolled or drawn through a die to the finished size. For some purposes the tubes and pipes may be extruded to their final size without drawing.

Copper tubes and pipes have many industrial applications (e.g., in cooking, heating, cooling, distilling, refining or evaporating apparatus) and are used in buildings for domestic or general water or gas supplies. Copper alloy condenser tubes are widely employed in ships and power stations because of their strong resistance to corrosion, particularly salt water.

The heading **does not cover** :

(a) Hollow profiles including finned or gilled tubes and pipes obtained by extrusion (**heading 74.07**).

(b) Tube or pipe fittings (**heading 74.12**).

(c) Tubes and pipes to which fins or gills have been attached, e.g., by welding (generally **heading 74.19**).

(d) Flexible tubing (**heading 83.07**).

(e) Tubes and pipes made up into identifiable articles of other Chapters, e.g., machinery parts (**Section XVI**).

7411.10

- Of refined copper

7411.2

- Of copper alloys :

7411.21

-- Of copper-zinc base alloys (brass)

7411.22

-- Of copper-nickel base alloys (cupro-nickel) or copper-nickel-zinc base alloys (nickel silver)

7411.29

-- Other

Heading 7412

Copper tube or pipe fittings (for example, couplings, elbows, sleeves).

EXPLANATORY NOTES

74.12 - Copper tube or pipe fittings (for example, couplings, elbows, sleeves).

7412.10 - Of refined copper

7412.20 - Of copper alloys

The Explanatory Note to heading 73.07 applies, *mutatis mutandis*, to this heading.

The heading **does not cover** :

(a) Bolts and nuts used for assembling or fixing pipes or tubes (**heading 74.15**).

(b) Fittings with taps, cocks, valves, etc. (**heading 84.81**).

7412.10

- Of refined copper

7412.20

- Of copper alloys

Heading 7413

Stranded wire, cables, plaited bands and the like, of copper, not electrically insulated.

EXPLANATORY NOTES

74.13 - Stranded wire, cables, plaited bands and the like, of copper, not electrically insulated.

The Explanatory Note to heading 73.12 applies, *mutatis mutandis*, to this heading.

Because of its excellent electric conductivity, copper is commonly used in the manufacture of electric wires and cables; these remain in the heading whether or not with a core of steel or other metal, **provided** the copper predominates by weight (see Note 7 to Section XV).

However, the heading **does not cover** insulated electric wire and cable (**heading 85.44**).

7413.00

Stranded wire, cables, plaited bands and the like, of copper, not electrically insulated.

Heading 7415

Nails, tacks, drawing pins, staples (other than those of heading 83.05) and similar articles, of copper or of iron or steel with heads of copper; screws, bolts, nuts, screw hooks, rivets, cotters, cotter-pins, washers (including spring washers) and similar articles, of copper.

EXPLANATORY NOTES

74.15 - Nails, tacks, drawing pins, staples (other than those of heading 83.05) and similar articles, of copper or of iron or steel with heads of copper; screws, bolts, nuts, screw hooks, rivets, cotters, cotter-pins, washers (including spring washers) and similar articles, of copper (+).

7415.10 - Nails and tacks, drawing pins, staples and similar articles

- Other articles, not threaded :

7415.21 - - Washers (including spring washers)

7415.29 - - Other

- Other threaded articles :

7415.33 - - Screws; bolts and nuts

7415.39 - - Other

The Explanatory Notes to headings 73.17 and 73.18 apply, *mutatis mutandis*, to this heading, except that the heading also includes **copper-headed nails with iron or steel shanks** (mainly used in upholstery or ornamental work).

Shoe protectors, with or without affixing points, are **excluded** (**heading 74.19**).

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Subheading Explanatory Note.

Subheading 7415.33

The term "screw" **does not cover** screw hooks and screw rings; these are classified in **subheading 7415.39**.

7415.10

- Nails and tacks, drawing pins, staples and similar articles

7415.2

- Other articles, not threaded :
7415.21

-- Washers (including spring washers)
7415.29

-- Other
7415.3

- Other threaded articles :
7415.33

-- Screws; bolts and nuts
7415.39

-- Other
Heading 7418

Table, kitchen or other household articles and parts thereof, of copper; pot scourers and scouring or polishing pads, gloves and the like, of copper; sanitary ware and parts thereof, of copper.
EXPLANATORY NOTES

74.18 - Table, kitchen or other household articles and parts thereof, of copper; pot scourers and scouring or polishing pads, gloves and the like, of copper; sanitary ware and parts thereof, of copper.

7418.10 - Table, kitchen or other household articles and parts thereof; pot scourers and scouring or polishing pads, gloves and the like :

7418.20 - Sanitary ware and parts thereof

The Explanatory Notes to headings 73.21, 73.23 and 73.24 apply, *mutatis mutandis*, to this heading.

This heading covers, *inter alia*, copper cooking or heating apparatus of a kind used for domestic purposes, e.g., small appliances such as petrol, paraffin, spirit stoves, as normally used for travelling, camping, etc. and for certain household uses. The heading also covers domestic apparatus of the kind described in the Explanatory Note to heading 73.22.

The heading **excludes** :

(a) Household articles having the character of tools (**Chapter 82**) (see the Explanatory Note to heading 73.23).

(b) Blow lamps (**heading 82.05**).

(c) Cutlery and spoons, forks, ladles, etc. (**headings 82.11 to 82.15**).

(d) Ornaments of **heading 83.06**.

(e) Heating, cooking, roasting, distilling, etc., machinery or plant, or similar laboratory equipment, of **heading 84.19**, for example :

(1) Non-electrical instantaneous or storage water heaters (whether for domestic or non-domestic use).

(2) Counter-type coffee percolators and certain other specialised heating, cooking, etc., apparatus not used in the household.

(f) Household equipment of Chapter 85 (in particular, apparatus and appliances of **heading 85.09** or **85.16**).

(g) Articles of **Chapter 94**.

(h) Hand sieves (**heading 96.04**).

(ij) Cigarette lighters and other lighters (**heading 96.13**).

(k) Scent and similar sprays (**heading 96.16**).

7418.10

- Table, kitchen or other household articles and parts thereof; pot scourers and scouring or polishing pads, gloves and the like

7418.20

- Sanitary ware and parts thereof

Heading 7419

Other articles of copper.

EXPLANATORY NOTES

74.19 - Other articles of copper (+).

7419.20 - Cast, moulded, stamped or forged, but not further worked

7419.80 - Other

This heading covers all articles of copper **other than** those covered by the preceding headings of this Chapter or by Note 1 to Section XV, or articles specified or included in **Chapter 82** or **83**, or more specifically covered elsewhere in the Nomenclature.

This heading covers, in particular :

(1) Safety pins and other pins (**excluding** hatpins and other ornamental pins, and drawing pins), of copper, not elsewhere specified or included.

(2) Reservoirs, tanks, vats and similar containers for any material, of copper, of any capacity, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment (see the Explanatory Notes to headings 73.09 and 73.10).

(3) Containers for compressed or liquefied gas (see the Explanatory Note to heading 73.11).

(4) Chain and parts thereof, of copper (see the Explanatory Note to heading 73.15), **excluding** chains having the character of imitation jewellery (e.g., watch chains and trinket chains) (**heading 71.17**).

(5) Articles of copper of the types listed in the Explanatory Notes to headings 73.25 and 73.26.

(6) Electroplating anodes of copper or of copper alloys (e.g., brass) (see Part (A) of the Explanatory Note to heading 75.08).

(7) Tubes and pipes to which fins or gills have been attached, e.g., by welding, not elsewhere specified or included.

(8) Cloth, grill and netting of copper wire and expanded metal, of copper.

(9) Springs **other than** clock or watch springs of **heading 91.14**.

The heading **does not cover** :

(a) Woven fabric of metal thread, of a kind used in articles of apparel, as furnishing fabrics or the like (**heading 58.09**).

(b) Prepared metal brazing plates of wire mesh (**heading 83.11**).

(c) Wire cloth, made up into hand sieves or riddles (**heading 96.04**).

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Subheading Explanatory Note.

Subheading 7419.91

The Explanatory Note to subheadings 7326.11 and 7326.19 applies, *mutatis mutandis*, to the products of this subheading. In the case of cast or moulded products, the sprues and feeder heads may be removed.

7419.20

- Cast, moulded, stamped or forged, but not further worked

7419.80

- Other

CLASSIFICATION OPINIONS

1. **Bronze wire cloth,** mounted on a frame, whether or not prepared, for use in the hand or on a printing machine for printing textile fabrics by the screen printing process. **Such cloth may also be classified in the corresponding headings of the other Chapters of**

Section XV according to the constituent base metal.
Application of GIRs 1 and 6.
Adoption : 1963

2. Spray heads for fire extinguishing systems, consisting of a brass casing with a tube screwing into the conduits of the systems, sealed by a metal capsule held in place by a calibrated eutectic alloy insert which melts when heated, thus allowing the capsule to fall away; water then spurts against a deflector plate under the head.
Application of GIRs 1 and 6.
Adoption : 1966

Chapter 75

Nickel and articles thereof

LEGAL NOTES

Subheading Notes.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Nickel, not alloyed**

Metal containing by weight at least 99 % of nickel plus cobalt, provided that :

(i) the cobalt content by weight does not exceed 1.5 %, and

(ii) the content by weight of any other element does not exceed the limit specified in the following table :

TABLE - Other elements

Element	Limiting content % by weight

Fe Iron	0.5
O Oxygen	0.4
Other elements, each	0.3

(b) **Nickel alloys**

Metallic substances in which nickel predominates by weight over each of the other elements provided that :

(i) the content by weight of cobalt exceeds 1.5 %,

(ii) the content by weight of at least one of the other elements is greater than the limit specified in the foregoing table, or

(iii) the total content by weight of elements other than nickel plus cobalt exceeds 1 %.

2.- Notwithstanding the provisions of Note 9 (c) to Section XV, for the purposes of subheading 7508.10 the term “wire” applies only to products, whether or not in coils, of any cross-sectional shape, of which no cross-sectional dimension exceeds 6 mm.

EXPLANATORY NOTES

Chapter 75

Nickel and articles thereof

Subheading Notes.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Nickel, not alloyed**

Metal containing by weight at least 99 % of nickel plus cobalt, provided that :

(i) the cobalt content by weight does not exceed 1.5 %, and

(ii) the content by weight of any other element does not exceed the limit specified in the following table :

TABLE - Other elements

Element	Limiting content % by weight

Fe Iron	0.5
O Oxygen	0.4
Other elements, each	0.3

(b) **Nickel alloys**

Metallic substances in which nickel predominates by weight over each of the other elements provided that :

(i) the content by weight of cobalt exceeds 1.5 %,

(ii) the content by weight of at least one of the other elements is greater than the limit specified in the foregoing table, or

(iii) the total content by weight of elements other than nickel plus cobalt exceeds 1 %.

2.- Notwithstanding the provisions of Note 9 (c) to Section XV, for the purposes of subheading 7508.10 the term “wire” applies only to products, whether or not in coils, of any cross-sectional shape, of which no cross-sectional dimension exceeds 6 mm.

GENERAL

This Chapter covers nickel and its alloys, and certain articles thereof.

Nickel is a relatively hard, greyish-white metal melting at 1453 °C. It is ferro-magnetic, malleable, ductile, strong and resistant to corrosion and oxidation.

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Nickel is used mainly in the production of many alloys especially alloy steels, for coating other metals usually by electrodeposition and as a catalyst in many chemical reactions. Unalloyed wrought nickel is also extensively used in the manufacture of chemical plant. In addition nickel and nickel alloys are used for coinage.

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* *

The principal nickel alloys which may fall in this Chapter under the provisions of Note 5 to Section XV include the following :

(1) **Nickel-iron alloys**. These include materials used in submarine cables, induction coil cores, magnetic shielding, etc., because of their high magnetic permeability and low hysteresis.

(2) **Nickel-chromium or nickel-chromium-iron alloys**. These include a variety of commercial materials featuring good strength and excellent resistance to oxidation at high temperature and scaling as well as to many corrosive environments. These materials are employed for the heater element in electrical resistance heating devices and are also used for components such as muffles and retorts used in the heat treatment of steels and other metals or in the form of pipe and tubing for high temperature chemical or petrochemical processing. Also in this group are special alloys known as “super alloys” which have been developed specifically for high strength at the elevated temperatures prevailing in aircraft turbines where they are used for turbine blades and vanes, combustion liners, transition sections, etc. Often these alloys contain molybdenum, tungsten, niobium, aluminium, titanium, etc., which are effective in significantly improving the strength of the nickel-base composition.

(3) **Nickel-copper alloys**. These alloys, which in addition to corrosion resistance have good strength, are used in such applications as propeller shafts and fasteners and are also used in pumps, valves, tubing and other forms of equipment exposed to certain mineral or organic acids or alkalis and salts.

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This Chapter includes :

(A) Nickel mattes, nickel oxide sinters and other intermediate products of nickel metallurgy and unwrought nickel, and nickel waste and scrap (headings 75.01 to 75.03).

(B) Nickel powders and flakes (heading 75.04).

(C) Products generally obtained by rolling, forging, drawing or extruding the unwrought nickel of heading 75.02 (headings 75.05 and 75.06).

(D) Tubes, pipes and fittings (heading 75.07), and electroplating anodes and other articles of heading 75.08, which covers all nickel articles, **other than** those covered by Note 1 to Section XV or included in **Chapter 82** or **83**, or more specifically covered elsewhere in the Nomenclature.

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Products and articles of nickel may be subjected to various treatments to improve the properties or appearance of the metal, etc. These treatments are generally those referred to at the end of the General Explanatory Note to Chapter 72, and do not affect the classification of the goods. (See, however, the special case of electroplating anodes (heading 75.08).)

*

* *

The classification of **composite articles** is explained in the General Explanatory Note to Section XV.

Heading 7501

Nickel mattes, nickel oxide sinters and other intermediate products of nickel metallurgy.

EXPLANATORY NOTES

75.01 - Nickel mattes, nickel oxide sinters and other intermediate products of nickel metallurgy.

7501.10 - Nickel mattes

7501.20 - Nickel oxide sinters and other intermediate products of nickel metallurgy

(1) **Nickel mattes**.

These mattes are obtained by the processing (roasting, smelting, etc.) of nickel ores and consist, according to the ores and processes employed, of nickel-iron sulphides, nickel-iron-copper sulphides, nickel sulphides or nickel-copper sulphides.

Mattes are usually in the form of cast blocks or slabs (often broken into pieces to facilitate packing or transport), granules or powders (particularly in the case of certain nickel sulphide mattes).

These mattes are used in the production of unwrought nickel.

(2) **The other intermediate products of nickel metallurgy.**

These include :

(i) **Impure nickel oxides**, e.g., nickel oxide sinters, nickel oxide in powder form ("green nickel oxide"), obtained by the processing of nickeliferous sulphide or oxide ores. These impure oxides are mainly used in the manufacture of alloy steels.

Nickel oxide sinters are usually in the form of powders or in lumps up to 50 mm.

(ii) **Impure ferro-nickel** which, because of its high content of sulphur (0.5 % or more), phosphorus and other impurities, cannot be used as an alloying product in the steel industry without prior refining. **Refined ferro-nickel** is used almost solely in the steel industry to provide the nickel necessary for the manufacture of certain special steels; it is therefore classified as a ferro-alloy in **heading 72.02**, subject to the provisions of Note 1 (c) to Chapter 72.

(iii) **Nickel speiss**, i.e., a lumpy mixture of arsenides; it is not now of great commercial importance.

7501.10

- Nickel mattes

7501.20

- Nickel oxide sinters and other intermediate products of nickel metallurgy

Heading 7502

Unwrought nickel.

EXPLANATORY NOTES

75.02 - Unwrought nickel.

7502.10 - Nickel, not alloyed

7502.20 - Nickel alloys

Unwrought nickel is usually in the form of ingots, pigs, pellets, flats, cubes, rondelles, briquettes, shots, cathodes or other electrodeposited shapes. These primary forms are mainly used as an additive in the manufacture of alloy steels and non-ferrous alloys and in the production of certain chemicals. Some of the forms are used in titanium baskets for nickel plating, or for the production of nickel powder.

Unrefined nickel is normally cast into anodes for refining by electrolysis. The anodes of this heading are usually in the form of slabs cast with two lugs for suspending them in the electrolytic refining tank. They should not be confused with anodes for electroplating described in the Explanatory Note to **heading 75.08**.

Cathodes are plates obtained by electrolytic deposition onto “starting sheets” of refined nickel to which two nickel loops have been attached for suspending them in the electrolytic refining tank. As the deposit of refined nickel builds up, the “starting sheets” become an integral and inseparable part of the cathodes.

Untrimmed cathodes are usually shipped without removing these loops, which often carry a growth of deposited nickel at the weld and should not be confused with the suspension hooks fitted to certain electroplating anodes. Untrimmed cathodes are also generally larger in size (approximately 96 x 71 x 1.25 cm) than electroplating anodes in sheet form which rarely exceed a width of 30.5 cm.

Cathodes which have been merely trimmed or cut into strips or small rectangular pieces remain classified in the heading irrespective of their size or the purpose for which they may be used. They can be distinguished from electroplating anodes of heading 75.08 by the fact that they are not fitted with suspension hooks or prepared (e.g., by piercing or tapping) for hooks.

This heading also **excludes** nickel powders and flakes (**heading 75.04**).

7502.10

- Nickel, not alloyed

7502.20

- Nickel alloys

Heading 7503

Nickel waste and scrap.

EXPLANATORY NOTES

75.03 - Nickel waste and scrap.

The provisions concerning waste and scrap in the Explanatory Note to heading 72.04 apply, *mutatis mutandis*, to this heading.

This heading **excludes** :

(a) Slag, ash and residues from the manufacture of nickel (**heading 26.20**).

(b) Ingots and similar unwrought forms cast from remelted nickel waste and scrap (**heading 75.02**).

7503.00

Nickel waste and scrap.

Heading 7504

Nickel powders and flakes.

EXPLANATORY NOTES

75.04 - Nickel powders and flakes.

This heading covers **nickel powders and flakes** of all types, regardless of their intended use. Powders are defined in Note 8 (b) to Section XV.

Depending on their physical characteristics, the powders and flakes are used in the unalloyed state in plates for nickel-cadmium batteries, in the manufacture of nickel sulphate, nickel chloride and other nickel salts, as binding agents for metal carbides, for the production of nickel alloys (e.g., alloy steels) or as catalysts.

They are also used either in the pure state or alloyed or mixed with other metallic powders (e.g., iron powders), for compacting and sintering into technical articles such as magnets and for direct rolling into sheets, strip and foil.

This heading **excludes** nickel oxide sinters (**heading 75.01**).

7504.00

Nickel powders and flakes.

Heading 7505

Nickel bars, rods, profiles and wire.

EXPLANATORY NOTES

75.05 - Nickel bars, rods, profiles and wire.

- Bars, rods and profiles :

7505.11 - - Of nickel, not alloyed

7505.12 - - Of nickel alloys

- Wire :

7505.21 - - Of nickel, not alloyed

7505.22 - - Of nickel alloys

These products, which are defined in Notes 9 (a), 9 (b) and 9 (c) to Section XV, correspond to similar goods of copper, **except** for the special provision for electroplating anodes (see the Explanatory Note to heading 75.08). **Subject** to this exception, the provisions of the Explanatory Notes to headings 74.07 and 74.08 apply, *mutatis mutandis,* to this heading.

The heading **does not cover** :

(a) Metallised yarn (**heading 56.05**).

(b) Bars, rods or profiles, prepared for use in structures (**heading 75.08**).

(c) Insulated electric bars (commonly known as “busbars” and wire (including enamelled wire) (**heading 85.44**).

7505.1

- Bars, rods and profiles :

7505.11

-- Of nickel, not alloyed

7505.12

-- Of nickel alloys

7505.2

- Wire :

7505.21

-- Of nickel, not alloyed

7505.22

-- Of nickel alloys

Heading 7506

Nickel plates, sheets, strip and foil.

EXPLANATORY NOTES

75.06 - Nickel plates, sheets, strip and foil.

7506.10 - Of nickel, not alloyed

7506.20 - Of nickel alloys

This heading covers **plates, sheets, strip and foil** which are defined in Note 9 (d) to Section XV; these products correspond to the copper products described in the Explanatory Notes to headings 74.09 and 74.10.

Plates and sheets may be used to clad iron or steel by welding, rolling, etc., and for the construction of equipment used, in particular, in the chemical industry.

This heading **excludes** expanded metal (**heading 75.08**).

7506.10

- Of nickel, not alloyed

CLASSIFICATION OPINIONS

1. Laminated product consisting of two outer layers of nickel foil and an inner layer made of a mixture of non-conductive polymers (polyolefin, fluoroplastics, etc.) and conductive carbon black. Each outer layer is 0.025 mm thick and the inner layer 0.3 mm. Presented in 30 x 40 cm sheets, the

product is used, after cutting to size, as a resettable fuse to protect batteries, telephones and electric motors of less than 60 V subjected to excessive voltage or high temperature.
Application of GIR 3 (b).
Adoption : 2000

7506.20

- Of nickel alloys

Heading 7507

Nickel tubes, pipes and tube or pipe fittings (for example, couplings, elbows, sleeves).

EXPLANATORY NOTES

75.07 - Nickel tubes, pipes and tube or pipe fittings (for example, couplings, elbows, sleeves).

- Tubes and pipes :

7507.11 - - Of nickel, not alloyed

7507.12 - - Of nickel alloys

7507.20 - Tube or pipe fittings

The Note 9 (e) to Section XV defines **tubes and pipes**.

The provisions of the Explanatory Notes to headings 73.04 to 73.07 apply, *mutatis mutandis*, to this heading.

Because of their resistance to corrosion (by acids, steam, etc.), tubes, pipes and fittings of nickel or of nickel alloys are used in apparatus for the chemical, food, papermaking industries, etc., in the manufacture of steam condensers, hypodermic needles, etc.

This heading **excludes** :

(a) Hollow profiles (**heading 75.05**).

(b) Nickel bolts and nuts used for assembling or fixing pipes, etc. (**heading 75.08**).

(c) Fittings with taps, cocks, valves, etc. (**heading 84.81**).

(d) Tubes, pipes and tube or pipe fittings made up into specific identifiable articles, e.g., machinery parts (**Section XVI**).

7507.1

- Tubes and pipes :

7507.11

-- Of nickel, not alloyed

7507.12

-- Of nickel alloys

7507.20

- Tube or pipe fittings

Heading 7508

Other articles of nickel.

EXPLANATORY NOTES

75.08 - Oher articles of nickel.

7508.10 - Cloth, grill and netting, of nickel wire

7508.90 - Other

(A) ELECTROPLATING ANODES INCLUDING THOSE

PRODUCED BY ELECTROLYSIS

This group covers refined nickel anodes for electroplating by electrolytic deposition. They may be cast, rolled, drawn, extruded or may be made from cathodes or other electrodeposited shapes of heading 75.02. These anodes are either :

(1) in special shapes (stars, rings, particular profiles) to give the maximum anode surface suited to the articles to be plated, and in the case of bar anodes (which are usually of oval, elliptical, rhomboidal or diamond shaped cross-section) in the length appropriate for use as anodes; or

(2) in the form of plates (flat or curved), strip, sheets, discs (flat or corrugated), hemispheres or balls. To be classified in this heading these articles must have features identifying them as electroplating anodes, i.e., they must be fitted with hooks for suspending them in the electroplating tank or be prepared for hooks (e.g., by threading, piercing or tapping).

These anodes are usually of a high degree of purity. Small amounts of certain elements may, however, remain after the production process or be added deliberately, in order, e.g., to depolarise the anodes to ensure even attack over the whole surface and avoid loss of nickel through formation of sludge. These characteristics, together with the identifying features mentioned above, distinguish electroplating anodes from the cast anodes for electrolytic refining referred to in the second paragraph of the Explanatory Note to heading 75.02, which are **excluded** from this heading.

These conventional anodes for nickel-plating are, however, being more and more frequently replaced by basket anodes, i.e. unwrought forms such as nickel rondelles in titanium baskets (see the Explanatory Note to heading 75.02).

This heading also **excludes** the following, whether or not intended for use in nickel-plating or conversion into electroplating anodes :

(a) Plates (cathodes) obtained simply by electrolysis, untrimmed or trimmed, or cut into strips or small rectangular pieces, but not further worked (**heading 75.02**).

(b) Pellets, unwrought (**heading 75.02**).

(c) Bars simply cast, rolled or extruded, not complying with the requirements as to shape, length, or working referred to above (**heading 75.02** or **75.05**).

(d) Plates, simply rolled (**heading 75.06**).

(B) OTHER

This group covers all articles of nickel **other than** those covered by the preceding group or by the preceding headings of this Chapter or by Note 1 to Section XV, or articles specified or included in Chapter 82 or 83, or more specifically covered elsewhere in the Nomenclature.

The group covers, *inter alia* :

(1) Structures such as window frames, and fabricated parts of structures.

(2) Reservoirs, vats and similar containers, of any capacity, not fitted with mechanical or thermal equipment.

(3) Cloth, grill and netting of nickel wire, and expanded metal, of nickel.

(4) Nickel nails, tacks, nuts, bolts, screws and other articles of the types described in the Explanatory Notes to headings 73.17 and 73.18.

(5) Springs **other than** clock or watch springs of **heading 91.14**.

(6) Household articles and sanitary ware, and parts thereof.

(7) Blanks for coinage, in the form of nickel discs with raised edges.

(8) Nickel articles corresponding to the iron or steel articles referred to in the Explanatory Notes to headings 73.25 and 73.26.

7508.10

- Cloth, grill and netting, of nickel wire

7508.90

- Other

Chapter 76

Aluminium and articles thereof

LEGAL NOTES

Subheading Notes.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Aluminium, not alloyed**

Metal containing by weight at least 99 % of aluminium, provided that the content by weight of any other element does not exceed the limit specified in the following table :

TABLE - Other elements

Element	Limiting content % by weight
Fe + Si (iron plus silicon)	1
Other elements[1], each	0.1[2]
[1] Other elements are, for example Cr, Cu, Mg, Mn, Ni, Zn.	

(2) Copper is permitted in a proportion greater than 0.1 % but not more than 0.2 %, provided that neither the chromium nor manganese content exceeds 0.05 %.

(b) **Aluminium alloys**

Metallic substances in which aluminium predominates by weight over each of the other elements, provided that :

(i) the content by weight of at least one of the other elements or of iron plus silicon taken together is greater than the limit specified in the foregoing table; or

(ii) the total content by weight of such other elements exceeds 1 %.

2.- Notwithstanding the provisions of Note 9 (c) to the Section XV, for the purposes of subheading 7616.91 the term “wire” applies only to products, whether or not in coils, of any cross-sectional shape, of which no cross-sectional dimension exceeds 6 mm.

EXPLANATORY NOTES

Chapter 76

Aluminium and articles thereof

Subheading Notes.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Aluminium, not alloyed**

Metal containing by weight at least 99 % of aluminium, provided that the content by weight of any other element does not exceed the limit specified in the following table :

TABLE - Other elements

Element	Limiting content % by weight
Fe + Si (iron plus silicon)	1
Other elements(1), each	0.1(2)

(1) Other elements are, for example Cr, Cu, Mg, Mn, Ni, Zn.

(2) Copper is permitted in a proportion greater than 0.1 % but not more than 0.2 %, provided that neither the chromium nor manganese content exceeds 0.05 %.

(b) **Aluminium alloys**

Metallic substances in which aluminium predominates by weight over each of the other elements, provided that :

(i) the content by weight of at least one of the other elements or of iron plus silicon taken together is greater than the limit specified in the foregoing table; or

(ii) the total content by weight of such other elements exceeds 1 %.

2.- Notwithstanding the provisions of Note 9 (c) to the Section XV, for the purposes of subheading 7616.91 the term “wire” applies only to products, whether or not in coils, of any cross-sectional shape, of which no cross-sectional dimension exceeds 6 mm.

GENERAL

This Chapter covers aluminium and its alloys, and certain articles thereof.

Aluminium is obtained principally from bauxite, a crude hydrated alumina (see the Explanatory Note to heading 26.06). The first stage of the extraction is designed to convert the bauxite into pure aluminium oxide (alumina). For this purpose the ground ore is calcined and then treated with sodium hydroxide to produce a solution of sodium aluminate; this is then filtered to eliminate insoluble impurities (iron oxide, silica, etc.). The aluminium is then precipitated as aluminium hydroxide, which is calcined to give pure aluminium oxide in the form of a white powder. However, aluminium hydroxide and aluminium oxide are classified in **Chapter 28**.

In the second stage, the metal is extracted by electrolytic reduction of the alumina dissolved in fused cryolite (the latter is sodium aluminium fluoride, but it acts solely as a solvent). This electrolysis is carried out in carbon lined baths which act as the cathode; carbon bars are used as anodes. The aluminium is deposited in the bottom of the baths from where it is syphoned. It is then cast in the form of blocks, ingots, billets, slabs, wire bars, etc., usually after refining. By repeated electrolysis, aluminium can be obtained almost completely pure.

Aluminium may also be obtained by the treatment of certain other ores such as leucite (double silicate of aluminium and potassium), by re-melting aluminium waste and scrap or by processing residues (slag, dross, etc.).

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Aluminium is a bluish-white metal characterised by its lightness. It is very ductile and easily rolled, drawn, forged, stamped, and may be cast, etc. Like other soft metals, aluminium is also very suitable for extrusion and die-casting. In modern practice it can be soldered. Aluminium is an excellent conductor of heat and electricity and is a very good reflector. Since the oxide film which forms naturally on its surface protects the metal, it is often produced artificially in greater depth by anodising or chemical treatment; the surface is also sometimes coloured during these processes.

*

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The hardness, toughness, etc., of aluminium can be very substantially increased by alloying with other elements such as copper, magnesium, silicon, zinc or manganese. Certain of the alloys may be improved by age-hardening treatments. These processes may be followed by tempering.

The **principal aluminium alloys** which may be classified in this Chapter under the provisions of Note 5 to Section XV (see the General Explanatory Note to that Section) are :

(1) Aluminium-copper alloys. These are aluminium based alloys with a low copper content.

(2) Aluminium-zinc-copper alloys.

(3) Aluminium-silicon alloys (e.g., “alpax”, “silumin”).

(4) Aluminium-manganese-magnesium alloys.

(5) Aluminium-magnesium-silicon alloys (e.g., “almelec”, “aldrey”).

(6) Aluminium-copper-magnesium-manganese alloys (e.g., “duralumin”).

(7) Aluminium-magnesium alloys (e.g., “magnalium”).

(8) Aluminium-manganese alloys.

(9) Aluminium-zinc-magnesium alloys.

Most of these alloys may also contain small quantities of iron, nickel, chromium, etc.; they are often marketed under trade names which vary according to the country of origin.

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The special properties of aluminium and its alloys favour their wide use : in the aircraft, automobile or shipbuilding industries; in the building industry; in the construction of railway or tramway rolling-stock; in the electrical industry (e.g., as cables); for all types of containers (reservoirs and vats of all sizes, transport casks, drums, etc.); for household or kitchen utensils; for the manufacture of foil; etc.

*

* *

The Chaptercovers :

(A) Unwrought aluminium, and waste and scrap (headings 76.01 and 76.02).

(B) Aluminium powders and flakes (heading 76.03).

(C) Products generally obtained by rolling, extruding, drawing or forging the unwrought aluminium of heading 76.01 (headings 76.04 to 76.07).

(D) Various articles specified in headings 76.08 to 76.15, and other articles of the residual heading 76.16 which covers all other aluminium articles **other than** those included in **Chapter 82** or **83**, or more specifically covered elsewhere in the Nomenclature.

Products obtained by sintering aluminium and alumina are considered as cermets and **are excluded** from this Chapter (**heading 81.13**).

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* *

Products and articles of aluminium are frequently subjected to various treatments to improve the properties or appearance of the metal, to protect it from corrosion, etc. These treatments are generally those referred to at the end of the General Explanatory Note to Chapter 72, and do not affect the classification of the goods.

*

* *

The classification of **composite goods**, particularly made up articles, is explained in the General Explanatory Note to Section XV.

Heading 7601

Unwrought aluminium.

EXPLANATORY NOTES

76.01 - Unwrought aluminium.

7601.10 - Aluminium, not alloyed

7601.20 - Aluminium alloys

This heading covers **unwrought aluminium** in the liquid state, in blocks, ingots, billets, slabs, notched bars, wire bars, or similar forms obtained by casting electrolytic aluminium or by remelting metal waste or scrap. These goods are generally intended for rolling, forging, drawing, extruding, hammering or for remelting and for casting into shaped articles.

The heading includes aluminium pellets, mainly used in metallurgy (as de-oxidising agents, especially in the manufacture of iron or steel).

The heading also covers certain cast or sintered bars, etc. (see the Explanatory Note to heading 74.03 which applies, *mutatis mutandis*, to this heading).

The heading **excludes** aluminium powders and flakes (**heading 76.03**).

7601.10

- Aluminium, not alloyed

7601.20

- Aluminium alloys

Heading 7602

Aluminium waste and scrap.

EXPLANATORY NOTES

76.02 - Aluminium waste and scrap.

The provisions concerning waste and scrap in the Explanatory Note to heading 72.04 apply, *mutatis mutandis*, to this heading.

Aluminium waste and scrap is an important source of raw material for the aluminium industry. It is also used as a de-oxidising or de-carburising agent in metallurgy.

The heading **does not cover** :

(a) Slag, dross, etc., from the manufacture of iron or steel containing recoverable aluminium in the form of silicates (**heading 26.18** or **26.19**).

(b) Slag, ash and residues from the manufacture of aluminium (**heading 26.20**).

(c) Ingots and similar unwrought forms, cast from remelted aluminium waste and scrap (**heading 76.01**).

7602.00

Aluminium waste and scrap.

Heading 7603

Aluminium powders and flakes.

EXPLANATORY NOTES

76.03 - Aluminium powders and flakes.

7603.10 - Powders of non-lamellar structure

7603.20 - Powders of lamellar structure; flakes

This heading covers aluminium powders as defined in Note 8 (b) to Section XV and aluminium flakes. In general these products correspond to those of copper and the Explanatory Note to heading 74.06 therefore applies, *mutatis mutandis*, to this heading. Aluminium powders and flakes are, however, also used in pyrotechnics, as heat generators (e.g., in the thermit process), to protect other metals from corrosion (e.g., calorising, metallic cementation), in rocket propellants and in the preparation of special cements.

The heading **does not cover** :

(a) Powders or flakes, prepared as colours, paints or the like (e.g., made up with other colouring matter or put up as suspensions, dispersions or pastes with a binder or solvent) (**Chapter 32**).

(b) Aluminium pellets (**heading 76.01**).

(c) Spangles cut from aluminium foil (**heading 83.08**).

7603.10

- Powders of non-lamellar structure

CLASSIFICATION OPINIONS

1. Non-sintered powder consisting of aluminium grains coated with aluminium oxide with an alumina content of 7 to 14 %.
Adoption : 1970

7603.20

- Powders of lamellar structure; flakes

Heading 7604

Aluminium bars, rods and profiles.

EXPLANATORY NOTES

76.04 - Aluminium bars, rods and profiles.

7604.10 - Of aluminium, not alloyed

- Of aluminium alloys :

7604.21 - - Hollow profiles

7604.29 - - Other

These products, which are defined in Notes 9 (a) and 9 (b) to Section XV, correspond to similar goods made of copper. The provisions of the Explanatory Note to heading 74.07 apply therefore, *mutatis mutandis*, to this heading.

The heading **does not cover** :

(a) Rods and profiles, prepared for use in structures (**heading 76.10**).

(b) Coated welding electrodes, etc. (**heading 83.11**).

7604.10

- Of aluminium, not alloyed

7604.2

- Of aluminium alloys :

7604.21

-- Hollow profiles

7604.29

-- Other
Heading 7605

Aluminium wire.
EXPLANATORY NOTES

76.05 - Aluminium wire.

- Of aluminium, not alloyed :

7605.11 - - Of which the maximum cross-sectional dimension exceeds 7 mm

7605.19 - - Other

- Of aluminium alloys :

7605.21 - - Of which the maximum cross-sectional dimension exceeds 7 mm

7605.29 - - Other

Wire is defined in Note 9 (c) to Section XV.

The heading **does not cover** :

(a) Metallised yarn (**heading 56.05**).

(b) Twine and cordage reinforced with aluminium wire (**heading 56.07**).

(c) Stranded wire, cables and other goods of **heading 76.14**.

(d) Coated welding electrodes (**heading 83.11**).

(e) Insulated electric wire and cable (including enamelled or anodised wire) (**heading 85.44**).

(f) Musical instrument strings (**heading 92.09**).

7605.1

- Of aluminium, not alloyed :
7605.11

-- Of which the maximum cross-sectional dimension exceeds 7 mm
7605.19

-- Other
7605.2

- Of aluminium alloys :
7605.21

-- Of which the maximum cross-sectional dimension exceeds 7 mm
7605.29

-- Other

Heading 7606

Aluminium plates, sheets and strip, of a thickness exceeding 0.2 mm.

EXPLANATORY NOTES

76.06 - Aluminium plates, sheets and strip, of a thickness exceeding 0.2 mm.

- Rectangular (including square) :

7606.11 - - Of aluminium, not alloyed

7606.12 - - Of aluminium alloys

- Other :

7606.91 - - Of aluminium, not alloyed

7606.92 - - Of aluminium alloys

These products, which are defined in Note 9 (d) to Section XV, correspond to similar goods made of copper. The provisions of the Explanatory Note to heading 74.09 apply therefore, *mutatis mutandis*, to this heading.

The heading **does not cover** :

(a) Foil of a thickness not exceeding 0.2 mm (**heading 76.07**).

(b) Expanded metal (**heading 76.16**).

7606.1

- Rectangular (including square) :

7606.11

-- Of aluminium, not alloyed

CLASSIFICATION OPINIONS

1. Laminated aluminium products, consisting of two flat-rolled sheets of aluminium which constitute the outer layers of the laminated product, and one sheet or layer of plastics which constitutes the inner layer or core. The outer layers usually have individual thicknesses up to 2.54 mm, and the core thicknesses may range from approximately 0.02 mm to 2.29 mm. The products are usually in coils, with a width up to approximately 1,500 mm, or may be cut into sheets. The core imparts superior sound-damping quality to the products. The products are used for external cladding of buildings, internal decoration, automotive body panels, home appliances, business machines, etc
Adoption : 1998

7606.12

-- Of aluminium alloys

CLASSIFICATION OPINIONS

1. Laminated aluminium products, consisting of two flat-rolled sheets of aluminium which constitute the outer layers of the laminated product, and one sheet or layer of plastics which constitutes the inner layer or core. The outer layers usually have individual thicknesses up to 2.54 mm, and the core thicknesses may range from approximately 0.02 mm to 2.29 mm. The products are usually in coils, with a width up to approximately 1,500 mm, or may be cut into sheets. The core imparts superior sound-damping quality to the products. The products are used for external cladding of buildings, internal decoration, automotive body panels, home appliances, business machines, etc
Adoption : 1998

7606.9

- Other :
7606.91

-- Of aluminium, not alloyed
CLASSIFICATION OPINION

1. Laminated aluminium products, consisting of two flat-rolled sheets of aluminium which constitute the outer layers of the laminated product, and one sheet or layer of plastics which constitutes the inner layer or core. The outer layers usually have individual thicknesses up to 2.54 mm, and the core thicknesses may range from approximately 0.02 mm to 2.29 mm. The products are usually in coils, with a width up to approximately 1,500 mm, or may be cut into sheets. The core imparts superior sound-damping quality to the products. The products are used for external cladding of buildings, internal decoration, automotive body panels, home appliances, business machines, etc
Adoption : 1998

7606.92

-- Of aluminium alloys
CLASSIFICATION OPINION

1. Laminated aluminium products, consisting of two flat-rolled sheets of aluminium which constitute the outer layers of the laminated product, and one sheet or layer of plastics which constitutes the inner layer or core. The outer layers usually have individual thicknesses up to 2.54 mm, and the core thicknesses may range from approximately 0.02 mm to 2.29 mm. The products are usually in coils, with a width up to approximately 1,500 mm, or may be cut into sheets. The core imparts superior sound-damping quality to the products. The products are used for external cladding of buildings, internal decoration, automotive body panels, home appliances, business machines, etc
Adoption : 1998

Heading 7607

Aluminium foil (whether or not printed or backed with paper, paperboard, plastics or similar backing materials) of a thickness (excluding any backing) not exceeding 0.2 mm.
EXPLANATORY NOTES

76.07 - Aluminium foil (whether or not printed or backed with paper, paperboard, plastics or similar backing materials) of a thickness (excluding any backing) not exceeding 0.2 mm (+).

- Not backed :

7607.11 - - Rolled but not further worked

7607.19 - - Other

7607.20 - Backed

This heading covers the products defined in Note 9 (d) to Section XV, when of a thickness not exceeding 0.2 mm.

The provisions of the Explanatory Note to heading 74.10 relating to copper foil apply, *mutatis mutandis*, to this heading.

Aluminium foil is used in the manufacture of bottle caps and capsules, for packing foodstuffs, cigars, cigarettes, tobacco, etc. Aluminium foil is also used for the manufacture of the finely divided powder of heading 76.03, in crinkled sheets for thermal insulation, for artificial silvering, and as a wound dressing in veterinary surgery.

The heading **does not cover** :

(a) Stamping foils (also known as blocking foils) composed of aluminium powder agglomerated with gelatin, glue or other binder, or of aluminium deposited on paper, plastics or other support, and used for printing book covers, hat bands, etc. (**heading 32.12**).

(b) Paper and paperboard for the manufacture of containers for milk, fruit juice or other food products and lined with aluminium foil (i.e., on the face which will form the inside of the containers) **provided** they retain the essential character of paper or paperboard (**heading 48.11**).

(c) Printed aluminium foil labels being identifiable individual articles by virtue of the printing (**heading 49.11**).

(d) Plates, sheets and strip, of a thickness exceeding 0.2 mm (**heading 76.06**).

(e) Foil in the form of Christmas tree decorations (**heading 95.05**).

°

° °

Subheading Explanatory Note.

Subheading 7607.11

In addition to cold-rolling or hot-rolling, the products of this subheading may have been subjected to the following working or surface treatments :

(1) Heat treatments, such as stress-relieving or annealing. These treatments also eliminate residual rolling mill lubricants.

(2) Trimming, slitting or cutting into rectangular (including square) shape, e.g., separating wide strip into narrower strip.

(3) Separation (unwinding) of thin multiple-layer laminated sheets. This operation is necessary when two or more coils of foil are rolled simultaneously during the last rolling mill pass.

(4) Chemical cleaning or washing. This is normally carried out to eliminate residual oil when there is no heat treatment.

7607.1

- Not backed :

7607.11

-- Rolled but not further worked

7607.19

-- Other

7607.20

- Backed

CLASSIFICATION OPINIONS

Laminated reflective insulation (38.1 m long x 1.22 m wide) in rolls consisting of two outer layers of aluminium foil (thickness 5 µm) and an inner layer made of a polyethylene air bubble wrap (thickness 3.1 mm). The weight percentage per m2 of the two layers of aluminium foil and polyethylene air bubble wrap is 16 % and 84 % respectively.
The product is intended to be cut according to the user's needs and is designed to be installed on the inside of a wall, ceiling or floor of a building to maintain temperature by insulating against radiant heat from outside or inside. The laminated aluminium foil reflects radiant heat (reflectance: 97 %) in both directions and the polyethylene bubble wrap trapped air spaces between the foil surfaces insulate against conduction of heat.
Application of GIRs 1, 3 (b) and 6.

Adoption : 2015

A Top (Back) view

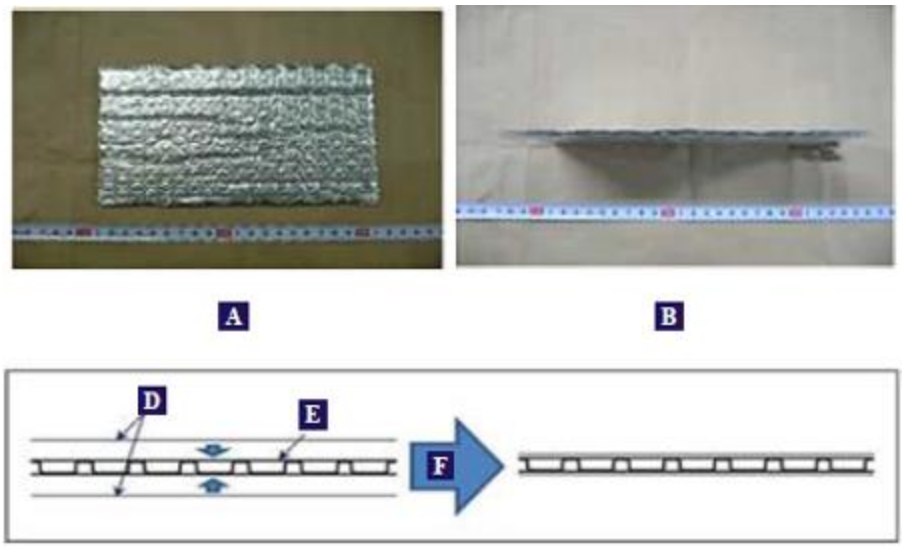
B Side view

C Structural drawings (side view)

D Aluminium foil

E Bubble wrap

F Stick together



Heading 7608

Aluminium tubes and pipes.

EXPLANATORY NOTES

76.08 - Aluminium tubes and pipes.

7608.10 - Of aluminium, not alloyed

7608.20 - Of aluminium alloys

Note 9 (e) to Section XV defines **tubes and pipes**.

The tubes and pipes of this heading may be manufactured by the following processes :

(a) by extruding a hollow cast or pierced round ingot;

(b) by longitudinally or spirally seam welding a die or roll-formed flat-rolled semi-product (strip or sheet);

(c) by impact extrusion;

(d) by casting.

Extruded or welded tubes may be subjected to a cold-drawing operation to obtain tubes with thinner walls, more accurate dimensions and a better finish.

The tubes and pipes of this heading are used for many purposes, e.g., as pipelines for oil or water, as conduits for electrical wiring, in the manufacture of furniture, heat exchangers, structures.

The heading includes tubes and pipes whether or not they are threaded at the ends, fitted with sockets, flanges, collars, rings, etc.

The heading **does not cover** :

(a) Hollow profiles (**heading 76.04**).

(b) Tube or pipe fittings (**heading 76.09**).

(c) Flexible tubing (**heading 83.07**).

(d) Tubes and pipes made up into specific identifiable articles, such as those prepared for use in structures (**heading 76.10**), machinery or vehicle parts (**Sections XVI** and **XVII**), etc.

7608.10

- Of aluminium, not alloyed

7608.20

- Of aluminium alloys

Heading 7609

Aluminium tube or pipe fittings (for example, couplings, elbows, sleeves).

EXPLANATORY NOTES

76.09 - Aluminium tube or pipe fittings (for example, couplings, elbows, sleeves).

The provisions of the Explanatory Notes to headings 73.07 and 74.12 apply, *mutatis mutandis*, to this heading.

The heading **does not cover** :

(a) Clamps and other devices specially designed for assembling parts of structures (**heading 76.10**).

(b) Hangers and brackets to support tubing; aluminium bolts and nuts used for assembling or fixing pipes or tubes (**heading 76.16**).

(c) Fittings with taps, cocks, valves, etc. (**heading 84.81**).

7609.00

Aluminium tube or pipe fittings (for example, couplings, elbows, sleeves).

Heading 7610

Aluminium structures (excluding prefabricated buildings of heading 94.06) and parts of structures (for example, bridges and bridge-sections, towers, lattice masts, roofs, roofing frameworks, doors and windows and their frames and thresholds for doors, balustrades, pillars and columns); aluminium plates, rods, profiles, tubes and the like, prepared for use in structures.

EXPLANATORY NOTES

76.10 - Aluminium structures (excluding prefabricated buildings of heading 94.06) and parts of structures (for example, bridges and bridge-sections, towers, lattice masts, roofs, roofing frameworks, doors and windows and their frames and thresholds for doors, balustrades, pillars and columns); aluminium plates, rods, profiles, tubes and the like, prepared for use in structures.

7610.10 - Doors, windows and their frames and thresholds for doors

7610.90 - Other

The provisions of the Explanatory Note to heading 73.08 apply, *mutatis mutandis*, to this heading.

In the case of aluminium, structural parts are sometimes bonded together with synthetic resins or rubber compounds instead of being fixed by the ordinary methods of riveting, bolting, etc.

In view of their lightness, aluminium and its alloys are sometimes used instead of iron or steel in the manufacture of structural frameworks, ships' superstructures, bridges, sliding doors, electric grid or radio pylons, telescopic pit props, door or window frames, railings, etc.

The heading **excludes** :

(a) Assemblies identifiable as parts of articles of **Chapters 84 to 88**.

(b) Floating structures of **Chapter 89**.

(c) Prefabricated buildings (**heading 94.06**).

7610.10

- Doors, windows and their frames and thresholds for doors

7610.90

- Other

CLASSIFICATION OPINIONS

1. Angles, perforated, prepared for use in the assembly of metal structures (racks, sets of shelves, furniture, stairs, scaffolding, roofing frameworks, etc.), presented separately or in sets :

(i) Not being unassembled or disassembled articles classifiable with assembled articles of the corresponding kind :

Of aluminium alloy.

(ii) Being unassembled or disassembled articles classifiable with assembled articles of the corresponding kind :

(heading applicable to the assembled article).

See also Opinion 7308.90/2.
Adoption : 1962

Heading 7611

Aluminium reservoirs, tanks, vats and similar containers, for any material (other than compressed or liquefied gas), of a capacity exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment.

EXPLANATORY NOTES

76.11 - Aluminium reservoirs, tanks, vats and similar containers, for any material (other than compressed or liquefied gas), of a capacity exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment.

The Explanatory Note to heading 73.09 applies, *mutatis mutandis*, to this heading.

Because of its lightness and resistance to corrosion, aluminium tends to replace iron and steel in the manufacture of reservoirs, tanks, etc., particularly in the chemical industries, breweries, dairies, cheese factories.

However, the heading **excludes** containers specially designed and equipped for carriage by one or more modes of transport (**heading 86.09**).

7611.00

Aluminium reservoirs, tanks, vats and similar containers, for any material (other than compressed or liquefied gas), of a capacity exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment.

Heading 7612

Aluminium casks, drums, cans, boxes and similar containers (including rigid or collapsible tubular containers), for any material (other than compressed or liquefied gas), of a capacity not exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment.

EXPLANATORY NOTES

76.12 - Aluminium casks, drums, cans, boxes and similar containers (including rigid or collapsible tubular containers), for any material (other than compressed or liquefied gas), of a capacity not exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment.

7612.10 - Collapsible tubular containers

7612.90 - Other

The provisions of the Explanatory Note to heading 73.10 also apply, *mutatis mutandis*, to this heading.

Casks and drums of aluminium are mainly used for the transport of milk, beer, wine, etc.; aluminium cans and boxes are often used for packing foodstuffs. The heading also includes rigid tubular containers (e.g., for pharmaceutical products such as pills or tablets), and collapsible tubular containers for creams, toothpastes, etc.

This heading **does not cover** :

(a) Articles of **heading 42.02**.

(b) Biscuit barrels, tea caddies, sugar tins and similar household or kitchen containers and canisters (**heading 76.15**).

(c) Cigarette cases, powder boxes, tool boxes and similar containers for personal or professional use (**heading 76.16**).

(d) Articles of **heading 83.04**.

(e) Ornamental boxes (**heading 83.06**).

(f) Containers specially designed and equipped for carriage by one or more modes of transport (**heading 86.09**).

(g) Vacuum flasks and other vacuum vessels complete, of **heading 96.17**.

7612.10

- Collapsible tubular containers

7612.90

- Other

Heading 7613

Aluminium containers for compressed or liquefied gas.

EXPLANATORY NOTES

76.13 - Aluminium containers for compressed or liquefied gas.

See the Explanatory Note to heading 73.11.

7613.00

Aluminium containers for compressed or liquefied gas.

Heading 7614

Stranded wire, cables, plaited bands and the like, of aluminium, not electrically insulated.

EXPLANATORY NOTES

76.14 - Stranded wire, cables, plaited bands and the like, of aluminium, not electrically insulated.

7614.10 - With steel core

7614.90 - Other

The Explanatory Note relating to heading 73.12 applies, *mutatis mutandis*, to this heading.

Since they are light and good conductors of electricity, aluminium and the aluminium-magnesium-silicon alloys such as “almelec” and “aldrey” are often used in place of copper in the construction of electric wires and cables.

Aluminium cables may have a core of steel or other metal **provided** the aluminium predominates by weight (see Note 7 to Section XV).

However, the heading **excludes** insulated electric wire and cable (**heading 85.44**).

7614.10

- With steel core

7614.90

- Other

Heading 7615

Table, kitchen or other household articles and parts thereof, of aluminium; pot scourers and scouring or polishing pads, gloves and the like, of aluminium; sanitary ware and parts thereof, of aluminium.

EXPLANATORY NOTES

76.15 - Table, kitchen or other household articles and parts thereof, of aluminium; pot scourers and scouring or polishing pads, gloves and the like, of aluminium; sanitary ware and parts thereof, of aluminium.

7615.10 - Table, kitchen or other household articles and parts thereof; pot scourers and scouring or polishing pads, gloves and the like

7615.20 - Sanitary ware and parts thereof

This heading covers the same types of articles as are described in the Explanatory Notes to headings 73.23 and 73.24, particularly the kitchen utensils, sanitary and toilet articles described therein. The heading also covers aluminium cooking or heating apparatus similar to that described in the Explanatory Note to heading 74.18.

However, the heading **does not cover** :

(a) Cans, boxes and similar containers, of **heading 76.12**.

(b) Household articles having the character of tools (**Chapter 82**) (see Explanatory Note to heading 73.23).

(c) Cutlery, spoons, ladles, forks and other articles of **headings 82.11 to 82.15**.

(d) Ornaments (**heading 83.06**).

(e) Instantaneous or storage water heaters and other appliances of **heading 84.19**.

(f) Household electrical equipment of **Chapter 85** (in particular the appliances and apparatus of **headings 85.09** and **85.16**).

(g) Articles of **Chapter 94**.

(h) Cigarette lighters and other lighters (**heading 96.13**).

(ij) Vacuum flasks and other vacuum vessels of **heading 96.17**.

7615.10

- Table, kitchen or other household articles and parts thereof; pot scourers and scouring or polishing pads, gloves and the like

CLASSIFICATION OPINIONS

1. Disposable aluminium foil containers of a kind commonly used in the kitchen, principally for the commercial preparation, packing and conveyance of foods. The containers vary in form and size (generally rectangular or round). The articles are frequently used in the baking industry to contain the food during the production and cooking phase. The food is subsequently conveyed and sold in the foil container. Such containers are usually discarded after one use. **Application of GIRs 1 and 6.** *Adoption : 2007*




7615.20

- Sanitary ware and parts thereof

Heading 7616

Other articles of aluminium.

EXPLANATORY NOTES

76.16 - Other articles of aluminium.

7616.10 - Nails, tacks, staples (other than those of heading 83.05), screws, bolts, nuts, screw hooks, rivets, cotters, cotter-pins, washers and similar articles

- Other :

7616.91 - - Cloth, grill, netting and fencing, of aluminium wire

7616.99 - - Other

This heading covers all articles of aluminium **other than** those covered by the preceding headings of this Chapter, or by Note 1 to Section XV, or articles specified or included in **Chapter 82** or **83**, or more specifically covered elsewhere in the Nomenclature.

This heading includes, in particular :

(1) Nails, tacks, staples, (**other than** those of **heading 83.05**), screws, bolts, nuts, screw hooks, rivets, cotters, cotterpins, washers and similar articles of the types described in the Explanatory Notes to headings 73.17 and 73.18.

(2) Knitting needles, bodkins, crochet hooks, embroidery stilettos, safety pins, other pins and other articles of the types described in the Explanatory Note to heading 73.19.

(3) Chains and parts thereof of aluminium.

(4) Cloth, grill and netting of aluminium wire, and expanded metal (see the Explanatory Note to heading 73.14). Expanded metal is used in shop display, for loudspeaker grills, as an explosion suppressant used in the transport and storage of volatile liquids and gases, etc.

(5) Aluminium articles corresponding to the iron and steel articles referred to in the Explanatory Notes to headings 73.25 and 73.26.

The heading **does not cover** :

(a) Woven fabric of metal thread, of a kind used in articles of apparel, as furnishing fabrics or the like (**heading 58.09**).

(b) Wire cloth, etc., made into the form of machinery parts (e.g., by assembling with other materials) (**Chapter 84** or **85**).

(c) Wire cloth, etc., made up into hand sieves or riddles (**heading 96.04**).

7616.10

- Nails, tacks, staples (other than those of heading 83.05), screws, bolts, nuts, screw hooks, rivets, cotters, cotter-pins, washers and similar articles

7616.9

- Other :

7616.91

-- Cloth, grill, netting and fencing, of aluminium wire

7616.99

-- Other

Chapter 77

(Reserved for possible future use in the Harmonized System)

EXPLANATORY NOTES

Chapter 77

(Reserved for possible future use

in the Harmonized System)

Chapter 78

Lead and articles thereof

LEGAL NOTES

Subheading Note.

1.- In this Chapter the expression “refined lead” means :

Metal containing by weight at least 99.9 % of lead, provided that the content by weight of any other element does not exceed the limit specified in the following table :

TABLE - Other elements

Element		Limiting content % by weight
Ag	Silver	0.02
As	Arsenic	0.005
Bi	Bismuth	0.05
Ca	Calcium	0.002
Cd	Cadmium	0.002
Cu	Copper	0.08
Fe	Iron	0.002
S	Sulphur	0.002
Sb	Antimony	0.005
Sn	Tin	0.005
Zn	Zinc	0.002
Other	(for example Te), each	0.001

EXPLANATORY NOTES

Chapter 78

Lead and articles thereof

Subheading Note.

1.- In this Chapter the expression “refined lead” means :

Metal containing by weight at least 99.9 % of lead, provided that the content by weight of any other element does not exceed the limit specified in the following table :

TABLE - Other elements

Element		Limiting content % by weight
Ag	Silver	0.02
As	Arsenic	0.005
Bi	Bismuth	0.05
Ca	Calcium	0.002
Cd	Cadmium	0.002
Cu	Copper	0.08
Fe	Iron	0.002
S	Sulphur	0.002
Sb	Antimony	0.005
Sn	Tin	0.005
Zn	Zinc	0.002
Other	(for example Te), each	0.001

GENERAL

This Chapter covers lead and its alloys, and certain articles thereof.

Lead is mainly extracted from galena, a natural lead sulphide ore often containing silver. The crushed ore, after concentration by flotation, is generally roasted or sintered, and is then reduced by smelting. During the roasting or sintering process, the sulphide is largely converted into oxide; in the smelting process, the oxide is reduced to lead by means of coke and a flux. In this manner “bullion lead” or “work lead” is obtained; this contains a number of impurities, frequently including silver. It is therefore generally further refined to produce almost completely pure lead.

Lead is also obtained by remelting lead waste and scrap.

*

* *

Lead is a heavy, bluish-grey metal; it is very malleable, easily melted and very soft (it can be marked easily with the thumb nail). It resists the action of most acids (e.g., sulphuric acid or hydrogen chloride) and is therefore used in the construction of chemical plant.

*

* *

Because of its low melting point lead is easily alloyed with other elements. The **principal lead alloys** which may fall in this Chapter under the provisions of Note 5 to Section XV (see the General Explanatory Note to that Section), are the following :

(1) Lead-tin alloys used, for example, in lead-based soft solders, in terne-plate and in foil for the packing of tea.

(2) Lead-antimony-tin alloys used for printing type and in anti-friction bearings.

(3) Lead-arsenic alloys used for lead shot.

(4) Lead-antimony alloys (hard lead), used for bullets, accumulator plates, etc.

(5) Lead-calcium, lead-antimony-cadmium, lead-tellurium alloys.

*

* *

The Chapter covers :

(A) Unwrought lead and waste and scrap (headings 78.01 and 78.02).

(B) Products generally obtained by rolling or extruding the unwrought lead of heading 78.01 (headings 78.04 and 78.06); lead powders and flakes (heading 78.04).

(C) Tubes, pipes and fittings and the other articles of the residual heading 78.06 which covers all other lead articles **other than** those covered by Note 1 to Section XV or included in **Chapter 82** or **83** or those more specifically covered elsewhere in the Nomenclature.

*

* *

Products and articles of lead may be subjected to various treatments to improve the properties or appearance of the metal, etc. These treatments are generally those referred to at the end of the General Explanatory Note to Chapter 72, and do not affect the classification of the goods.

*

* *

The classification of **composite articles** is explained in the General Explanatory Note to Section XV.

Heading 7801

Unwrought lead.

EXPLANATORY NOTES

78.01 - Unwrought lead.

7801.10 - Refined lead

- Other :

7801.91 - - Containing by weight antimony as the principal other element

7801.99 - - Other

This heading covers **unwrought lead** at its different degrees of purity, from impure lead bullion or argentiferous lead to electrolytically refined lead. It may be in blocks, ingots, pigs, slabs, cakes or similar forms, or in cast sticks. Most of these forms are intended for rolling or extrusion, for manufacture of alloys, or for casting into shaped articles. The heading also covers cast anodes for electrolytic refining, cast rods intended, for example, for rolling or drawing or for re-casting into shaped articles.

The heading **excludes** lead powders or flakes (**heading 78.04**).

7801.10

- Refined lead

7801.9

- Other :

7801.91

-- Containing by weight antimony as the principal other element

7801.99

-- Other

Heading 7802

Lead waste and scrap.

EXPLANATORY NOTES

78.02 - Lead waste and scrap.

The provisions concerning waste and scrap in the Explanatory Note to heading 72.04 apply, *mutatis mutandis*, to this heading.

This heading **does not cover** :

(a) Slag, ash and residues from the manufacture of lead (e.g., lead matte) (**heading 26.20**).

(b) Ingots and similar unwrought forms cast from remelted lead waste and scrap (**heading 78.01**).

7802.00

Lead waste and scrap.
Heading 7804

Lead plates, sheets, strip and foil; lead powders and flakes.
EXPLANATORY NOTES

78.04 - Lead plates, sheets, strip and foil; lead powders and flakes.

- Plates, sheets, strip and foil :

7804.11 - - Sheets, strip and foil of a thickness (excluding any backing) not exceeding 0.2 mm

7804.19 - - Other

7804.20 - Powders and flakes

Lead plates, sheets, strip and foil are defined in Note Note 9 (d) to Section XV.

The provisions of the Explanatory Notes to headings 74.09 and 74.10 apply, *mutatis mutandis*, to this heading.

The main uses of lead plates, sheets and strip are for roofing purposes, cladding, in reservoirs, vats and other chemical plant, for the manufacture of X-ray screens, etc.

Lead foil is mainly used for packing (especially for lining tea chests or cases for silk). In some cases the foil is clad or coated with tin or other metals.

The heading also covers lead powders as defined in Note 8 (b) to Section XV and lead flakes. The provisions of the Explanatory Note to heading 74.06 apply, *mutatis mutandis*, to this heading.

The heading **does not cover** lead powders and flakes, prepared as colours, paints or the like (e.g., made up with other colouring matter or put up as suspensions, dispersions or pastes with a binder or solvent) (**Chapter 32**).

7804.1

- Plates, sheets, strip and foil :
7804.11

-- Sheets, strip and foil of a thickness (excluding any backing) not exceeding 0.2 mm
7804.19

-- Other
7804.20

- Powders and flakes
Heading 7806

Other articles of lead.
EXPLANATORY NOTES

78.06 - Other articles of lead.

This heading covers all lead articles **not included** in the preceding headings of this Chapter, or in **Chapter 82** or **83**, or more specifically covered elsewhere in the Nomenclature (see Note 1 to Section XV), whether these articles are cast, pressed, stamped, etc.

It applies, in particular, to collapsible tubes for packing colours or other products; vats, reservoirs, drums and similar containers (for acids, radioactive products or other chemicals), **not** fitted with mechanical or thermal equipment; lead weights for fishing nets, lead weights for clothing, curtains, etc.; weights for clocks, and general purpose counterweights; skeins, hanks and ropes of lead fibres or strands used for packing or for caulking pipe joints; parts of building structures; yacht keels, divers' breast plates; electroplating anodes (see Part (A) of the Explanatory Note to heading 75.08); lead bars, rods, profiles and wire defined in Notes 9 (a), 9 (b) and 9 (c) to Section XV (**other than** cast rods intended, for example, for rolling or drawing or for re-casting into shaped articles (**heading 78.01**), and coated rods (**heading 83.11**)).

This heading also includes tubes and pipes defined in Note 9 (e) to Section XV and tube or pipe fittings (for example, couplings, elbows, sleeves), of lead (**other than** fittings with taps, cocks, valves, etc. (**heading 84.81**), tubes and pipes made up into specific identifiable articles, such as machinery parts (**Section XVI**) and insulated electric cables with an outer sheathing of lead (**heading 85.44**)). These articles correspond to the iron or steel goods referred to in the Explanatory Notes to headings 73.04 to 73.07.

7806.00

Other articles of lead.

Chapter 79

Zinc and articles thereof

LEGAL NOTES

Subheading Note.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Zinc, not alloyed**

Metal containing by weight at least 97.5 % of zinc.

(b) **Zinc alloys**

Metallic substances in which zinc predominates by weight over each of the other elements, provided that the total content by weight of such other elements exceeds 2.5 %.

(c) **Zinc dust**

Dust obtained by condensation of zinc vapour, consisting of spherical particles which are finer than zinc powders. At least 80 % by weight of the particles pass through a sieve with 63 micrometres (microns) mesh. It must contain at least 85 % by weight of metallic zinc.

EXPLANATORY NOTES

Chapter 79

Zinc and articles thereof

Subheading Note.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Zinc, not alloyed**

Metal containing by weight at least 97.5 % of zinc.

(b) **Zinc alloys**

Metallic substances in which zinc predominates by weight over each of the other elements, provided that the total content by weight of such other elements exceeds 2.5 %.

(c) **Zinc dust**

Dust obtained by condensation of zinc vapour, consisting of spherical particles which are finer than zinc powders. At least 80 % by weight of the particles pass through a sieve with 63 micrometres (microns) mesh. It must contain at least 85 % by weight of metallic zinc.

GENERAL

This Chapter covers zinc and zinc alloys, and certain articles thereof.

Zinc is mainly extracted from the sulphide ore (zinc blende or sphalerite), though the carbonate and silicate ores (smithsonite, hemimorphite, etc.) are also used (see the Explanatory Note to heading 26.08).

In either case, the ore is first concentrated and is then roasted or calcined to produce zinc oxide (in the case of the sulphide and carbonate ores) or water-free zinc silicate (in the case of silicate ores). Zinc is extracted from these by thermal reduction or (except in the case of silicate ores) electrolysis.

(I) **Thermal reduction** is effected by heating the oxide or silicate with coke in closed retorts. The temperature is sufficient to vaporise the zinc which distils over into condensers where most of the metal is collected as "spelter". This impure zinc may be used directly for galvanising, or may be refined by various methods.

Some impure metal is also deposited in the retort extensions as a very fine powder known as zinc dust or blue powder.

A modern modification of the process is based on the continuous reduction of zinc oxide and distillation of zinc in vertical retorts. This process gives very pure metal suitable for making die-casting alloys.

(II) **Electrolysis**. The zinc oxide is dissolved in dilute sulphuric acid. This solution of zinc sulphate is carefully purified to remove cadmium, iron, copper, etc., and is then electrolysed to produce a very pure zinc.

Zinc is also obtained by resmelting zinc waste and scrap.

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Zinc is a bluish-white metal which can be rolled, drawn, stamped, extruded, etc., at suitable temperatures, and it can readily be cast. It is resistant to atmospheric corrosion and is therefore used in building (e.g., for roofing), and to form protective coverings for other metals, especially iron and steel (e.g., by hot-dip galvanising, electro-deposition, sherardising, painting or spraying).

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Zinc is also used in the manufacture of alloys; many of these (e.g., brass), contain a predominance of other metals, but the following are the **principal zinc alloys** which may fall in this Chapter under the provisions of Note 5 to Section XV :

(1) Zinc-aluminium alloys, usually with added copper or magnesium used for die-casting, especially for automobile parts (carburettor bodies, radiator grilles, dash-boards, etc.), cycle parts (pedals, dynamo cases, etc.), radio parts, refrigerator parts, etc. Alloys of the same metals are used to produce sheets stronger than ordinary zinc, press-tools, and as cathodic protection anodes (sacrificial anodes) for protecting pipelines, condensers, etc., against corrosion.

(2) Zinc-copper alloys (button metal alloys), for casting, stamping, etc. See Subheading Notes 1 (a) and 1 (b) concerning the distinction between zinc and zinc alloys.

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The Chapter covers :

(A) Spelter and unwrought zinc, and waste and scrap (headings 79.01 and 79.02).

(B) Zinc dust, powders and flakes (heading 79.03).

(C) Products generally obtained by rolling, drawing or extruding the unwrought zinc of heading 79.01 (headings 79.04 and 79.05).

(D) Tubes, pipes and fittings and the other articles of the residual heading 79.07 which covers all other zinc articles **other than** those covered by Note 1 to Section XV or included in **Chapter 82** or **83** or those more specifically covered elsewhere in the Nomenclature.

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Products and articles of zinc may be subjected to various treatments to improve the properties or appearance of the metal, etc. These treatments are generally those referred to at the end of the General Explanatory Note to Chapter 72, and do not affect the classification of the goods.

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The classification of **composite articles** is explained in the General Explanatory Note to Section XV.

Heading 7901

Unwrought zinc.

EXPLANATORY NOTES

79.01 - Unwrought zinc.

- Zinc, not alloyed :

7901.11 - - Containing by weight 99.99 % or more of zinc

7901.12 - - Containing by weight less than 99.99 % of zinc

7901.20 - Zinc alloys

This heading covers **unwrought zinc** in its different degrees of purity from spelter (see the General Explanatory Note above) to refined zinc, whether in blocks, plates, ingots, billets, slabs or similar forms or in pellets. The products of this heading are normally intended for use in galvanising (by the hot-dip or electrodeposition processes), for making alloys, for rolling, drawing or extrusion, or for casting into shaped articles.

The heading **excludes** zinc dust, powders and flakes (**heading 79.03**).

7901.1

- Zinc, not alloyed :

7901.11

-- Containing by weight 99.99 % or more of zinc

7901.12

-- Containing by weight less than 99.99 % of zinc

7901.20

- Zinc alloys

Heading 7902

Zinc waste and scrap.

EXPLANATORY NOTES

79.02 - Zinc waste and scrap.

The provisions concerning waste and scrap in the Explanatory Note to heading 72.04 apply, *mutatis mutandis*, to this heading.

The heading **excludes** :

(a) Slag, ash and residues from the manufacture of zinc, from galvanising processes, etc. (e.g., sludges deposited in electro-galvanising, and metallic residues from dipping tanks) (**heading 26.20**).

(b) Ingots and similar unwrought forms cast from remelted zinc waste and scrap (**heading 79.01**).

7902.00

Zinc waste and scrap.

Heading 7903

Zinc dust, powders and flakes.

EXPLANATORY NOTES

79.03 - Zinc dust, powders and flakes.

7903.10 - Zinc dust

7903.90 - Other

The heading covers :

(1) **Zinc dust** as defined by Subheading Note 1 (c) to this Chapter is obtained by condensation of zinc vapour which is produced either directly in a zinc ore reduction operation or by the treatment of zinc-bearing materials by boiling. These products must not be confused with the flue dusts, variously known as “zinc flue dust”, “zinc oxide flue dust” or “zinc baghouse flue dust” which are classified in **heading 26.20**.

(2) **Zinc powders** as defined in Note 8 (b) to Section XV and **zinc flakes**. The provisions of the Explanatory Note to heading 74.06 apply, *mutatis mutandis*, to this heading.

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Zinc dust, powders and flakes are mainly used to coat other metals by metallic cementation (sherardisation), in the manufacture of paints, as chemical reducing agents, etc.

The heading also **excludes** :

(a) Zinc dust, powders or flakes, prepared as colours, paints or the like (e.g., made up with other colouring matter or put up as suspensions, dispersions or pastes, with a binder or solvent) (**Chapter 32**).

(b) Zinc pellets (**heading 79.01**).

7903.10

- Zinc dust

7903.90

- Other

Heading 7904

Zinc bars, rods, profiles and wire.

EXPLANATORY NOTES

79.04 - Zinc bars, rods, profiles and wire.

These products, which are defined in Notes 9 (a), 9 (b) and 9 (c) to Section XV, correspond to similar goods made of copper. The provisions of the Explanatory Notes to headings 74.07 and 74.08 therefore apply, *mutatis mutandis*, to this heading.

Rods and profiles of zinc are often used to make fabricated building components (heading 79.07); the main use of zinc wire is as a source of zinc for spraying the metal from an oxy-acetylene pistol.

The heading also includes brazing or welding rods of zinc base alloys (generally made by extrusion) whether or not cut to length, **provided** they are not coated with flux material. Coated rods are **excluded** (**heading 83.11**).

The heading also **excludes** cast rods intended, for example, for rolling or drawing or for re-casting into shaped articles (**heading 79.01**).

7904.00

Zinc bars, rods, profiles and wire.

Heading 7905

Zinc plates, sheets, strip and foil.

EXPLANATORY NOTES

79.05 - Zinc plates, sheets, strip and foil.

This heading covers **plates, sheets, strip and foil**, which are defined in Note 9 (d) to Section XV; these products correspond to the copper products described in the Explanatory Notes to headings 74.09 and 74.10.

Zinc plates and sheets are used for the manufacture of roofing tiles, dry battery cell containers, photo-engraving, lithographic or other printing plates, etc.

The heading **does not cover** :

(a) Expanded metal (**heading 79.07**).

(b) Prepared printing plates, etc., of **heading 84.42**.

7905.00

Zinc plates, sheets, strip and foil.

Heading 7907

Other articles of zinc.

EXPLANATORY NOTES

79.07 - Other articles of zinc.

This heading covers all articles of zinc **other than** those covered by the preceding headings of this Chapter, or by Note 1 to Section XV, or articles specified or included in **Chapter 82** or **83** or more specifically covered elsewhere in the Nomenclature.

The heading covers, *inter alia* :

(1) Reservoirs, vats, drums and similar containers **not** fitted with mechanical or thermal equipment.

(2) Tubular containers for packing pharmaceutical products, etc.

(3) Cloth, grill and netting of zinc wire, and expanded metal.

(4) Zinc nails, tacks, nuts, bolts, screws and other articles of the types described in the Explanatory Notes to headings 73.17 and 73.18.

(5) Household or sanitary articles such as buckets, pails, sinks, baths, basins, watering-cans, douches, scrubbing boards and jugs. (Many such articles are, however, more frequently made of galvanised iron or steel and are then **excluded** (**headings 73.23** and **73.24**)).

(6) Zinc “labels” (for trees, plants, etc.) **not** bearing letters, numbers or designs, or bearing only particulars incidental to the essential information which is to be added later. “Labels” completed with all the essential information fall in **heading 83.10**.

(7) Stencil plates.

(8) Tile hangers and other miscellaneous zinc products corresponding to the iron or steel goods referred to in the Explanatory Notes to headings 73.25 and 73.26.

(9) (Electroplating anodes (see Part (A) of the Explanatory Note to heading 75.08).

(10) Cathodic protection anodes (sacrificial anodes) used for protecting pipelines, ships tanks, etc., from corrosion.

(11) Gutters, roof capping, skylight frames, rainwater heads, door or window frames, balustrades, railings, frameworks for greenhouses and other fabricated building components corresponding to the iron and steel articles referred to in the Explanatory Note to heading 73.08.

(12) Tubes and pipes defined in Note 9 (e) to Section XV and tube or pipe fittings (for example couplings, elbows, sleeves), of zinc (**other than** hollow profiles (**heading 79.04**), fittings with taps, cocks, valves, etc. (**heading 84.81**) and tubes and pipes made up into specific identifiable articles, such as machinery parts (**Section XVI**)). These articles correspond to the iron or steel goods referred to in the Explanatory Notes to headings 73.04 to 73.07.

7907.00

Other articles of zinc.

Chapter 80

Tin and articles thereof

LEGAL NOTES

Subheading Note.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Tin, not alloyed**

Metal containing by weight at least 99 % of tin, provided that the content by weight of any bismuth or copper is less than the limit specified in the following table :

TABLE - Other elements

Element		Limiting content % by weight
Bi	Bismuth	0.1
Cu	Copper	0.4

(b) **Tin alloys**

Metallic substances in which tin predominates by weight over each of the other elements, provided that :

(i) the total content by weight of such other elements exceeds 1 %; or

(ii) the content by weight of either bismuth or copper is equal to or greater than the limit

(iii) specified in the foregoing table.

EXPLANATORY NOTES

Chapter 80

Tin and articles thereof

Subheading Note.

1.- In this Chapter the following expressions have the meanings hereby assigned to them :

(a) **Tin, not alloyed**

Metal containing by weight at least 99 % of tin, provided that the content by weight of any bismuth or copper is less than the limit specified in the following table :

TABLE - Other elements

Element	Limiting content % by weight

Bi	Bismuth	0.1
Cu	Copper	0.4

(b) **Tin alloys**

Metallic substances in which tin predominates by weight over each of the other elements, provided that :

(i) the total content by weight of such other elements exceeds 1 %; or

(ii) the content by weight of either bismuth or copper is equal to or greater than the limit

(iii) specified in the foregoing table.

GENERAL

This Chapter covers tin and its alloys, and certain articles thereof.

Commercially, tin is extracted from the oxide ore cassiterite (or tin-stone) classified in heading 26.09; this ore may occur either in veins or in alluvial deposits.

The principal stages in the extraction are as follows :

(I) Concentration of the ore by washing, or by crushing and flotation.

(II) Treatment of the oxide by roasting, magnetic separation, or with acids or other solvents, to remove impurities such as sulphur, arsenic, copper, lead, iron and tungsten.

(III) Reduction of the purified oxide with coke to produce a crude tin.

(IV) Refining of the crude tin by various processes which can produce the metal in an almost completely pure condition.

Tin is also recovered from scrap tinplate by chlorination or electrolytic treatment, or by re-melting tin waste and scrap. These recovery processes can also produce very pure tin.

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Pure tin is silvery-white and very shiny. It is not very ductile, but is malleable, easily melted and soft (although harder than lead). It can readily be cast, hammered, rolled or extruded.

Tin is very resistant to atmospheric corrosion but is attacked by concentrated acids.

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Tin is chiefly used for tinning other base metals especially iron or steel (e.g., manufacture of tin-plate, especially for the canning industry), and in the preparation of alloys (bronze, etc.). In the pure state or alloyed, it is also used in the manufacture of apparatus, tubing and piping for the food industries; still heads; refrigerating apparatus; industrial reservoirs, tanks, etc.; solder in sticks, wire, etc.; ornamental articles and tableware (e.g., in pewter); toys; organ pipes; etc. It is also used in the form of foil or collapsible tubes.

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The **principal alloys of tin** which may be classified in this Chapter under the provisions of Note 5 to Section XV (see the General Explanatory Note to that Section) include :

(1) Tin-lead alloys used, for example, as tin base soft solders; in pewter-ware; in toy manufacture; for certain capacity measures.

(2) Tin-antimony alloys, usually with copper (e.g., Britannia metal) used for tableware, manufacture of bearings, etc.

(3) Tin-lead-antimony alloys, sometimes with copper (e.g., tin based anti-friction metals), used to make castings (especially bearings) and as packing.

(4) Tin-cadmium alloys, sometimes also including zinc, used as anti-friction metals.

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This Chapter covers :

(A) Unwrought tin and tin waste and scrap (headings 80.01 and 80.02).

(B) Productsobtained generally by rolling or extruding the unwrought tin of heading 80.01 (heading 80.03 and 80.07); tin powders and flakes (heading 80.07).

(C) Tubes, pipes and fittings and the other articles of the residual heading 80.07 which covers all other tin articles **other than** those covered by Note 1 to Section XV or included in **Chapter 82** or **83** or those more specifically covered elsewhere in the Nomenclature.

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Products and articles of tin may be subjected to various treatments to improve the properties or appearance of the metal, etc. These treatments are generally those referred to at the end of the General Explanatory Note to Chapter 72, and do not affect the classification of the goods.

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The classification of **composite articles** is explained in the General Explanatory Note to Section XV.

Heading 8001

Unwrought tin.

EXPLANATORY NOTES

80.01 - Unwrought tin.

8001.10 - Tin, not alloyed

8001.20 - Tin alloys

This heading covers **unwrought tin** in blocks, ingots, pigs, slabs, bars, sticks or similar forms, and fragments, granules and similar products, of tin. Most of the products of this heading are intended for use in tin-plating, for rolling or extrusion, for the manufacture of alloys, or for casting into shaped articles.

This heading **excludes** tin powders and flakes (**heading 80.07**).

8001.10

- Tin, not alloyed

8001.20

- Tin alloys

Heading 8002

Tin waste and scrap.

EXPLANATORY NOTES

80.02 - Tin waste and scrap.

The provisions concerning waste and scrap in the Explanatory Note to heading 72.04 apply, *mutatis mutandis*, to this heading.

This heading **excludes** :

(a) Slag, ash and residues from the manufacture of tin (**heading 26.20**).

(b) Ingots and similar unwrought forms cast from remelted tin waste and scrap (**heading 80.01**).

8002.00

Tin waste and scrap.

Heading 8003

Tin bars, rods, profiles and wire.

EXPLANATORY NOTES

80.03 - Tin bars, rods, profiles and wire.

These products, which are defined in Notes 9 (a), 9 (b) and 9 (c) to Section XV, correspond to similar goods made of copper. The provisions of the Explanatory Notes to heading 74.07 or 74.08 therefore apply, *mutatis mutandis*, to this heading.

The heading also includes rods of tin base solder (generally made by extrusion) whether or not cut to length, **provided** they are not coated with flux material. Coated rods are **excluded** (**heading 83.11**).

The heading also **excludes** cast rods intended, for example, for rolling or drawing or for re-casting into shaped articles (**heading 80.01**).

8003.00

Tin bars, rods, profiles and wire.

Heading 8007

Other articles of tin.

EXPLANATORY NOTES

80.07 - Other articles of tin.

This heading covers all articles of tin, **other than** those covered by the preceding headings of this Chapter or by Note 1 to Section XV, or articles specified or included in **Chapter 82** or **83**, or more specifically covered elsewhere in the Nomenclature.

It applies, in particular, to :

(1) Vats, reservoirs, drums and other containers (**not** fitted with mechanical or thermal equipment).

(2) Collapsible tubes for packing dentifrices, colours or other products.

(3) Household articles and tableware (usually of pewter) such as jugs, trays, plates, mugs, syphon heads and beer mug lids.

(4) Capacity measures.

(5) Electroplatinganodes (see Part (A) of the Explanatory Note to heading 75.08).

(6) Tin powders (see Note 8 (b) to Section XV) and flakes.

(7) Tin plates, sheets and strip; tin foil (whether or not printed or backed with paper, paperboard, plastics or similar backing materials). These articles are defined in Note 9 (d) to Section XV.

(8) Tubes and pipes defined in Note 9 (e) to Section XV and tube or pipe fittings (for example couplings, elbows, sleeves), of tin (**other than** hollow profiles (**heading 80.03**), fittings with taps, cocks, valves, etc. (**heading 84.81**) and tubes and pipes made up into specific identifiable articles, such as machinery parts (**Section XVI**)). These articles correspond to the iron or steel goods referred to in the Explanatory Notes to headings 73.04 to 73.07.

8007.00

Other articles of tin.

Chapter 81

Other base metals; cermets; articles thereof
EXPLANATORY NOTES

Chapter 81

Other base metals; cermets; articles thereof

GENERAL

This Chapter is **limited** to the following base metals, their alloys, and articles thereof which are **not** more specifically covered elsewhere in the Nomenclature :

(A) Tungsten (wolfram) (heading 81.01), molybdenum (heading 81.02), tantalum (heading 81.03), magnesium (heading 81.04), cobalt, including cobalt mattes and other intermediate products of cobalt metallurgy (heading 81.05), bismuth (heading 81.06), titanium (heading 81.08), zirconium (heading 81.09), antimony (heading 81.10) and manganese (heading 81.11).

(B) Beryllium, chromium, hafnium, rhenium, thallium, cadmium, germanium, vanadium, gallium, indium and niobium (columbium) (heading 81.12).

This Chapter also covers cermets (heading 81.13).

Base metals not included in this Chapter or in the preceding Chapters of Section XV are classified in **Chapter 28**.

Most of the metals classified in this Chapter are mainly used in the form of alloys or carbides, rather than in the pure state. The classification of such alloys follows the rules set out in Note 5 to Section XV; metal carbides are **excluded** from this Chapter.

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The classification of **composite goods**, particularly made up articles, is explained in the General Explanatory Note to Section XV.

Note 8 to Section XV defines “waste and scrap” and “powders”.

Heading 8101

Tungsten (wolfram) and articles thereof, including waste and scrap.
EXPLANATORY NOTES

81.01 - Tungsten (wolfram) and articles thereof, including waste and scrap.

8101.10 - Powders

- Other :

8101.94 - - Unwrought tungsten, including bars and rods obtained simply by sintering

8101.96 - - Wire

8101.97 - - Waste and scrap

8101.99 - - Other

Tungsten (wolfram) is mainly obtained from the ores wolframite (iron-manganese tungstate) and scheelite (calcium tungstate). The ores are converted into the oxide, which is then reduced by hydrogen in an electric furnace or by aluminium or carbon in a high temperature crucible. The powdered metal so obtained is compressed into blocks or bars which are sintered in an atmosphere of hydrogen in an electric furnace. The compact sintered bars are then hammered mechanically, and finally rolled or drawn into sheets, bars of smaller section or wire.

Tungsten is a dense, steel-grey metal, with a high melting point. It is brittle, hard and has a high resistance to corrosion.

Tungsten is used in filaments for electric light bulbs and radio valves; elements for electric furnaces; anti-cathodes for X-ray tubes; electric contacts; non-magnetic springs for electrical measuring apparatus or watches; hairlines for telescope lenses; it is also used as welding electrodes for hydrogen arc welding, etc.

The most important use of tungsten (usually as ferrrotungsten, see Chapter 72) is, however, in the preparation of special steels. It is also used in the preparation of tungsten carbide.

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The **principal tungsten alloys** which may fall in the Chapter in accordance with Note 5 to Section XV are prepared by sintering. They include :

(1) Tungsten-copper alloys (e.g., for electric contacts).

(2) Tungsten-nickel-copper alloys used in the manufacture of X-ray screens, certain aircraft parts, etc.

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Tungsten (wolfram) falls in this heading whether in the form of :

(A) **Powders**;

(B) **Unwrought metal**, e.g., in blocks, ingots, sintered bars and rods, or as waste and scrap (for the latter see the Explanatory Note to heading 72.04);

(C) **Wrought metal**, e.g., rolled or drawn bars; profiles, plates and sheets, strip or wire;

(D) **Manufactures** not covered by Note 1 to Section XV or included in **Chapter 82** or **83** or more specifically covered elsewhere in the Nomenclature. Most tungsten articles, **except** springs, are in fact classified in **Section XVI** or **XVII**; for example, a complete electric contact falls in **Chapter 85**, whereas a tungsten plate used to make such a contact would fall in this heading.

The heading **excludes** tungsten carbide, e.g., as used in the manufacture of the working tips and edges of cutting tools or dies. This carbide is classified as follows :

(a) Unmixed powder in **heading 28.49**.

(b) Prepared but non-sintered mixtures (e.g., mixed with carbides of molybdenum or tantalum, with or without a binding agent) in **heading 38.24**.

(c) Plates, sticks, tips and the like for tools, sintered but unmounted, in **heading 82.09** (see corresponding Explanatory Note).

8101.10

- Powders

8101.9

- Other :

8101.94

-- Unwrought tungsten, including bars and rods obtained simply by sintering

8101.96

-- Wire

8101.97

-- Waste and scrap

8101.99

-- Other

Heading 8102

Molybdenum and articles thereof, including waste and scrap.

EXPLANATORY NOTES

81.02 - Molybdenum and articles thereof, including waste and scrap.

8102.10 - Powders

- Other :

8102.94 - - Unwrought molybdenum, including bars and rods obtained simply by sintering

8102.95 - - Bars and rods, other than those obtained simply by sintering, profiles, plates, sheets, strip and foil

8102.96 - - Wire

8102.97 - - Waste and scrap

8102.99 - - Other

Molybdenum is mainly obtained from the ores molybdenite (molybdenum sulphide) and wulfenite (lead molybdate) which are concentrated by flotation, converted into the oxide and then reduced to the metal.

The metal is obtained either in a compact form suitable for rolling, drawing, etc., or as a powder which can be sintered like tungsten (see the Explanatory Note to heading 81.01).

Molybdenum in the compact form resembles lead in appearance, but it is extremely hard and melts at a high temperature. It is malleable and, at normal temperatures, resists corrosion.

Molybdenum is used (either as the metal or as ferro-molybdenum, of Chapter 72) for the manufacture of alloy steels. Molybdenum metal is also used in filament supports for electric light bulbs; grids of electronic valves; elements for electric furnaces; current rectifiers and electric contacts. It is also used in dentistry, and as a substitute for platinum in jewellery because it does not tarnish.

The **molybdenum alloys** in general use do not contain a predominance of molybdenum and are therefore **excluded** from this heading in accordance with Note 5 to Section XV.

Since the metallurgy of molybdenum resembles that of tungsten, the second part of the Explanatory Note to heading 81.01 (concerning the forms in which the metal is marketed, and the classification of the carbide) applies, *mutatis mutandis*, to this heading.

8102.10

- Powders
8102.9

- Other :
8102.94

-- Unwrought molybdenum, including bars and rods obtained simply by sintering
8102.95

-- Bars and rods, other than those obtained simply by sintering, profiles, plates, sheets, strip and foil
8102.96

-- Wire
8102.97

-- Waste and scrap
8102.99

-- Other
Heading 8103

Tantalum and articles thereof, including waste and scrap.
EXPLANATORY NOTES

81.03 - Tantalum and articles thereof, including waste and scrap.

8103.20 - Unwrought tantalum, including bars and rods obtained simply by sintering; powders

8103.30 - Waste and scrap

- Other :

8103.91 - - Crucibles

8103.99 - - Other

Tantalum is mainly extracted from the ores tantalite and niobite (columbite) (heading 26.15), by reduction of the oxide or by electrolysis of fused tantalum-potassium fluoride.

It may be obtained as a compact metal, or as a powder for sintering like tungsten or molybdenum.

Tantalum powder is black. In other forms it is white when polished and steel blue when unpolished. It is very malleable and ductile when pure. It is unusually resistant to corrosion, including the action of most acids.

Tantalum is used in the manufacture of the carbide, and (as ferro-tantalum, see Chapter 72) in preparing alloy steels. It is also used to make grids and anodes for electronic valves, current rectifiers, crucibles, heat-exchangers and other chemical apparatus, spinnerets for extruding man-made fibres, dental instruments and surgical tools. It is also used for bone-fixation, etc., in surgery, and in the manufacture of getters (to remove the last traces of gas in radio valve manufacture).

Tantalum alloys which may be classified here in accordance with Note 5 to Section XV include tantalum-tungsten alloys with a high tantalum content used, for example, in electronic valve manufacture.

The heading covers tantalum in all its forms, viz. : powder, blocks, waste and scrap; bars, wire, filaments; sheets, strip, foil; profiles; tubes and other manufactures (e.g., springs and wire cloth) **not** more specifically **covered** elsewhere.

The classification of tantalum carbide follows that of tungsten carbide (see the Explanatory Note to heading 81.01).

8103.20

- Unwrought tantalum, including bars and rods obtained simply by sintering; powders

8103.30

- Waste and scrap

8103.9

- Other :

8103.91

-- Crucibles

8103.99

-- Other

Heading 8104

Magnesium and articles thereof, including waste and scrap.

EXPLANATORY NOTES

81.04 - Magnesium and articles thereof, including waste and scrap (+).

- Unwrought magnesium :

8104.11 - - Containing at least 99.8 % by weight of magnesium

8104.19 - - Other

8104.20 - Waste and scrap

8104.30 - Raspings, turnings and granules, graded according to size; powders

8104.90 - Other

Magnesium is extracted from a number of raw materials almost all of which fall, not in Chapter 26 (Ores), but in Chapter 25 or 31, e.g., dolomite (heading 25.18), magnesite (or giobertite) (heading 25.19) and carnallite (heading 31.04). It is also extracted from sea water or natural brines (heading 25.01) and from lyes containing magnesium chloride.

In the first stage of the industrial preparation of the metal, magnesium chloride or magnesium oxide (magnesia) is produced by methods varying according to the source of magnesium used. The extraction of the metal is then usually based on one of the two following types of reaction :

(A) **Electrolysis of fused magnesium chloride** mixed with fluxes such as alkali metal chlorides or fluorides. The separated magnesium collects on the surface of the bath around the cathodes and chlorine is withdrawn at the anodes.

(B) **Thermal reduction of magnesia** with carbon, ferro-silicon, silicon carbide, calcium carbide, aluminium, etc. The high temperature of the reaction vaporises the metal which, after rapid cooling, condenses in a very pure state.

The metal obtained by electrolysis normally requires further refinement. Magnesium obtained by thermal reduction is normally so pure that it can be melted and ingotted without further refining.

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Magnesium is a silvery-white metal like aluminium, but it is even lighter than the latter. It can take on a high polish, but this disappears fairly quickly on exposure to air because of the formation of an oxide film which protects the metal against corrosion. Magnesium wire, strip, foil and powder burn fiercely with a dazzling light and must be handled with care. There is a risk of explosion in fine magnesium powder when mixed with air.

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Unalloyed magnesium is used in the preparation of many chemical compounds, as a de-oxidising and de-sulphurising agent in metallurgy (e.g., in the manufacture of iron, copper, nickel and their alloys), in pyrotechnics, etc.

The pure metal has poor mechanical properties, but with other elements it forms strong alloys which can be rolled, forged, extruded and cast, and which therefore find many industrial applications in the light metal industries.

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The **principal magnesium alloys** which may be classified in this Chapter under the provisions of Note 5 to Section XV (see the General Explanatory Note to that Section) include :

(1) Magnesium-aluminium or magnesium-aluminium-zinc alloys often containing manganese. These are magnesium based alloys of the “Elektron” or “Dow” metal type.

(2) Magnesium-zirconium alloys, often containing added zinc.

(3) Magnesium-manganese or magnesium-cerium alloys.

The lightness, strength and corrosion resistance of these alloys make them suitable for use in the aircraft industry (e.g., for engine casings, wheels, carburettors, magneto bases, petrol or oil tanks); in the automobile industry; in building construction; in the manufacture of machinery parts and accessories, especially of textile machines (spindles, bobbins, winders, etc.), machine-tools, typewriters, sewing machines, chain saws, lawn mowers, ladders or material handling equipment, or as lithographic plates, etc.

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The classification of magnesium products is not affected by treatments such as those described in the General Explanatory Note to Chapter 72, designed to improve the properties, appearance, etc., of the metal.

This heading covers :

(1) **Unwrought magnesium** in ingots, notch bars, slabs, sticks, cakes, cubes and billets and similar forms. These goods are generally for rolling, drawing, extruding or forging, or for casting into shaped articles.

(2) **Magnesium waste and scrap**. The Explanatory Note to heading 72.04 applies, *mutatis mutandis*, to this heading.

This group covers raspings, turnings and granules which have not been graded or sorted according to size. Raspings, turnings and granules which have been graded or sorted according to size are described in group (3) below.

(3) **Bars, rods, profiles, plates, sheets and strip, foil, wire, tubes and pipes, hollow profiles, powders and flakes, raspings, turnings and granules of uniform size**.

This group comprises the following commercial forms of magnesium :

(a) Products (i.e., wrought bars, rods, profiles, wire, plates, sheets, strip and foil) obtained by rolling, drawing, extruding, forging, etc., the products of group (1) above; tubes and pipes and hollow profiles (see the corresponding Explanatory Notes to headings for similar products of other base metals).

These goods are used when a metal which is both light and strong is required (see above).

(b) Raspings, turnings and granules of **uniform size** and all types of powders and flakes.

These products are used in pyrotechnics (fire-works, signals, etc.), as reducing agents in chemical or metallurgical processes, etc. Raspings, turnings and granules are specially made and graded to make them suitable for these purposes.

(4) **Other articles**.

This group comprises all articles of magnesium **not included** in the preceding groups or covered by Note 1 to Section XV or included in **Chapter 82** or **83**, or more specifically covered elsewhere in the Nomenclature.

As magnesium is mainly used in the manufacture of aircraft, vehicle and machinery parts (see above), most magnesium articles are classified elsewhere (especially in **Sections XVI** and **XVII**).

Articles classified here include :

(a) Structures and parts of structures.

(b) Reservoirs, vats and similar containers, **not** fitted with mechanical or thermal equipment, and casks, drums and cans.

(c) Wire cloth.

(d) Bolts, nuts, screws, etc.

This heading excludes slag, ash and residues from the manufacture of magnesium (**heading 26.20**).

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Subheading Explanatory Note.

Subheadings 8104.11 and 8104.19

These subheadings also cover ingots and similar unwrought forms cast from remelted magnesium waste and scrap.

8104.1

- Unwrought magnesium :
8104.11

-- Containing at least 99.8 % by weight of magnesium
8104.19

-- Other
8104.20

- Waste and scrap
8104.30

- Raspings, turnings and granules, graded according to size; powders
8104.90

- Other
Heading 8105

Cobalt mattes and other intermediate products of cobalt metallurgy; cobalt and articles thereof, including waste and scrap.
EXPLANATORY NOTES

81.05 - Cobalt mattes and other intermediate products of cobalt metallurgy; cobalt and articles thereof, including waste and scrap.

8105.20 - Cobalt mattes and other intermediate products of cobalt metallurgy; unwrought cobalt; powders

8105.30 - Waste and scrap

8105.90 - Other

Cobalt is mainly obtained from the ores heterogenite (hydrated oxide of cobalt), linnaeite (sulphide of cobalt and nickel) and smaltite (cobalt arsenide). When smelted, the sulphide and arsenide ores produce mattes and other intermediate products. After treatment to eliminate other metals, cobalt oxide is obtained, and this is reduced with carbon, aluminium, etc. The metal is also extracted by electrolytic processes, and by treatment of the residues from the refining of copper, nickel, silver, etc.

Cobalt is a silvery, corrosion-resistant metal, harder than nickel, and is the most magnetic of the non-ferrous metals.

In its pure state, it is used as a coating for other metals (by electrolytic deposition), as a catalyst, as a binder in the manufacture of metallic carbide cutting tools, as a component of cobalt samarium magnets or of certain alloyed steels, etc.

There are many **cobalt alloys**; those which may fall in the heading in accordance with Note 5 to Section XV include :

(1) The cobalt-chromium-tungsten ("Stellite") group (often containing small proportions of other elements). These are used in the manufacture of valves and valve seats, tools, etc., because of their resistance to wear and corrosion at high temperatures.

(2) Cobalt-iron-chromium alloys, e.g., the low thermal expansion types and powerfully magnetic group.

(3) Cobalt-chromium-molybdenum alloys, used in jet engines.

This heading covers cobalt mattes, other intermediate products of cobalt metallurgy and cobalt in all its forms, e.g., ingots, cathodes, granules, powders, waste and scrap and articles not elsewhere specified.

8105.20

- Cobalt mattes and other intermediate products of cobalt metallurgy; unwrought cobalt; powders

8105.30

- Waste and scrap

8105.90

- Other

Heading 8106

Bismuth and articles thereof, including waste and scrap.

EXPLANATORY NOTES

81.06 - Bismuth and articles thereof, including waste and scrap.

8106.10 - Containing more than 99.99 % of bismuth, by weight

8106.90 - Other

This metal occurs in the native state, but it is mainly obtained either by refining residues of lead, copper, etc., or by extraction from the sulphide or carbonate ores (e.g., bismuthinite and bismutite).

Bismuth is white with a reddish tint, brittle, difficult to work and a bad conductor.

It is used in scientific apparatus and in the preparation of chemical compounds for pharmaceutical use.

It forms **fusible alloys** (some melting below 100 °C) of which the following may fall in the heading in accordance with Note 5 to Section XV :

(1) Bismuth-lead-tin alloys (sometimes with cadmium, etc.) (e.g., Darcet's, Lipowit's, Newton's or Wood's alloys), used as solders, casting alloys, fusible elements for fire-extinguishers, boilers.

(2) Bismuth-indium-lead-tin-cadmium alloys, used in taking surgical casts.

8106.10

- Containing more than 99.99 % of bismuth, by weight

8106.90

- Other

Heading 8108

Titanium and articles thereof, including waste and scrap.

EXPLANATORY NOTES

81.08 - Titanium and articles thereof, including waste and scrap.

8108.20 - Unwrought titanium; powders

8108.30 - Waste and scrap

8108.90 - Other

Titanium is obtained by reduction of the oxide ores rutile and brookite, and from ilmenite (titaniferous iron ore). According to the process used, the metal may be obtained in compact form, as a powder for sintering (as in the case of tungsten), as ferro-titanium (Chapter 72) or as titanium carbide.

Titanium is white and shiny when compact, dark grey when a powder; it is resistant to corrosion, hard and brittle unless very pure.

Ferro-titanium and ferro-silicon-titanium (Chapter 72) are used in steel manufacture; the metal is also alloyed with aluminium, copper, nickel, etc.

Titanium is principally used in the aircraft industry, in shipbuilding, for making, e.g., vats, agitators, heat exchangers, valves and pumps for the chemical industry, for the desalination of sea-water and for the construction of nuclear power stations.

This heading covers titanium in all forms : in particular, sponge, ingots, powder, anodes, bars and rods, sheets and plates, waste and scrap, and products **other than** those articles covered by other Chapters of the Nomenclature (generally **Section XVI** or **XVII**), such as helicopter rotors, propeller blades, pumps or valves.

The classification of the carbide follows that of tungsten carbide (see the Explanatory Note to heading 81.01).

8108.20

- Unwrought titanium; powders

8108.30

- Waste and scrap

8108.90

- Other

Heading 8109

Zirconium and articles thereof, including waste and scrap.

EXPLANATORY NOTES

81.09 - Zirconium and articles thereof, including waste and scrap.

- Unwrought zirconium; powders :

8109.21 - - Containing less than 1 part hafnium to 500 parts zirconium by weight

8109.29 - - Other

- Waste and scrap :

8109.31 - - Containing less than 1 part hafnium to 500 parts zirconium by weight

8109.39 - - Other

- Other :

8109.91 - - Containing less than 1 part hafnium to 500 parts zirconium by weight

8109.99 - - Other

Zirconium is obtained from the silicate ore, zircon, by reduction of the oxide, chloride, etc., or by electrolysis.

It is a silver-grey, malleable and ductile metal.

It is used in photo-flash bulbs, for the manufacture of getters or absorbents in radio valve manufacture, etc. Ferro-zirconium (Chapter 72) is used in steel manufacture, and the metal is also alloyed with nickel, etc.

Zirconium, alone or alloyed with tin ("zircalloy"), is also used in the manufacture of sheaths for nuclear fuel cartridges and of metal structures for nuclear plant. Zirconium-plutonium alloys and zirconium-uranium alloys are used as nuclear fuel. For nuclear purposes all but traces of hafnium must first be removed.

8109.2

- Unwrought zirconium; powders :
8109.21

-- Containing less than 1 part hafnium to 500 parts zirconium by weight
8109.29

-- Other
8109.3

- Waste and scrap :
8109.31

-- Containing less than 1 part hafnium to 500 parts zirconium by weight
8109.39

-- Other
8109.9

- Other :
8109.91

-- Containing less than 1 part hafnium to 500 parts zirconium by weight
8109.99

-- Other
Heading 8110

Antimony and articles thereof, including waste and scrap.
EXPLANATORY NOTES

81.10 - Antimony and articles thereof, including waste and scrap.

8110.10 - Unwrought antimony; powders

8110.20 - Waste and scrap

8110.90 - Other

Antimony is mainly obtained from the sulphide ore stibnite by :

(1) Concentration and liquation to produce the so-called “crude antimony” which is, in fact, crude sulphide proper to **heading 26.17**.

(2) Smelting to produce impure antimony known as “singles” (regulus).

(3) Further smelting to produce “star bowls” which, after refining, give the purest forms, “star antimony” or “French metal”.

Antimony is a lustrous white metal with a bluish tinge, brittle and easily powdered.

It has very few uses in the unalloyed form. It is however alloyed, especially with lead and tin, to harden them, to produce bearing alloys, printers’ type and other casting alloys, pewter, Britannia metal, etc. (see **Chapters 78** and **80**, where these alloys normally fall because of the predominance of lead or tin).

8110.10

- Unwrought antimony; powders
8110.20

- Waste and scrap
8110.90

- Other
Heading 8111

Manganese and articles thereof, including waste and scrap.
EXPLANATORY NOTES

81.11 - Manganese and articles thereof, including waste and scrap.

Manganese is extracted by reduction of the oxide ores, pyrolusite, braunite and manganite. It is also obtained by electrolysis.

The metal itself, which is grey-pink, hard and brittle, is rarely used as such.

It is however a constituent of spiegeleisen, ferromanganese, silico-manganese and certain alloy cast irons and alloy steels; these products normally fall in Chapter 72, but ferro-manganese and silico-manganese may sometimes fall in this heading if the iron content is very low (see Note 1 (c) to Chapter 72). Manganese is also alloyed with copper, nickel, aluminium, etc.

8111.00

Manganese and articles thereof, including waste and scrap.
CLASSIFICATION OPINIONS

1. Manganese-aluminium briquettes, consisting of compacted metal powder and surfactant in the form of grey cylinders, tablets, pillow block briquettes, or other similar shapes (collectively, “briquettes”). They consist of 75−95 % pure manganese powder, 5−25 % pure aluminium powder, up to 1 % of a surfactant in the form of an oil hydrocarbon, and up to 1 % of a fluxing agent, e.g., aluminium inorganic salts. The briquettes are used to produce certain aluminium alloys, particularly those in which manganese is the chief alloying element. During production of the alloys, the briquettes are placed in a molten aluminium bath to precipitate bonding of the constituent manganese to the aluminium.
Application of GIRs 1.
Adoption : 2018

Heading 8112

Beryllium, chromium, hafnium, rhenium, thallium, cadmium, germanium, vanadium, gallium, indium and niobium (columbium), and articles of these metals, including waste and scrap.
EXPLANATORY NOTES

81.12 - Beryllium, chromium, hafnium, rhenium, thallium, cadmium, germanium, vanadium, gallium, indium and niobium (columbium), and articles of these metals, including waste and scrap..

- Beryllium :

8112.12 - - Unwrought; powders

8112.13 - - Waste and scrap

8112.19 - - Other

- Chromium :

8112.21 - - Unwrought; powders

8112.22 - - Waste and scrap

8112.29 - - Other

- Hafnium :

8112.31 - - Unwrought; waste and scrap; powders

8112.39 - - Other

- Hafnium :

8112.41 - - Unwrought; waste and scrap; powders

8112.49 - - Other

- Rhenium :

8112.51 - - Unwrought; powders

8112.52 - - Waste and scrap

8112.59 - - Other

- Cadmium :

8112.61 - - Waste and scrap

8112.69 - - Other

- Other :

8112.92 - - Unwrought; waste and scrap; powders

8112.99 - - Other

(A) BERYLLIUM

Berylliumis obtained almost exclusively from beryl, a double silicate of beryllium and aluminium, which is classified under **heading 26.17 except** when it is in the form of a precious stone (e.g., emerald) (**Chapter 71**).

The main commercial methods of extracting this metal are :

(1) **High temperature electrolysis** of a mixture of beryllium oxyfluoride (manufactured from the ore) and barium or other fluorides. A graphite crucible is used as anode and the metal is collected on a water-cooled iron cathode.

(2) **Reduction of beryllium fluoride** using magnesium.

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Beryllium is a steel-grey metal, very light and hard but extremely brittle. It can only be rolled or drawn under very special conditions.

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Unalloyed beryllium is used in the manufacture of windows for X-ray tubes; as components for nuclear reactors; in the aircraft and space industry; in the armament industry; as targets for cyclotrons; in electrodes for neon signs, etc.; as a de-oxidising agent in metallurgy.

It also serves in the preparation of many alloys, for example with steel (spring-steel, etc.); with copper (e.g., the alloy known as beryllium copper, used for the manufacture of springs, of clock or watch parts, of tools, etc.); and with nickel. These alloys are, however, classified in **Chapter 72, 74** or **75** respectively since they contain only very small proportions of beryllium.

This heading covers beryllium in all its forms, i.e., unwrought metal (in blocks, pellets, cubes, etc.), products (bars, rods, wire, sheets, etc.), and articles. Goods made up into specific identifiable articles such as machinery parts, parts of instruments, etc., are, however, **excluded** (see particularly **Chapters 85** and **90**).

(B) CHROMIUM

Chromium is mainly extracted from chromite (chrome iron ore), which is converted to the sesquioxyde which is then reduced to produce chromium metal.

Chromium is steel-grey when unpolished, but white and shiny when polished. It is very hard and resistant to corrosion, but not very malleable or ductile.

Pure chromium constitutes the coating of various articles of other metals (electrolytic chromium-plating). Its main use (usually as ferro-chrome, see Chapter 72) is in the preparation of stainless steel. Most alloys of the metal (e.g., with nickel or cobalt) are, however, **excluded** from this heading in accordance with Note 5 to Section XV.

Certain chromium base alloys are used in jet engines, protective tubes for electric heating elements, etc.

(C) GERMANIUM

Germanium is extracted from residues of zinc manufacture, from the ore germanite (copper germano-sulphide) and from gasworks' flue dusts.

It is a greyish-white metal with certain special electro-ionic properties which enable it to be used in the manufacture of electronic components (e.g., diodes, transistors, valves). It is also used for alloying with tin, aluminium and gold.

(D) VANADIUM

Vanadium is mainly extracted from the ores patronite or carnotite, usually by reduction of the oxide, or from residues of iron, radium or uranium preparation. As the metal itself has few uses, it is usually

produced as ferro-vanadium (Chapter 72) or as copper vanadium master alloy (Chapter 74); these are used in alloying with steel, copper, aluminium, etc.

(E) GALLIUM

Gallium is obtained as a by-product in the extraction of aluminium, zinc, copper and germanium, or from gasworks' flue dusts.

It is a soft, greyish-white metal, melting at about 30 °C and with a high vaporisation point. It thus remains liquid over a large temperature range and is therefore used in place of mercury in thermometers and vapour arc lamps. It is also used in dental alloys and for silvering special mirrors.

(F) HAFNIUM

Hafnium is extracted from the same ores as zirconium (zircon, etc.) and has properties very similar to that metal.

Because of its very high rate of absorption of slow neutrons, it is in particular used for the manufacture of control and monitor rods for nuclear reactors.

(G) INDIUM

Indium is extracted from zinc residues.

It is soft, silvery and resists corrosion.

It is therefore used alone or with zinc, etc., to coat other metals. It is also alloyed with bismuth, lead or tin (alloy used in taking surgical casts), with copper or lead (bearing alloys), and with gold (in jewellery, dental alloys, etc.).

(H) NIOBIUM (COLOMBIUM)

Niobium is obtained from the ores niobite (columbite) and tantalite, which are treated to obtain niobium-potassium fluoride. The metal is then extracted by electrolysis or other methods.

It is a silvery-grey metal used in the manufacture of getters (to remove the last traces of gas in radio valve manufacture).

Niobium and its ferro-alloy (Chapter 72) are also used in the manufacture of steels and other alloys.

(IJ) RHENIUM

Rhenium is obtained as a by-product in the extraction of molybdenum, copper, etc.

It is not much used at present, but its use in plating and as a catalyst has been suggested.

(K) THALLIUM

Thalliumis extracted from the residues of the treatment of pyrites and other ores. It is a soft, greyish-white metal resembling lead.

It is alloyed with lead (to raise its melting point, and to increase its strength, resistance to corrosion, etc.) and with silver (to prevent tarnishing).

(L) CADMIUM

Cadmium is largely obtained from residues of the extraction of zinc, copper or lead, usually by distillation or electrolysis.

Cadmium resembles zinc in appearance but is softer.

It is largely used to coat other metals (by spraying or electro deposition), as a de-oxidant in the manufacture of copper, silver, nickel, etc.

Because of its very high rate of absorption of slow neutrons, it is also used for the manufacture of mobile control and monitor rods for nuclear reactors.

The principal **cadmium alloys** which may fall in the heading in accordance with Note 5 to Section XV are cadmium-zinc alloys used for hot dip anti corrosion coating, as solders and for brazing.

Other alloys containing the same metals (e.g., certain bearing alloys) may, however, be **excluded**.

8112.1

- Beryllium :

8112.12

-- Unwrought; powders

8112.13

-- Waste and scrap

8112.19

-- Other

8112.2

- Chromium :

8112.21

-- Unwrought; powders

8112.22

-- Waste and scrap

8112.29

-- Other

CLASSIFICATION OPINIONS

1. Chromium-aluminium cylinders, consisting of compacted metal powder and surfactant. They consist of 75−90 % of 99 % pure chromium powder, 10–25 % pure aluminium powder, up to 1 % of a surfactant in the form of an oil hydrocarbon, and, up to 1 % of a fluxing agent, e.g., aluminium inorganic salts, potassium fluoroaluminate, potassium fluorosilicate, or potassium fluorotitanate. The cylinders are used to produce certain aluminium alloys in which chromium is an alloying element.

During production of the alloys, the cylinders are placed in a molten aluminium bath to precipitate bonding of the constituent chromium to aluminium.
Application of GIRs 1 and 6.
Adoption : 2018

8112.3

- Hafnium :
8112.31

-- Unwrought; waste and scrap; powders
8112.39

-- Other
8112.4

- Rhenium :
8112.41

-- Unwrought; waste and scrap; powders
8112.49

-- Other
8112.5

- Thallium :
8112.51

-- Unwrought; powders
8112.52

-- Waste and scrap
8112.59

-- Other
8112.6

- Cadmium :
8112.61

-- Waste and scrap
8112.69

-- Other
8112.9

- Other :
8112.92

-- Unwrought; waste and scrap; powders
8112.99

-- Other
Heading 8113

Cermets and articles thereof, including waste and scrap.
EXPLANATORY NOTES

81.13 - Cermets and articles thereof, including waste and scrap.

Cermets contain both a ceramic constituent (resistant to heat and with a high melting point) and a metallic constituent. The manufacturing processes used in the production of these products, and also their physical and chemical properties, are related both to their ceramic and metallic constituents, hence their name **cermets**.

The ceramic constituent usually consists of oxides, carbides, borides, etc.

The metal component consists of a metal such as iron, nickel, aluminium, chromium or cobalt.

Cermets are made by sintering, by dispersion or by other processes.

The most important cermets are obtained from :

(1) A metal and an oxide, e.g., iron-magnesium oxide; nickel-magnesium oxide; chromium-aluminium oxide; aluminium-aluminium oxide.

(2) Zirconium or chromium borides; these products are known as borolites.

(3) Zirconium, chromium, tungsten, etc. carbides with cobalt, nickel or niobium.

(4) Boron carbide and aluminium : aluminium-clad products known as boral cermets.

The heading covers cermets, whether unwrought or in the form of articles not elsewhere specified in the Nomenclature.

Cermets are used in the aircraft and nuclear industries and in missiles. They are also used in furnaces and metal foundries (e.g., as pots, spouts, tubes), in the manufacture of bearings, brake-linings, etc.

The heading **excludes** :

(a) Cermets containing fissile or radioactive substances (**heading 28.44**).

(b) Plates, sticks, tips and the like for tools, of cermets with a basis of metal carbides agglomerated by sintering (**heading 82.09**).

8113.00

Cermets and articles thereof, including waste and scrap.

Chapter 82

Tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal

LEGAL NOTES

Notes.

1.- Apart from blow lamps, portable forges, grinding wheels with frameworks, manicure or pedicure sets, and goods of heading 82.09, this Chapter covers only articles with a blade, working edge, working surface or other working part of :

(a) Base metal;

(b) Metal carbides or cermets;

(c) Precious or semi-precious stones (natural, synthetic or reconstructed) on a support of base metal, metal carbide or cermet; or

(d) Abrasive materials on a support of base metal, provided that the articles have cutting teeth, flutes, grooves, or the like, of base metal, which retain their identity and function after the application of the abrasive.

2.- Parts of base metal of the articles of this Chapter are to be classified with the articles of which they are parts, except parts separately specified as such and tool-holders for hand tools (heading 84.66). However parts of general use as defined in Note 2 to Section XV are in all cases excluded from this Chapter.

Heads, blades and cutting plates for electric shavers and electric hair clippers are to be classified in heading 85.10.

3.- Sets consisting of one or more knives of heading 82.11 and at least an equal number of articles of heading 82.15 are to be classified in heading 82.15.

EXPLANATORY NOTES

Chapter 82

Tools, implements, cutlery, spoons and forks, of base metal;

parts thereof of base metal

Notes.

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3.- Sets consisting of one or more knives of heading 82.11 and at least an equal number of articles of heading 82.15 are to be classified in heading 82.15.

GENERAL

This Chapter covers certain specific kinds of base metal articles, of the nature of tools, implements, cutlery, tableware, etc., which are excluded from the preceding Chapters of Section XV, and are not machinery or appliances of Section XVI (see below), nor instruments or apparatus proper to Chapter 90, nor articles of heading 96.03 or 96.04.

This Chapter includes :

(A) Tools which, apart from certain specified exceptions (e.g., blades for machine saws), are used in the hand (headings 82.01 to 82.05).

(B) Tools of two or more of the headings 82.02 to 82.05, put up in sets for retail sale (heading 82.06).

(C) Interchangeable tools for hand tools, for machine-tools or for power-operated hand tools (heading 82.07), knives and blades for machines or mechanical appliances (heading 82.08) and plates, sticks, tips and the like, for tools (heading 82.09).

(D) Articles of cutlery (whether intended for professional, personal or domestic use), certain mechanical domestic appliances, spoons and forks and similar tableware and kitchen utensils (headings 82.10 to 82.15).

In general, the Chapter covers tools which can be used independently in the hand, whether or not they incorporate simple mechanisms such as gearing, crank-handles, plungers, screw mechanisms or levers. Appliances are, however, generally classified in **Chapter 84** if they are designed for fixing to a bench, a wall, etc., or if, by reason of their weight or size or the degree of force required for their use, they are fitted with base plates, stands, supporting frames, etc., for standing on the floor, bench, etc.

Thus a breast drill which the worker uses freely in the hand, without support, is a tool classified in heading 82.05 although it includes a simple gearing mechanism; on the other hand, a drill designed

to be fixed to a stand or supporting framework would be classified in **heading 84.59**. Similarly, plier-type metal cutting shears are classified in heading 82.03, whereas guillotine-type shears fitted with a stand or base plate would be classified in **heading 84.62** even if hand-operated.

There are, however, **exceptions** to this rule, in both directions, depending on the nature of the appliances. Thus vices, grinding wheels with frameworks and portable forges are specifically covered by heading 82.05. Similarly certain mechanical appliances (coffee-mills, juice extractors, meat mincers, etc.) are classified in heading 82.10, to which special criteria apply (see relative Explanatory Note below). On the other hand, **Chapter 84** specifically includes certain apparatus used independently in the hand, such as appliances for spraying liquids or powders (**heading 84.24**), pneumatic tools (**heading 84.67**), non-pistol type office stapling machines (**heading 84.72**) - some of the latter being very small appliances which can hardly be described as having base plates or supporting frames.

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Tools, cutlery, etc., do not in general fall in this Chapter unless the blade, working edge, working surface or other working part is of base metal, of metal carbides (see the Explanatory Note to heading 28.49) or of cermets (see the Explanatory Note to heading 81.13); provided, however, that this condition is met, they remain in the Chapter even if fitted with non-metallic handles, bodies, etc., of a weight exceeding that of the metallic working part (e.g., a wooden plane with a metal blade).

The Chapter also, however, includes tools if the working part is of natural, synthetic or reconstructed precious or semi-precious stones (e.g., black diamonds) fitted onto a support of base metal, metal carbides or cermets; further, in certain cases, the working part may be of base metal fitted or covered with abrasive materials.

There are **exceptions** to these general rules in the case of certain articles specifically mentioned in the headings (e.g., portable forges and grinding wheels with frameworks). Moreover, very few abrasive tools remain in the scope of the Chapter (see the Explanatory Notes to headings 82.02 and 82.07), since **heading 68.04** covers grinding wheels and the like (including grinding, sharpening, polishing, trueing and cutting wheels, heads, discs and points), of natural stone, of agglomerated abrasives, or of ceramics, with or without cores, shanks, sockets, axles or the like of other materials, but without frameworks.

Interchangeable tools of base metal, for hand tools, for machine tools or for power-operated hand tools, which are **excluded** from this Chapter because their working part is not one of the materials specified in Note 1, generally fall to be classified according to the constituent material of the working part, e.g., those of rubber (**Chapter 40**), leather (**Chapter 42**), furskin (**Chapter 43**), cork (**Chapter 45**), textile fabric (**Chapter 59**), ceramic materials (**heading 69.09**). Brushes for use on machines are classified in **heading 96.03**.

Identifiable base metal parts of tools, cutlery, etc. (e.g., saw frames and plane irons) are normally classified in the same heading as the complete articles. This rule **does not**, however, apply to parts forming the subject of a special heading. Chains, nails, bolts, nuts, screws, rivets, springs (e.g. for secateurs) and other parts of general use as defined in Note 2 to Section XV are **excluded** from this Chapter and fall in their appropriate headings (**Chapters 73 to 76** and **78 to 81**).

Cutlery and other articles classified in headings 82.08 to 82.15 may be fitted with minor trimmings of precious metal or metal clad with precious metal (e.g., monograms or bands); if, however, they include other parts (e.g., handles or blades) of precious metal or metal clad with precious metal, or if they contain natural or cultured pearls, or precious or semi-precious stones (natural, synthetic or reconstructed) (except as working parts as described above), they are classified in **Chapter 71**.

*

* *

The Chapter **does not include** :

(a) Tools, scissors and other cutlery of the type used as medical, dental, surgical or veterinary instruments or appliances (**heading 90.18**).

(b) Tools clearly having the character of toys (**Chapter 95**).

Heading 8201

Hand tools, the following : spades, shovels, mattocks, picks, hoes, forks and rakes; axes, bill hooks and similar hewing tools; secateurs and pruners of any kind; scythes, sickles, hay knives, hedge shears, timber wedges and other tools of a kind used in agriculture, horticulture or forestry.

EXPLANATORY NOTES

82.01 - Hand tools, the following : spades, shovels, mattocks, picks, hoes, forks and rakes; axes, bill hooks and similar hewing tools; secateurs and pruners of any kind; scythes, sickles, hay knives, hedge shears, timber wedges and other tools of a kind used in agriculture, horticulture or forestry.

8201.10 - Spades and shovels

8201.30 - Mattocks, picks, hoes and rakes

8201.40 - Axes, bill hooks and similar hewing tools

8201.50 - Secateurs and similar one-handed pruners and shears (including poultry shears)

8201.60 - Hedge shears, two-handed pruning shears and similar two-handed shears

8201.90 - Other hand tools of a kind used in agriculture, horticulture or forestry

This heading covers hand tools mainly used in agriculture, horticulture or forestry, though some may also be used for other purposes (e.g., in road work, navvying, mining, quarrying, woodworking or household work).

The heading includes :

(1) **Spades and shovels** including household coal shovels and special types (e.g., entrenching tools for campers, soldiers, etc.).

(2) **Forks**, including pitchforks.

(3) **Mattocks, picks, hoes and rakes**, including lawn-rakes, combined hoe-rakes, grubbers, weeders and cultivators.

(4) **Axes, bill hooks and similar hewing tools**, including felling axes, hand axes, hatchets, choppers, adzes, slashers and matchets.

(5) **Secateurs and similar one-handed pruners and shears (including poultry shears)**. These are generally composed of two shafts articulated on a pivot about three-quarters of the way along their length. One of these shafts often terminates in a concave, and the other in a convex cutting edge ("parrot bill"); they further differ from the scissors of **heading 82.13** since they have no finger rings.

These tools almost always have a spring which forces the shafts apart after cutting, and a hook or other fastening so that they can be easily opened or closed with one hand. In cutting they are manipulated with one hand, and they have a very powerful action.

This heading includes gardeners' secateurs, flower or fruit secateurs; vineyard secateurs with narrow, tapering blades, etc.

The heading **does not**, however, **cover** secateur type scissors having the secateur blades but with finger rings (see the Explanatory Note to **heading 82.13)**.

(6) **Hedge shears, two-handed pruning shears and similar two-handed shears**, including grass shears and lopping shears.

(7) **Other hand tools of a kind used in agriculture, horticulture or forestry**. These include scythes, sickles (including bagging, reaping or grass hooks), hay or straw knives of all kinds; planters, seeders, dibbers, trowels and transplanters; fruit pickers; cow combs, curry combs and pig scrapers; bark scrapers and debarking knives; timber wedges, lumbermen's log rolling tools (log hooks, log tongs, log picks, cant hooks); lawn edging irons; sheep shears.

All these tools remain in the heading whether or not they are fitted with handles.

The heading also covers identifiable base metal parts of such tools.

The heading also **excludes** :

(a) Sheep ear and other animal marking pliers (**heading 82.03**).

(b) Road or stone splitting wedges; scythe blade trueing anvils (**heading 82.05**).

(c) Pruning knives (**heading 82.11**).

(d) Garden rollers, harrows, hay or grass mowers and similar implements, including those pushed or pulled by hand (**Chapter 84**).

(e) Ice axes (**heading 95.06**).

8201.10

- Spades and shovels

8201.30

- Mattocks, picks, hoes and rakes

8201.40

- Axes, bill hooks and similar hewing tools

CLASSIFICATION OPINIONS

1. Plantation matchet the edge opposite to the cutting edge of the blade being toothed for use accessorily as a saw.
Adoption : 1968

8201.50

- Secateurs and similar one-handed pruners and shears (including poultry shears)

8201.60

- Hedge shears, two-handed pruning shears and similar two-handed shears

8201.90

- Other hand tools of a kind used in agriculture, horticulture or forestry

Heading 8202

Hand saws; blades for saws of all kinds (including slitting, slotting or toothless saw blades).

EXPLANATORY NOTES

82.02 - Hand saws; blades for saws of all kinds (including slitting, slotting or toothless saw blades).

8202.10 - Hand saws

8202.20 - Band saw blades

- Circular saw blades (including slitting or slotting saw blades) :

8202.31 - - With working part of steel

8202.39 - - Other, including parts

8202.40 - Chain saw blades

- Other saw blades :

8202.91 - - Straight saw blades, for working metal

8202.99 - - Other

This heading covers :

(A) **Hand saws** for wood, metal, stone or other materials, whether for trade or domestic use.

These include bow saws, hack saws, fret saws and other saws with wooden or metal frames; panel saws, back or tenon saws, compass saws; cross-cut saws (usually with a handle at each end); saws shaped like a knife (folding or not) used by gardeners or miners; special saws for watchmakers and jewellers; nests of saws; articulated saws for camping, military use, etc.; veneer saws; saws permanently combined with a mitre box, the saw giving the whole article its **essential** character.

(B) **Saw blades** of all kinds, for hand saws and for machines, and for all materials. They include :

(1) **Band saw or endless saw blades** (e.g., those for wood sawing machines).

(2) **Circular saw blades (including slitting or slotting saw blades** for use on milling machines). The latter can be distinguished from milling cutters by the ratio of thickness to diameter which is less than for milling cutters, and by the toothing which is cut only on the periphery as with ordinary circular saws, whereas milling cutters often have teeth on their faces, or have concave or convex teeth.

(3) **Chain saw blades** (in the form of chains) for felling trees, sawing up tree trunks, etc. The teeth of such blades often comprise elements of metal carbides or cermets.

(4) **Straight saw blades** for panel saws, tenon saws, hack saws, etc., including those for saws known as “filigree saws” (round blades toothed like a file, but used for sawing like a fret saw blade).

(5) **Straight toothless stone cutting saw blades** (either hammered or machine dressed so as to be quite flat, or corrugated) **provided** their extremities are perforated or otherwise shaped for fixing.

(6) **Toothless cutting discs (friction discs) for cutting through metals**.

The heading also covers **saw blade blanks**. Provided that they are toothed, strip (whether or not cut to length) and discs (with a central hole for fixing the disc to the driving shaft) are regarded as such blanks. These articles are usually of steel with a high carbon content.

Saw blades may have integral teeth, or be fitted with inserted teeth or segments (such as some circular saws). The teeth may be wholly of base metal, or of base metal fitted or covered with metal carbides, diamond (black diamonds in particular) or, in some cases, with abrasive powders. In some saws the teeth may be replaced by diamonds or by elements of metal carbides set around the periphery of the disc.

Toothless discs fitted with abrasive rims (e.g., for cutting marble, quartz or glass) or with a series of peripheral inserts of abrasive material are, however, **excluded** (see the Explanatory Note to **heading 68.04**).

The heading includes separately presented base metal parts of hand saws (e.g., frames, bows, handles and stretchers) and base metal teeth and toothed segments for insertion in saw blades.

The heading also **excludes** :

(a) Stone sawing strand (usually three-ply stranded wire of special steel) (**heading 73.12**).

(b) Morticing chain cutters (**heading 82.07**).

(c) Hand saws with self-contained motor (**heading 84.67**).

(d) Musical saws (**heading 92.08**).

8202.10

- Hand saws

8202.20

- Band saw blades

8202.3

- Circular saw blades (including slitting or slotting saw blades) :

8202.31

-- With working part of steel

8202.39

-- Other, including parts

8202.40

- Chain saw blades

8202.9

- Other saw blades :

8202.91

-- Straight saw blades, for working metal

8202.99

-- Other

Heading 8203

Files, rasps, pliers (including cutting pliers), pincers, tweezers, metal cutting shears, pipe-cutters, bolt croppers, perforating punches and similar hand tools.

EXPLANATORY NOTES

82.03 - Files, rasps, pliers (including cutting pliers), pincers, tweezers, metal cutting shears, pipe-cutters, bolt croppers, perforating punches and similar hand tools.

8203.10 - Files, rasps and similar tools

8203.20 - Pliers (including cutting pliers), pincers, tweezers and similar tools

8203.30 - Metal cutting shears and similar tools

8203.40 - Pipe-cutters, bolt croppers, perforating punches and similar tools

This heading covers the following hand tools :

(A) **Files, rasps and similar tools** (including combined file-rasps), of all shapes (flat, round, half round, square, triangular, oval, etc.) and of all sizes, for metal, wood or other materials.

(B) **Pliers (including cutting pliers), pincers, tweezers and similar tools,** including **:**

(1) Pliers (e.g., seal closers and pliers, sheep-ear and other animal marking pliers, gas pipe pliers, pliers for inserting or extracting cotter-pins, eyelet and eyelet-closing pliers; plier type saw sets).

(2) Pincers (e.g., farriers' tongs and smiths' tongs).

(3) Tweezers (e.g., watchmakers', florists', philatelists', depilating).

(4) Nail pullers (jaw type, working on the pincer principle).

(C) **Metal cutting shears and similar tools**, including tinmen's snips, and other sheet metal or wire cutting shears.

(D) **Pipe-cutters, bolt croppers, perforating punches and similar tools**, including :

(1) Pipe cutters with cutting wheels, bolt croppers and clippers and chain cutters, of the plier type.

(2) Perforating punches, for example, button hole punches; ticket punches (**other than** those for stamping tickets with a date or other characters - **heading 96.11**); saddlers' punches, mattress punches, etc., for perforating leather, felt, etc., whether of the plier type, or of the type used with a hammer (but **not** solid nail or similar punches).

The heading also **excludes** :

(a) Punches and files (including rotary files) for machine-tools (**heading 82.07**).

(b) Nail files, nail nippers and clippers (**heading 82.14**).

(c) Sugar tongs (**heading 82.15**).

(d) Machine type metal cutting shears (**heading 84.62**) and office perforating punches having a base for fixing or standing the punch on a table, desk, etc. (**heading 84.72**).

(e) Ticket punches for stamping tickets with a date or with any other characters (**heading 96.11**).

8203.10

- Files, rasps and similar tools

8203.20

- Pliers (including cutting pliers), pincers, tweezers and similar tools

8203.30

- Metal cutting shears and similar tools

8203.40

- Pipe-cutters, bolt croppers, perforating punches and similar tools

Heading 8204

Hand-operated spanners and wrenches (including torque meter wrenches but not including tap wrenches); interchangeable spanner sockets, with or without handles.

EXPLANATORY NOTES

82.04 - Hand-operated spanners and wrenches (including torque meter wrenches but not including tap wrenches); interchangeable spanner sockets, with or without handles.

- Hand-operated spanners and wrenches :

8204.11 - - Non-adjustable

8204.12 - - Adjustable

8204.20 - Interchangeable spanner sockets, with or without handles

This heading covers the following hand tools :

(1) **Hand-operated spanners and wrenches** (e.g., with fixed or adjustable jaws; socket, box or ratchet spanners; crank handle spanners); wrenches or spanners for bicycles or cars, for coach screws, hydrants or piping (including chain type pipe wrenches); torque meter wrenches. The heading **does not**, however, **cover** tap wrenches (**heading 82.05**).

(2) **Interchangeable spanner sockets, with or without handles**, including drives and extensions.

8204.1

- Hand-operated spanners and wrenches :

8204.11

-- Non-adjustable

8204.12

-- Adjustable

8204.20

- Interchangeable spanner sockets, with or without handles

Heading 8205

Hand tools (including glaziers' diamonds), not elsewhere specified or included; blow lamps; vices, clamps and the like, other than accessories for and parts of, machine-tools or water-jet cutting machines; anvils; portable forges; hand or pedal-operated grinding wheels with frameworks.

EXPLANATORY NOTES

82.05 - Hand tools (including glaziers' diamonds), not elsewhere specified or included; blow lamps; vices, clamps and the like, other than accessories for and parts of, machine-

tools or water-jet cutting machines; anvils; portable forges; hand or pedal-operated grinding wheels with frameworks.

8205.10 - Drilling, threading or tapping tools

8205.20 - Hammers and sledge hammers

8205.30 - Planes, chisels, gouges and similar cutting tools for working wood

8205.40 - Screwdrivers

- Other hand tools (including glaziers' diamonds) :

8205.51 - - Household tools

8205.59 - - Other

8205.60 - Blow lamps

8205.70 - Vices, clamps and the like

8205.90 - Other, including sets of articles of two or more subheadings of this heading

This heading covers all hand tools **not included** in other headings of this Chapter or elsewhere in the Nomenclature (see the General Explanatory Notes to this Chapter), together with certain other tools or appliances specifically mentioned in the title.

It includes a large number of hand tools (including some with simple hand-operated mechanisms such as cranks, ratchets or gearing). This group of tools includes :

(A) **Drilling, threading or tapping tools**, such as braces (including ratchet types), breast drills and hand drills; die stocks, tap wrenches and screw plates. Interchangeable tools such as drills, bits, taps and dies for use with these hand tools are **excluded** - see **heading 82.07**.

(B) **Hammers and sledge hammers**, such as smiths', boilermakers', carpenters', farriers', quarrymen's, stone-cutters', glaziers', bricklayers' and masons' hammers, stone breaking hammers, mauls, stone roughing ("brush") hammers and hammers with accessory fittings such as picks and nail pullers.

(C) **Planes, chisels, gouges and similar cutting tools for working wood** such as planes and routers of all kinds (smoothing, grooving, rabbet, jack planes, etc.), spoke shaves and wood scrapers, gravers and draw-knives, of a kind used by carpenters, joiners, cabinet-makers, coopers, wood carvers, etc.

(D) **Screw drivers** (including ratchet types).

(E) **Other hand tools (including glaziers' diamonds)**.

This group includes :

(1) A number of household articles, including some with cutting blades but **not including** mechanical types (see the Explanatory Note to **heading 82.10**), having the character of tools and accordingly not proper to heading 73.23, such as :

Flat irons (gas, paraffin (kerosene), charcoal, etc., types, but **not** electric irons which fall in **heading 85.16**), curling irons; bottle openers, cork screws, simple can openers (including keys); nut-crackers; cherry stoners (spring type); button hooks; shoe horns; "steels" and other knife sharpeners of metal; pastry cutters and jaggers; graters for cheese, etc.; "lightning" mincers (with cutting wheels); cheese slicers, vegetable slicers; waffling irons; cream or egg whisks, egg slicers; butter curlers; ice picks; vegetable mashers; larding needles; pokers, tongs, rakers and cover lifts for stoves or fire places.

(2) Watchmakers' tools such as jewel pressing tools, balance poising tools, riveting stakes, mainspring winders, jacot or pivot tools, balance screw filling tools and regulating tools.

(3) Glaziers' diamonds, including compass-type diamond point glass cutters mounted on a graduated scale (for cutting out circles) and diamond point scribers for designing on glass. Diamonds presented separately **are excluded** (**heading 71.02**).

(4) Smiths' tools such as setts, swages, fullers, hardies and punches.

(5) Tools, for mining, road work, etc., such as crow bars, prizing levers, stone cutting chisels, punches and wedges.

(6) Tools for masons, moulders, cement workers, plasterers, painters, etc., such as trowels, smoothers, servers, scrapers and stripping knives, smoothers' needles and cleaners, indentation rollers, glass cutters with cutting wheels, palette knives and putty knives.

(7) Miscellaneous hand tools such as farriers' paring knives, toeing knives, hoof pickers and hoof cutters, cold chisels and punches; riveters' drifts, snaps and punches; non-plier type nail lifters, case openers and pin punches; tyre levers; cobblers' awls (without eyes); upholsterers' or bookbinders' punches; soldering irons and branding irons; metal scrapers; non-plier type saw sets; mitre boxes; cheese samplers and the like; earth rammers; grinding wheel dressers; strapping appliances for crates, etc., **other than** those of **heading 84.22** (see the relevant Explanatory Note); spring operated "pistols" for stapling packages, paperboard, etc.; cartridge operated riveting, wall-plugging, etc., tools; glass blowers' pipes; mouth blow pipes; oil cans and oilers (including those with pump or screw mechanisms), grease guns.

(F) **Blow lamps** (e.g., for soldering or brazing; for paint removal; for starting semi-diesel engines). These lamps are of two types, both self-contained, differing in the type of fuel used, incorporating either a fuel reservoir for mineral oil or other liquid fuel (frequently with a small pump), or a replaceable gas-filled cartridge. In some cases, a soldering or branding iron or other attachment is fitted to the tip of the lamp. The heading **does not cover** gas-operated welding appliances (**heading 84.68**).

(G) **Vices, clamps and the like**, including hand vices, pin vices, bench or table vices, for joiners or carpenters, locksmiths, gunsmiths, watchmakers, etc., but **not** including vices forming accessories or parts of machine-tools or water-jet cutting machines.This group also includes cramps and bench holdfasts which, like vices, serve as holding tools (e.g. joiners' cramps, floor cramps and toolmakers' clamps).

The group includes metal vices faced with non-metallic jaw grips (wood, fibre, etc.) to prevent damage to the piece to be held.

The heading however **does not include** vacuum cup holders (suction grips) consisting of a base, a handle and a vacuum lever, of base metal, and rubber discs, intended to be attached temporarily to an object with a view to enabling the object to be moved (for example, **heading 73.25**, **73.26** or **76.16**).

(H) **Anvils; portable forges; hand- or pedal-operated grinding wheels with frameworks**

This group includes :

(1) Anvils (including two-beaked anvils) of all sizes and for all uses, e.g., smiths' anvils; watchmakers' or jewellers' anvils; shoemakers' or cobblers' lasts; hand anvils for trueing up scythe blades.

(2) Portable forges, usually equipped with blowers and sometimes with an anvil; they are mainly used in small workshops, shipyards, etc.

(3) Grinding wheels (hand- or pedal-operated) with wooden or other frameworks. Mechanically driven grinding wheels are classified in **Chapter 84** or **85**. Grindstones and the like presented separately are classified in **heading 68.04**

Tools containing metal but with working parts of rubber, leather, felt, etc. are classified according to the constituent materials (**Chapters 40**, **42**, **59**, etc.).

Apart from the exclusions referred to above, the following are also **excluded** from this heading :

(a) Needles for hand sewing and other articles of **heading 73.19**.

(b) Interchangeable tools designed for use in hand tools, mechanical or not, in machine-tools or in power-operated hand tools (e.g. screwdriver bits and rock drilling bits) (**heading 82.07**).

(c) Appliances for projecting, dispersing or spraying liquids or powders (even if hand-operated) (**heading 84.24**).

(d) Tool holders for hand tools (**heading 84.66**).

(e) Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor (**heading 84.67**).

(f) Marking out, measuring, checking or calibrating instruments (e.g., marking gauges and punches, centre punches and scribers, calipers and gauges) of **Chapter 90**.

8205.10

- Drilling, threading or tapping tools

8205.20

- Hammers and sledge hammers

CLASSIFICATION OPINIONS

1. Hammer of base metal, with a detachable striking piece at each end of the head, one of rubber and one of plastics.
Adoption : 1963

8205.30

- Planes, chisels, gouges and similar cutting tools for working wood

8205.40

- Screwdrivers

8205.5

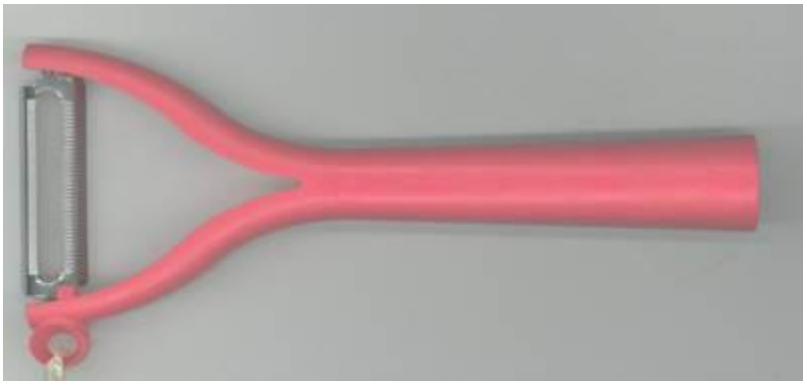
- Other hand tools (including glaziers' diamonds) :

8205.51

-- Household tools

CLASSIFICATION OPINIONS

1. **Peeler for fruit and vegetables**, consisting of a handle of plastics on which is mounted a pivoting rectangular working part of base metal with two blades - one flat and the other serrated.
   Application of GIRs 1 and 6.
   Adoption : 2013



2. **Peeler for fruit and vegetables**, consisting of a handle with a fixed working part of base metal with two blades.
   Application of GIRs 1 and 6.
   Adoption : 2013



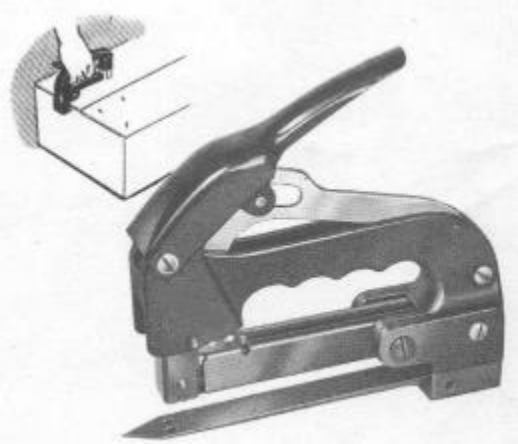
8205.59

-- Other

CLASSIFICATION OPINIONS

1. **Hand knotter,** comprising a head consisting of a shell of plastics with a knotting mechanism of steel, a metal grip fixed to the head, and a trigger for operating the mechanism, used to join yarns broken on textile machines.
   Adoption : 1964

2. **Stapling pliers** of base metal for closing paperboard boxes, the staples being fastened by hand pressure on two pivoted limbs.
   Adoption : 1971



8205.60

- Blow lamps

8205.70

- Vices, clamps and the like

8205.90

- Other, including sets of articles of two or more of subheadings of this heading

Heading 8206

Tools of two or more of the headings 82.02 to 82.05, put up in sets for retail sale.

EXPLANATORY NOTES

82.06 - Tools of two or more of the headings 82.02 to 82.05, put up in sets for retail sale.

The heading covers sets of tools falling **at least** in two or more of the headings 82.02 to 82.05 **provided** they are put up in sets for retail sale (e.g., in a plastic case or in a metallic tool box).

The heading includes, *inter alia* :

(1) Sets of car mechanic's tools including, e.g., sockets sets, spanners, ratchet wrenches, screwdrivers, pliers.

(2) Simple combinations such as sets of spanners and screwdrivers.

Sets including tools of minor importance from other headings or Chapters of the Nomenclature remain classified in this heading, **provided that** such minority items do not change their essential character of sets of tools of two or more of the headings 82.02 to 82.05.

8206.00

Tools of two or more of the headings 82.02 to 82.05, put up in sets for retail sale.

Heading 8207

Interchangeable tools for hand tools, whether or not power-operated, or for machine-tools (for example, for pressing, stamping, punching, tapping, threading, drilling, boring, broaching, milling, turning or screw driving), including dies for drawing or extruding metal, and rock drilling or earth boring tools.

EXPLANATORY NOTES

82.07 - Interchangeable tools for hand tools, whether or not power-operated, or for machine-tools (for example, for pressing, stamping, punching, tapping, threading, drilling, boring, broaching, milling, turning or screwdriving), including dies for drawing or extruding metal, and rock drilling or earth boring tools.

- Rock drilling or earth boring tools :

8207.13 - - With working part of cermets

8207.19 - - Other, including parts

8207.20 - Dies for drawing or extruding metal

8207.30 - Tools for pressing, stamping or punching

8207.40 - Tools for tapping or threading

8207.50 - Tools for drilling, other than for rock drilling

8207.60 - Tools for boring or broaching

8207.70 - Tools for milling

8207.80 - Tools for turning

8207.90 - Other interchangeable tools

Whereas (apart from a few exceptions such as machine saw blades) the preceding headings of this Chapter apply in the main to hand tools ready for use as they stand or after affixing handles, this heading covers an important group of **tools which are unsuitable for use independently, but are designed to be fitted,** as the case may be, **into** :

(A) hand tools, whether or not power-operated (e.g., breast drills, braces and die-stocks),

(B) machine-tools, of headings 84.57 to 84.65, or of heading 84.79 by reason of Note 8 to Chapter 84,

(C) tools of heading 84.67,

for pressing, stamping, punching, tapping, threading, drilling, boring, reaming, broaching, milling, gear-cutting, turning, cutting, morticing or drawing, etc., metals, metal carbides, wood, stone, ebonite, certain plastics or other materials, or for screwdriving.

The heading also includes tools for use with the rock drilling or earth boring machines of heading 84.30.

Dies, punches, drills and other interchangeable tools for machines or appliances other than those specified above are classified as parts of the machines or appliances for which they are intended.

The tools of this heading may be either one-piece or composite articles.

The one-piece tools, made wholly from one material, are generally of alloy steel or steel with a high carbon content.

Composite tools consist of one or more working parts of base metal, of metal carbides or of cermets, of diamond or of other precious or semi-precious stones, attached to a base metal support either permanently, by welding or insetting, or as detachable parts. In the latter case, the tool consists of a base metal body and one or more working parts (blade, plate, point) locked to the body by a device comprising, for example, a bridge plate, a clamping screw or a spring cotter-pin with, where appropriate, a chip-breaking lip.

The heading further includes tools with a base metal working part fitted or covered with abrasive materials, **provided** these tools have cutting teeth, flutes, grooves, etc., which retain their identity and function even after the application of the abrasive, i.e., tools which could be put to use even if the abrasive had not been applied; most abrasive tools are, however, **excluded** (see the Explanatory Note to **heading 68.04**).

The tools classified in this heading include :

(1) **Rock drilling or earth boring tools**, including mining, oil well drilling or sounding tools (e.g. augers, boring bits and drills).

(2) **Dies for drawing or extruding metal**, including draw plates.

(3) **Tools for pressing, stamping or punching**, including punches and dies for cold pressing or stamping of sheet metal; drop forging dies; perforating or cutting dies and punches for machine-tools.

(4) **Tools for tapping or threading**, such as taps and dies, chasers and chaser dies.

(5) **Tools for drilling, other than for rock drilling**, including drills (spiral or twist drills, centre bits, etc.), brace bits, etc.

(6) **Tools for boring or broaching**, including reaming.

(7) **Tools for milling**, e.g. milling cutters (plain, helical, staggered or angle cutters); gear cutting hobs, etc.

(8) **Tools for turning**.

(9) **Other interchangeable tools**, such as :

(a) Tools for dressing, planing, grooving, lapping or trueing.

(b) Tools for morticing, moulding, or tonguing wood, including cutting chains for morticing wood.

(c) Tools for mixing, stirring, etc., materials such as paint, glue, mortar, mastic and coating slip.

(d) Screwdriver bits.

Wire drawing dies, lathe tools, etc., remain in this heading even if they have been made radioactive.

The heading also **excludes** :

(a) Bobs, wheels and other tools with working parts of rubber, leather, felt, etc., classified according to the constituent materials (**Chapters 40, 42, 59,** etc.).

(b) Saw blades of all kinds (**heading 82.02**).

(c) Plane irons and similar parts of tools (**heading 82.05**).

(d) Knives and cutting blades for machines or for mechanical appliances (**heading 82.08**).

(e) Plates, sticks, tips and the like for tools, unmounted, of cermets (**heading 82.09**).

(f) Spinnerets for extruding man-made fibres (**heading 84.48**).

(g) Work and tool holders for machines or hand tools, and self-opening dieheads (**heading 84.66**).

(h) Dies for drawing glass fibres (**heading 84.75**).

(ij) Brushes (metallic or not) of a kind used as parts of machines (**heading 96.03**).

8207.1

- Rock drilling or earth boring tools :
8207.13

-- With working part of cermets
8207.19

-- Other, including parts
8207.20

- Dies for drawing or extruding metal
8207.30

- Tools for pressing, stamping or punching
8207.40

- Tools for tapping or threading
8207.50

- Tools for drilling, other than for rock drilling
8207.60

- Tools for boring or broaching
8207.70

- Tools for milling
8207.80

- Tools for turning
8207.90

- Other interchangeable tools
Heading 8208

Knives and cutting blades, for machines or for mechanical appliances.
EXPLANATORY NOTES

82.08 - Knives and cutting blades, for machines or for mechanical appliances.

8208.10 - For metal working

8208.20 - For wood working

8208.30 - For kitchen appliances or for machines used by the food industry

8208.40 - For agricultural, horticultural or forestry machines

8208.90 - Other

This heading applies to **unmounted** knives or cutting blades, rectangular, circular or of other shapes, for machines or for mechanical appliances. It **does not**, however, **cover** cutting blades or knives for the hand tools of **headings 82.01** to **82.05** (e.g., plane irons).

The heading includes knives or cutting blades :

(1) **For metal working** :

(a) Blades and knives for fitting into tools for machine-tools, e.g., into reamers or milling cutters.

(b) Blades for guillotine-type shears or for machine shears for cutting sheet metal, wire, bars, etc.

(2) **For wood working :**

(a) Blades and irons for planing or similar woodworking machines.

(b) Blades for veneer cutting machines.

(3) **For kitchen appliances or for machines used by the food industry**, such as blades and cutters for appliances or machines used in the household, or by butchers, bakers, etc. (e.g., blades for mincing machines, vegetable choppers, bread slicers, bacon or ham slicers).

(4) **For agricultural, horticultural or forestry machines**, for example, blades and knives for root cutters, straw cutters, etc. or for lawn mowers; blades and segments of blades for harvesting or reaping machines. The heading **does not**, however, **cover** coulters for ploughs or discs for harrows.

(5) **For other machines or mechanical appliances**, such as :

(a) Blades and knives, including circular or cup-shaped blades, for machines used in splitting, paring or trimming the surface of leather.

(b) Blades and knives for machines for cutting paper, textiles, plastics, etc.; for tobacco shredding machines, etc.

8208.10

- For metal working

8208.20

- For wood working

8208.30

- For kitchen appliances or for machines used by the food industry

8208.40

- For agricultural, horticultural or forestry machines

8208.90

- Other

Heading 8209

Plates, sticks, tips and the like for tools, unmounted, of cermets.

EXPLANATORY NOTES

82.09 - Plates, sticks, tips and the like for tools, unmounted, of cermets.

The products of this heading are usually in the form of plates, sticks, tips, rods, pellets, rings, etc., and are characterised by great hardness, even when hot, and great rigidity.

In view of their special properties these plates, tips, etc., are welded, brazed or clamped on to lathe tools, milling tools, drills, dies, or other high-speed cutting tools used for working metals or other hard materials. They fall in this heading whether sharpened or not, or otherwise prepared, but **not** if already mounted on tools; in the latter case they fall in the **headings for tools, particularly heading 82.07**.

The heading also **excludes** :

(a) Unmixed, non-sintered metal carbides (**heading 28.49**).

(b) Prepared but non-sintered metal carbide mixtures (**heading 38.24**).

(c) Ceramic plates, sticks, tips and the like, for tools (**heading 69.09**).

(d) Sand blast nozzles and other abrasion resistant parts of machines, of cermets (**Chapter 84**).

8209.00

Plates, sticks, tips and the like for tools, unmounted, of cermets.

Heading 8210

Hand-operated mechanical appliances, weighing 10 kg or less, used in the preparation, conditioning or serving of food or drink.

EXPLANATORY NOTES

82.10 - Hand-operated mechanical appliances, weighing 10 kg or less, used in the preparation, conditioning or serving of food or drink.

This heading covers **non-electric** mechanical appliances, generally hand-operated, not exceeding 10 kg in weight, used in the preparation, serving or conditioning of food or drink.

For the purposes of this heading an appliance is regarded as mechanical if it has such mechanisms as crank-handles, gearing, Archimedean screw-actions, pumps, etc.; a simple lever or plunger action is not in itself, however, regarded as a mechanical feature involving classification in this heading unless the appliance is designed for fixing to a wall or other surface, or is fitted with base plates, etc., for standing on a table, on the floor, etc.

The heading thus comprises appliances which would fall either in heading 82.05 or in Chapter 84 but for the fact that they **fulfil the following conditions** :

(1) They weigh 10 kg or less.

(2) They have the mechanical features described.

The following are examples of goods falling in the heading, **provided** they conform to the conditions set out above :

Coffee or spice mills; vegetable mincers and mashers; meat mincers and slicers; meat pressers; graters for cheese, etc.; vegetable or fruit slicers, cutters and peelers, including potato chippers; bread slicers; macaroni or spaghetti cutters; appliances for stoning fruit (**other than** spring-types held independently in the hand); bottle openers and corkers; mechanical can openers (**other than** the simple can openers of **heading 82.05**); can sealers; butter churns; ice cream freezers and portion servers; egg, cream or mayonnaise beaters and mixers; fruit or meat juice extractors; ice crushers.

8210.00

Hand-operated mechanical appliances, weighing 10 kg or less, used in the preparation, conditioning or serving of food or drink.

Heading 8211

Knives with cutting blades, serrated or not (including pruning knives), other than knives of heading 82.08, and blades therefor.

EXPLANATORY NOTES

82.11 - Knives with cutting blades, serrated or not (including pruning knives), other than knives of heading 82.08, and blades therefor (+).

8211.10 - Sets of assorted articles

- Other :

8211.91 - - Table knives having fixed blades

8211.92 - - Other knives having fixed blades

8211.93 - - Knives having other than fixed blades

8211.94 - - Blades

8211.95 - - Handles of base metal

This heading covers knives with cutting blades, serrated or not, with the **exception** of those included in **heading 82.08**, and of certain tools and tableware sometimes called “knives” but covered implicitly or explicitly by other headings of this Chapter (for example, hay knives of **heading 82.01**, and other articles listed in the exclusions at the end of this Explanatory Note).

The heading covers :

(1) **Non-folding table knives** of all kinds, including carving or dessert knives. Their handles and blades may be made of a single piece of metal, or they may have a fitted handle of base metal, wood, horn, plastics, etc.

(2) **Non-folding knives for kitchen, trade or other uses**, generally of a less decorative appearance than the preceding type. This category includes, inter alia :

Butchers’ knives; knives for bookbinders or papermakers; tanners’, furriers’, saddlers’ or cobblers’ knives, with or without handles; bee-keepers’ uncapping knives; gardeners’ pruning knives, etc.; hunting knives, sheath knives; oyster knives; fruit peeling knives.

(3) **Folding knives** of all kinds, with handles of base metal, wood, horn, plastics, etc. This group includes, inter alia :

Pocket knives, pen knives, jack knives, campers’ knives and sports knives (all these knives may have more than one blade, or be equipped with auxiliary corkscrews, spikes, screwdrivers, scissors, can openers, etc.); pocket folding knives for pruning, budding, grafting, etc.

(4) **Knives with several interchangeable blades**, whether or not these are contained in the handles.

The heading also covers blades for the manufacture of the knives listed above which may be in the form of crude or machined blanks, polished or completely finished blades. Handles of base metal for the knives of this heading are also included.

In addition to the exclusions mentioned in the first paragraph above, the heading also **excludes** :

(a) Bill hooks and matchets (**heading 82.01**).

(b) Articles of cutlery of **heading 82.14**.

(c) Fish-knives and butter-knives (**heading 82.15**).

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Subheading Explanatory Note.

Subheading 8211.10

The scope of subheading 8211.10 is limited to sets of different knives or sets of assorted articles, in which the knives predominate in number over the other articles.

8211.10

- Sets of assorted articles

8211.9

- Other :

8211.91

-- Table knives having fixed blades

8211.92

-- Other knives having fixed blades

8211.93

-- Knives having other than fixed blades

8211.94

-- Blades

8211.95

-- Handles of base metal

Heading 8212

Razors and razor blades (including razor blade blanks in strips).

EXPLANATORY NOTES

82.12 - Razors and razor blades (including razor blade blanks in strips).

8212.10 - Razors

8212.20 - Safety razor blades, including razor blade blanks in strips

8212.90 - Other parts

This heading covers :

(1) **Open blade razors**, including separately presented **blades** (finished or not), and separately presented base metal **handles**.

(2) **Safety razors, and their base metal parts and blades**, finished or not.

(3) **Plastic safety razors** presented with their blades.

The heading also covers **non-electric dry shavers** and blades, cutting plates and heads for non-electric razors.

Blanks of safety razor blades are also included in the heading when in the form of lengths of strip steel, tempered or not, **provided** they have been perforated ready for the manufacture of safety razor blades, or the outline of the blade has been incised allowing separation by slight pressure.

The heading **excludes** :

(a) Plastic safety razors presented without their blades (**heading 39.24**).

(b) Electric razors and heads, blades and cutting plates of such razors (**heading 85.10**).

8212.10

- Razors

8212.20

- Safety razor blades, including razor blade blanks in strips

8212.90

- Other parts

Heading 8213

Scissors, tailors' shears and similar shears, and blades therefor.

EXPLANATORY NOTES

82.13 - Scissors, tailors' shears and similar shears, and blades therefor.

The scissors classified in this heading consist of two superimposed blades, sometimes serrated, articulated on a screw or pin near the centre. In general the heading covers **only** those scissors in which each blade is fitted, at one end, with a finger ring. The blades may be in one piece, or consist of jointed cutting blades and handles.

The heading also includes certain types of scissors hinged at one end and with a single finger ring (used mainly in the textile industry).

The heading includes, *inter alia* :

(1) **Ordinary scissors** for domestic or office use, or for sewing, etc., with straight or curved blades.

(2) **Scissors for professional use**, e.g., tailors' or dressmakers' scissors and shears (including buttonhole scissors); hairdressers' scissors (including thinning scissors); scissors for drapers, leather workers, glovemakers or hatters.

(3) **Manicure scissors**, including those in which the side of the blade forms a nail file.

(4) **Small folding scissors**, e.g., pocket scissors and embroidery scissors; flower scissors; vine scissors; cigar-cutting scissors.

(5) **Special types** such as pinking scissors; twin scissors (four bladed) for cutting strips of cloth; horse clipping scissors; hoof cutting scissors; secateur type scissors (with one convex and one concave blade) but with the characteristic scissor finger rings (e.g., for flower cutting).

The heading includes **scissor blades**, finished or not.

The heading **does not cover** :

(a) Hedge shears, sheep shears, etc., with blades **not** fitted with finger rings, and secateurs and similar one-handed pruners and shears (including poultry shears) of **heading 82.01**.

(b) Special farriers' two-handed shears for cutting animals' hooves (**heading 82.05**).

8213.00

Scissors, tailors' shears and similar shears, and blades therefor.

Heading 8214

Other articles of cutlery (for example, hair clippers, butchers' or kitchen cleavers, choppers and mincing knives, paper knives); manicure or pedicure sets and instruments (including nail files).

EXPLANATORY NOTES

82.14 - Other articles of cutlery (for example, hair clippers, butchers' or kitchen cleavers, choppers and mincing knives, paper knives); manicure or pedicure sets and instruments (including nail files).

8214.10 - Paper knives, letter openers, erasing knives, pencil sharpeners and blades therefor

8214.20 - Manicure or pedicure sets and instruments (including nail files)

8214.90 - Other

This heading includes :

(1) **Paper knives, letter openers, erasing knives, pencil sharpeners** (including pocket type) **and blades therefor**, but **not** pencil sharpening machines of **heading 84.72**.

(2) **Manicure or pedicure sets and instruments, including nail files** (folding or not). Such instruments also include nail cleaners, corn-cutters, corn-extractors, cuticle cutting knives, cuticle pressers and pushers, nail nippers and clippers.

Manicure or pedicure sets usually contain such instruments in boxes, cases, etc., and may include scissors, non-metallic nail polishers, hair removing tweezers, etc., which, taken separately, would be classified in their appropriate headings.

(3) **Hair clippers, hand-operated, non-electric.**

Electric hair clippers with self-contained electric motors are classified in **heading 85.10**; mechanical clippers for animals, usually mounted on a stand and equipped with a flexible transmission, are classified in **heading 84.36.**

The heading covers not only the spare parts of hair clippers of this heading, but also cutting plates and heads for the mechanical clippers of heading 84.36.

(4) **Butchers' or kitchen choppers, cleavers, and mincing knives.** These articles do not have the normal shape of a knife, and may be designed for use with one or both hands.

8214.10

- Paper knives, letter openers, erasing knives, pencil sharpeners and blades therefor

8214.20

- Manicure or pedicure sets and instruments (including nail files)

8214.90

- Other

Heading 8215

Spoons, forks, ladles, skimmers, cake-servers, fish-knives, butter-knives, sugar tongs and similar kitchen or tableware.

EXPLANATORY NOTES

82.15 - Spoons, forks, ladles, skimmers, cake-servers, fish-knives, butter-knives, sugar tongs and similar kitchen or tableware.

8215.10 - Sets of assorted articles containing at least one article plated with precious metal

8215.20 - Other sets of assorted articles

- Other :

8215.91 - - Plated with precious metal

8215.99 - - Other

This heading includes :

(1) Spoons of all kinds including salt or mustard spoons.

(2) Table forks; carving forks, serving forks, cooks' forks; cake forks; oyster forks; snail forks; toasting forks.

(3) Ladles and ladle type skimmers (for vegetables, frying, etc.).

(4) Slices for serving fish, cake, strawberries, asparagus.

(5) Non-cutting fish-knives and butter-knives.

(6) Sugar tongs of all kinds (cutting or not), cake tongs, hors-d'oeuvre tongs, asparagus tongs, snail tongs, meat tongs and ice tongs.

(7) Other tableware, such as poultry or meat grips, and lobster or unit grips.

These goods may be of one piece or fitted with handles of base metal, wood, plastics, etc.

In accordance with Chapter Note 3, the heading also includes sets consisting of one or more knives of heading 82.11 and at least an equal number of articles of this heading.

The heading **excludes** lobster cutters or poultry shears of the secateur or scissors type (**heading 82.01** or **82.13**).

8215.10

- Sets of assorted articles containing at least one article plated with precious metal

8215.20

- Other sets of assorted articles

8215.9

- Other :

8215.91

-- Plated with precious metal

8215.99

-- Other

Chapter 83

Miscellaneous articles of base metal

LEGAL NOTES

Notes.

1.- For the purposes of this Chapter, parts of base metal are to be classified with their parent articles. However, articles of iron or steel of heading 73.12, 73.15, 73.17, 73.18 or 73.20, or similar articles of other base metal (Chapters 74 to 76 and 78 to 81) are not to be taken as parts of articles of this Chapter.

2.- For the purposes of heading 83.02, the word “castors” means those having a diameter (including, where appropriate, tyres) not exceeding 75 mm, or those having a diameter (including, where appropriate, tyres) exceeding 75 mm provided that the width of the wheel or tyre fitted thereto is less than 30 mm.

EXPLANATORY NOTES

Chapter 83

Miscellaneous articles of base metal

Notes.

1.- For the purposes of this Chapter, parts of base metal are to be classified with their parent articles. However, articles of iron or steel of heading 73.12, 73.15, 73.17, 73.18 or 73.20, or similar articles of other base metal (Chapters 74 to 76 and 78 to 81) are not to be taken as parts of articles of this Chapter.

2.- For the purposes of heading 83.02, the word “castors” means those having a diameter (including, where appropriate, tyres) not exceeding 75 mm, or those having a diameter (including, where appropriate, tyres) exceeding 75 mm provided that the width of the wheel or tyre fitted thereto is less than 30 mm.

GENERAL

Whereas in Chapters 73 to 76 and 78 to 81 articles are classified according to a specific metal, this Chapter, like Chapter 82, covers certain particular classes of goods **irrespective** of the base metal of which they are composed.

In general, parts of base metal are to be classified with their parent articles (see Chapter Note 1). However, the Chapter **does not cover** springs (even if specialised for locks, etc.), chains, cables, nuts, bolts, screws or nails; these goods are classified in the appropriate headings of **Chapters 73 to 76** and **78 to 81** (see Note 2 to Section XV and Note 1 to this Chapter).

Heading 8301

Padlocks and locks (key, combination or electrically operated), of base metal; clasps and frames with clasps, incorporating locks, of base metal; keys for any of the foregoing articles, of base metal.

EXPLANATORY NOTES

83.01 - Padlocks and locks (key, combination or electrically operated), of base metal; clasps and frames with clasps, incorporating locks, of base metal; keys for any of the foregoing articles, of base metal (+).

8301.10 - Padlocks

8301.20 - Locks of a kind used for motor vehicles

8301.30 - Locks of a kind used for furniture

8301.40 - Other locks

8301.50 - Clasps and frames with clasps, incorporating locks

8301.60 - Parts

8301.70 - Keys presented separately

This heading covers fastening devices operated by a key (e.g., locks of the cylinder, lever, tumbler or Bramah types) or controlled by a combination of letters or figures (combination locks).

It also includes electrically operated locks (e.g., for street doors of blocks of flats or for lift doors). These locks may be operated, e.g., by insertion of a magnetic card, by entering the combination data on an electronic keyboard, or by radio wave signal.

The heading therefore covers, *inter alia* :

(A) Padlocks of all types for doors, trunks, chests, bags, cycles, etc., including key-operated locking hasps.

(B) Locks for doors or gates, letter boxes, safes, boxes or caskets, furniture, pianos, trunks, suit-cases, handbags, dispatch-cases, etc., for automobiles, railway-rolling-stock, tramcars, etc., for lifts, shutters, sliding doors, etc.

(C) Clasps and frames with clasps, incorporating locks.

The heading also covers :

(1) Base metal parts of the articles mentioned above clearly recognisable as such (e.g., cases, bolts, striking plates and sockets, thread escutcheons, face-plates, wards, mechanisms and cylinder barrels).

(2) Base metal keys for the articles mentioned above, finished or not (including roughly cast, forged or stamped blanks).

The heading also includes special railway coach compartment keys, skeleton keys, etc.

The heading **does not**, however, **include** simple latches or bolts, etc. (**heading 83.02**), nor fasteners and clasps (not key or combination operated) for handbags, brief-cases, executive-cases, etc. (**heading 83.08**).

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Subheading Explanatory Note.

Subheading 8301.30

This subheading covers not only locks for domestic furniture but also those for office furniture.

8301.10

- Padlocks

8301.20

- Locks of a kind used for motor vehicles

8301.30

- Locks of a kind used for furniture

8301.40

- Other locks

8301.50

- Clasps and frames with clasps, incorporating locks

8301.60

- Parts

8301.70

- Keys presented separately

Heading 8302

Base metal mountings, fittings and similar articles suitable for furniture, doors, staircases, windows, blinds, coachwork, saddlery, trunks, chests, caskets or the like; base metal hat-racks, hat-pegs, brackets and similar fixtures; castors with mountings of base metal; automatic door closers of base metal.

EXPLANATORY NOTES

83.02 - Base metal mountings, fittings and similar articles suitable for furniture, doors, staircases, windows, blinds, coachwork, saddlery, trunks, chests, caskets or the like; base metal hat-racks, hat-pegs, brackets and similar fixtures; castors with mountings of base metal; automatic door closers of base metal.

8302.10 - Hinges

8302.20 - Castors

8302.30 - Other mountings, fittings and similar articles suitable for motor vehicles

- Other mountings, fittings and similar articles :

8302.41 - - Suitable for buildings

8302.42 - - Other, suitable for furniture

8302.49 - - Other

8302.50 - Hat-racks, hat-pegs, brackets and similar fixtures

8302.60 - Automatic door closers

This heading covers general purpose classes of base metal accessory fittings and mountings, such as are used largely on furniture, doors, windows, coachwork, etc. Goods within such general classes remain in this heading even if they are designed for particular uses (e.g., door handles or hinges for automobiles). The heading **does not**, however, **extend** to goods forming an essential part of the structure of the article, such as window frames or swivel devices for revolving chairs.

The heading covers :

(A) **Hinges** of all types (e.g., butt hinges, lift-off hinges, angle hinges, strap hinges and garnets).

(B) **Castors**, as defined in Chapter Note 2.

To fall in this heading, castors must have mountings of base metal, but the wheels may be of any material (except precious metal).

In the case of castors having pneumatic tyres, the diameter of the castor must be measured with the tyre inflated to a normal pressure.

The presence of spokes does not affect the classification of castors in this heading.

Castors not complying with the provisions of the heading text or of Chapter Note 2, are **excluded** (e.g., **Chapter 87**).

(C) **Mountings, fittings and similar articles suitable for motor vehicles** (e.g., motor cars, lorries or motor coaches), **not being** parts or accessories of **Section XVII**. For example : made up ornamental beading strips; foot rests; grip bars, rails and handles; fittings for blinds (rods, brackets, fastening fittings, spring mechanisms, etc.); interior luggage racks; window opening mechanisms; specialised ash trays; tail-board fastening fittings.

(D) **Mountings, fittings and similar articles suitable for buildings**

This group includes :

(1) Door guards fitted with chains, bars, etc.; espagnolette or casement bolts and fittings; casement fasteners and stays; fanlight or skylight openers, stays and fittings; cabin hooks and eyes; hooks and fittings for double windows; hooks, fasteners, stops, brackets and roller

ends for shutters or blinds; letter-box plates; door knockers, spy holes, etc. (**other than** those fitted with optical elements).

(2) Catches (including ball spring catches), bolts, fasteners, latches, etc., (**other than** key-operated bolts of **heading 83.01**), for doors.

(3) Fittings for sliding doors or windows of shops, garages, sheds, hangars, etc. (e.g., grooves and tracks, runners and rollers).

(4) Keyhole plates and finger-plates for doors of buildings.

(5) Curtain, blind or portière fittings (e.g., rods, tubes, rosettes, brackets, bands, tassel hooks, clips, sliding or runner rings, stops); cleat hooks, guides and knot holders for blind cords, etc.; staircase fittings, such as protectors for staircase treads; stair carpet clips, stair rods, banister knobs.

Rods, tubes and bars, suitable for use as curtain or stair rods, etc., merely cut to length and drilled, remain classified according to the constituent metal.

(6) Corner braces, reinforcing plates, angles, etc., for doors, windows or shutters.

(7) Hasps and staples for doors; handles and knobs for doors, including those for locks or latches.

(8) Door stops and door closers (**other than** those of (H) below).

(E) **Mountings, fittings and similar articles suitable for furniture**

This group includes :

(1) Protective studs (with one or more points) for legs of furniture, etc.; metal decorative fittings; shelf adjusters for book-cases, etc.; fittings for cupboards, bedsteads, etc.; keyhole plates.

(2) Corner braces, reinforcing plates, angles, etc.

(3) Catches (including ball spring catches), bolts, fasteners, latches, etc. (**other than** key-operated bolts of **heading 83.01**).

(4) Hasps and staples for chests, etc.

(5) Handles and knobs, including those for locks or latches.

(F) (1) Fittings and similar articles for trunks, chests, suit-cases or similar travel goods, e.g., lid guides (but **not including** fasteners); handles; corner protectors; lid struts and runners; closing rods for basket-trunks; fittings for expanding cases; however, ornaments for handbags fall in **heading 71.17**.

(2) Corner braces, reinforcing plates, angles, etc., for chests, trunks, caskets, boxes, suit-cases, etc.

(3) Fittings and similar articles for saddlery, such as bits, curbs, saddle-bows, stirrups; trace, harness or rein rings; horse-brasses and other fittings for harness.

(4) Fittings and similar articles for caskets or coffins.

(5) Fittings and similar articles for vessels (ships and boats).

(G) **Hat-racks, hat-pegs, brackets** (fixed, hinged or toothed, etc.) and **similar fixtures** such as coat racks, towel racks, dish-cloth racks, brush racks, key racks.

Coat racks, etc., having the character of furniture, such as coat racks incorporating a shelf, are classified in **Chapter 94**.

(H) **Automatic door closers**, spring or hydraulic types, for doors, gates, etc.

8302.10

- Hinges

8302.20

- Castors

8302.30

- Other mountings, fittings and similar articles suitable for motor vehicles

8302.4

- Other mountings, fittings and similar articles :

8302.41

-- Suitable for buildings

8302.42

-- Other, suitable for furniture

8302.49

-- Other

8302.50

- Hat-racks, hat-pegs, brackets and similar fixtures

8302.60

- Automatic door closers

Heading 8303

Armoured or reinforced safes, strong-boxes and doors and safe deposit lockers for strong-rooms, cash or deed boxes and the like, of base metal.

EXPLANATORY NOTES

83.03 - Armoured or reinforced safes, strong-boxes and doors and safe deposit lockers for strong-rooms, cash or deed boxes and the like, of base metal.

This heading covers containers and strong-room doors designed for securing valuables, jewels, documents, etc., against theft and fire.

Safes and strong-boxes of this heading are steel containers of which the walls are **armoured** (i.e., made of high-strength alloy steel) or of sheet steel reinforced with, for example, reinforced concrete.

They are used in banks, offices, hotels, etc. They are fitted with very secure locks and often with air-tight doors and double walls, the intervening space usually being filled with heat-resistant materials. The heading includes strong-room doors (whether or not with door frames) and safe deposit lockers for strong-rooms as used in banks, safe deposits, factories, etc., where larger storage space is required.

The heading also includes metal cash or deed boxes (with or without internal compartments). These are portable boxes (incorporating a key-operated or a combination lock), sometimes with double walls, which by virtue of their design, constituent material, etc., offer reasonable protection against theft and fire. Collecting-boxes, money-boxes, etc., also fall in the heading, **provided** they have similar provisions for security; otherwise they are classified according to the constituent metal or as toys.

The heading **does not cover** :

(a) Security doors of steel, for all types of dwellings (**heading 73.08**).

(b) Containers specially designed to resist fire, impact and crushing and whose walls in particular do not offer any serious resistance to attempts at breaking them open by drilling or cutting (**heading 94.03**).

8303.00

Armoured or reinforced safes, strong-boxes and doors and safe deposit lockers for strong-rooms, cash or deed boxes and the like, of base metal.

CLASSIFICATION OPINIONS

1. **Safe**, made of steel, designed to protect valuables, equipped with a programmable electronic keypad lock and indicator panel as well as a lock for an override key. The external dimensions are 200 x 310 x 200 mm and the internal dimensions are 198 x 308 x 140 mm (H x W x D). The safe weighs 4.5 kg, the door is 3 mm thick and the body is 1 mm thick. A dial on the front door positions two one-way sliding bolts (20 mm thick) into place. There are pre-drilled holes at the bottom and back to fix the safe to the floor or wall. It is intended for home and business use.
   Application of GIR 1.
   Adoption : 2017



2. Safe, made of steel, designed to protect valuables, equipped with a programmable electronic keypad lock and indicator panel as well as a lock for an override key. The external dimensions are 250 x 350 x 250 mm and the internal dimensions are 248 x 348 x 190 mm (H x W x D). The safe weighs 6 kg, the door is 3 mm thick and the body is 1 mm thick. A dial on the front door positions two one-way sliding bolts (20 mm thick) into place. There are pre-drilled holes at the bottom and back to fix the safe to the floor or wall. It is intended for home and business use.

Application of GIR 1.

Adoption : 2017



Heading 8304

Filing cabinets, card-index cabinets, paper trays, paper rests, pen trays, office-stamp stands and similar office or desk equipment, of base metal, other than office furniture of heading 94.03.

EXPLANATORY NOTES

83.04 - Filing cabinets, card-index cabinets, paper trays, paper rests, pen trays, office-stamp stands and similar office or desk equipment, of base metal, other than office furniture of heading 94.03.

The heading covers filing cabinets, card-index cabinets, sorting boxes and similar office equipment used for the storage, filing or sorting of correspondence, index cards or other papers, **provided** the equipment is not designed to stand on the floor or is not otherwise covered by Note 2 to Chapter 94 (**heading 94.03**) (see the General Explanatory Note to Chapter 94). The heading also includes paper trays for sorting documents, paper rests for typists, desk racks and shelving, and desk equipment (such as book-ends, paperweights, ink-stands and ink-pots, pen trays, office-stamp stands and blotters).

The heading **does not**, however, **cover** waste paper baskets which are classified according to the constituent metal (e.g., in **heading 73.26**).

8304.00

Filing cabinets, card-index cabinets, paper trays, paper rests, pen trays, office-stamp stands and similar office or desk equipment, of base metal, other than office furniture of heading 94.03.

Heading 8305

Fittings for loose-leaf binders or files, letter clips, letter corners, paper clips, indexing tags and similar office articles, of base metal; staples in strips (for example, for offices, upholstery, packaging), of base metal.

EXPLANATORY NOTES

83.05 - Fittings for loose-leaf binders or files, letter clips, letter corners, paper clips, indexing tags and similar office articles, of base metal; staples in strips (for example, for offices, upholstery, packaging), of base metal.

8305.10 - Fittings for loose-leaf binders or files

8305.20 - Staples in strips

8305.90 - Other, including parts

This heading covers base metal fittings of the clip, cord, spring lever, ring, screw, etc., types, for loose-leaf binders or box files. It further includes protecting rings, bands and corners for ledgers or other stationery books; also office stationery in metal of the type used in fastening together or index-marking papers (e.g., letter clips, paper clips, paper fasteners, letter corners, card indexing tags, file tags, spike files); staples in strips of the kind used in stapling machines, in offices, for upholstery, for packaging, etc.

The heading **excludes** :

(a) Drawing pins (e.g., **heading 73.17** or **74.15**).

(b) Clasps and fasteners for books, ledgers, etc. (**heading 83.01** or **83.08**).

8305.10

- Fittings for loose-leaf binders or files

8305.20

- Staples in strips

8305.90

- Other, including parts

Heading 8306

Bells, gongs and the like, non-electric, of base metal; statuettes and other ornaments, of base metal; photograph, picture or similar frames, of base metal; mirrors of base metal.

EXPLANATORY NOTES

83.06 - Bells, gongs and the like, non-electric, of base metal; statuettes and other ornaments, of base metal; photograph, picture or similar frames, of base metal; mirrors of base metal.

8306.10 - Bells, gongs and the like

- Statuettes and other ornaments :

8306.21 - - Plated with precious metal

8306.29 - - Other

8306.30 - Photograph, picture or similar frames; mirrors

(A) BELLS, GONGS AND THE LIKE, NON-ELECTRIC

This group covers **non-electric** bells and gongs of base metal. It includes bells for places of religious worship, schools, public buildings, factories, ships, fire-engines, etc.; door bells; table bells; hand-bells; cattle or other animal bells; bells for bicycles, scooters or perambulators; bells for fishing tackle (without the addition of external clamps, clips or other mounting devices); door chimes, table gongs, etc.; decorated bells such as those for tourist souvenirs.

This heading also covers metallic parts such as clappers, handles and domes (including those suitable equally for electric or other types of bells). It also includes metallic buttons and turn-keys for non-electric table or door bells.

This heading **does not include** :

(a) Iron or steel frameworks for supporting church bells, etc. (**heading 73.08**).

(b) Bell pulls, leverings and fittings for mechanical type door bells (e.g., **heading 73.25**, **73.26**).

(c) Electric bells and other signalling apparatus of **heading 85.31**.

(d) Clock chimes and gongs (**heading 91.14**).

(e) Carillons and gongs, of the nature of musical instruments of **heading 92.06** or **92.07**.

(f) Articles incorporating bells, e.g., dog collars (**heading 42.01**), certain musical instruments (e.g., tambourines) (**Chapter 92**), toys (**heading 95.03**), fishing rod bells mounted on external clamps, clips or other devices (**heading 95.07**).

(B) STATUETTES AND OTHER ORNAMENTS

This group comprises a wide range of ornaments of base metal (whether or not incorporating subsidiary non-metallic parts) of a kind **designed essentially for decoration**, e.g., in homes, offices, assembly rooms, places of religious worship, gardens.

It should be noted that the group **does not include** articles of more specific headings of the Nomenclature, even if those articles are suited by their nature or finish as ornaments.

The group covers articles which have no utility value but are wholly ornamental, and articles whose only usefulness is to contain or support other decorative articles or to add to their decorative effect, for example :

(1) Busts, statuettes and other decorative figures; ornaments (including those forming parts of clock sets) for mantelpieces, shelves, etc. (animals, symbolic or allegorical figures, etc.); sporting or art trophies (cups, etc.); wall ornaments incorporating fittings for hanging (plaques, trays, plates, medallions **other than** those for personal adornment); artificial flowers, rosettes and similar ornamental goods of cast or forged metal (usually of wrought iron); knick-knacks for shelves or domestic display cabinets.

(2) Articles for religious use such as reliquaries, chalices, ciboriums, monstrances or crucifixes.

(3) Table-bowls, vases, pots, jardinières (including those of cloisonné enamel).

*

* *

The group also includes, in the circumstances explained below, certain goods of the two following categories even though they have a utility value :

(A) Household or domestic articles whether they are potentially covered by specific headings for such goods (i.e., headings 73.23, 74.18 and 76.16) or by the “other articles” headings (e.g., in the case of articles of nickel and tin in particular). These household or domestic articles are generally designed essentially to serve useful purposes, and any decoration is usually secondary so as not to impair the usefulness. If, therefore, such decorated articles serve a useful purpose no less efficiently than their plainer counterparts, they are classified as domestic goods rather than in this group. On the other hand, if the usefulness of the article is clearly subordinate to its ornamental or fancy character, it should be classified in this group, for example, trays so heavily embossed that their usefulness is virtually nullified; ornaments incorporating a purely incidental tray or container usable as a trinket dish or ash-tray; and miniatures having no genuine utility value (miniature kitchen utensils).

(B) Articles, other than household or domestic articles, of the type which would otherwise fall in the collective headings at the end of each of the Chapters for metals (e.g., smokers’ sets, jewel cases, cigarette boxes, incense stands, incense pots, match holders). These goods are classified in this group if clearly designed primarily for ornamental purposes.

(C) PHOTOGRAPH, PICTURE OR SIMILAR FRAMES;

MIRRORS OF BASE METAL

This group comprises **photograph, picture, mirror, etc.**, **frames of base metal**, of all shapes and dimensions. These remain in the group if fitted with supports or with backings of paperboard, wood or other material. The group includes frames fitted with plain glass, but glass mirrors with metal frames are **excluded** (**heading 70.09**).

Printed pictures and photographs presented in frames of base metal are also classified in this heading when the essential character of the whole is given by the frames; in other cases such articles are classified in **heading 49.11.**

In the case of framed paintings, drawings, pastels, collages and similar decorative plaques, and original engravings, prints and lithographs, to determine whether the framed articles are to be classified as a whole or whether the frames are to be classified separately, see Note 6 to Chapter 97 and the Explanatory Notes to headings 97.01 and 97.02.

This group also includes **metallic mirrors** (**other than** optical elements, see the Explanatory Notes to **headings 90.01** and **90.02**), e.g., wall or pocket mirrors and rear-view mirrors, generally made of steel or of chromium, nickel or silver-plated steel or brass. They may be framed, backed or fitted with supports, or be presented complete with cases or straps of leather, textile or other materials.

*

* *

The heading also **excludes** :

(a) Partitions and balustrades of wrought iron or other metals (e.g., **heading 73.08**).

(b) Knives, spoons, forks, etc. (**Chapter 82**).

(c) Locks and parts thereof (**heading 83.01**).

(d) Fittings and mountings for furniture, doors, staircases and windows (**heading 83.02**).

(e) The instruments and apparatus of **Chapter 90** (e.g., barometers and thermometers even if in an essentially decorative presentation).

(f) Clocks and cases therefor, even if the latter are decorative or consist, for example, of statuettes or similar objects clearly designed to act as clock cases (**Chapter 91**).

(g) Articles of **Chapter 94**.

(h) Toys and games (**Chapter 95**).

(ij) Table lighters (**heading 96.13**); scent and similar sprays (**heading 96.16**).

(k) Works of art, collectors' pieces and antiques (**Chapter 97**).

8306.10

- Bells, gongs and the like

8306.2

- Statuettes and other ornaments :

8306.21

-- Plated with precious metal

8306.29

-- Other

CLASSIFICATION OPINIONS

1. Buddhist incense stands and incense pots (Koro and Senkosashi), resembling small decorative vases made of base metal and yellow in colour. The incense stand has the shape of a cylinder that gradually widens at the bottom. It is 9 cm high, 3 cm in diameter at the top open end, and 4.5 cm at the bottom closed end or base. The incense pot has the shape of a small pot that has been fitted with three feet at the base. It is 4.5 cm high and 7 cm diameter at the open end. Both of these articles are normally used as ornaments on family altars or in temples but may also be used to burn incense at places of religious worship.
Adoption : 1996

2. Buddhist match holder (Match-keshi) consisting of a container with a flat base that resembles a small decorative vase. The container is made of base metal that is yellow in colour. It is fitted with a lid that has a hole in the middle for insertion of matches. It is 4.5 cm in diameter at its widest point, and 7 cm high with the lid placed on top and 6.5 cm without the lid. The article is normally used as an ornament on family altars or in temples but may also be used to hold spent matches in places of religious worship.
Adoption : 1996

8306.30

- Photograph, picture or similar frames; mirrors

Heading 8307

Flexible tubing of base metal, with or without fittings.

EXPLANATORY NOTES

83.07 - Flexible tubing of base metal, with or without fittings.

8307.10 - Of iron or steel

8307.90 - Of other base metal

There are two main types of flexible metal tubing, differing according to the process of manufacture :

(1) Flexible tubing composed of a shaped strip rolled spirally, with or without fastening of the edge. Tubing of this type may be rendered water or gas tight by packing with rubber, asbestos, textiles, etc. It is then suitable for use as watertight protection for electric cables or flexible transmission systems; vacuum cleaner tubing; conduits for compressed air, steam, gas, water, petrol, oil or other fluids in engines, machine-tools, pumps, transformers, hydraulic or pneumatic appliances, blast furnaces, etc. Similar tubing not rendered watertight is used as conduits for sand, grain,

dust, shavings, etc., and also, in certain cases, for protecting electric cables, other flexible transmission piping, rubber tubing, etc.

(2) Corrugated flexible tubing obtained, e.g., by deformation of a smooth-surfaced pipe. This tubing is by its nature water and air tight, and can be used without further processing for the purposes described in paragraph (1) above.

In order to increase their resistance to pressure, both types of flexible tubing may be reinforced or equipped with one or more braided sleeves of wire or metal strip. These sleeves are sometimes protected by spiralled wire, and may also be covered with plastics, rubber or textile material.

The heading also covers flexible tubing composed of tightly spiralled wire (e.g., as used as sheathing for “Bowden” cables or cycle brake cables). It **does not cover** similar products which are not used as tubes or pipes (e.g., extending curtain wire) (generally **heading 73.26**).

Flexible tubing in short lengths for thermic or antivibratory uses (known as thermostatic bellows or expansion joints) remains in this heading.

The heading also includes tubing fitted with sockets, joints, etc.

This heading also **excludes** :

(a) Rubber tubing incorporating or fitted with external metallic reinforcement (**heading 40.09**).

(b) Flexible tubing made into the form of machinery or vehicle parts, etc., e.g., by assembly with other materials (**Sections XVI** and **XVII**).

8307.10

- Of iron or steel

8307.90

- Of other base metal

Heading 8308

Clasps, frames with clasps, buckles, buckle-clasps, hooks, eyes, eyelets and the like, of base metal, of a kind used for clothing or clothing accessories, footwear, jewellery, wrist-watches, books, awnings, leather goods, travel goods or saddlery or for other made up articles; tubular or bifurcated rivets, of base metal; beads and spangles, of base metal.

EXPLANATORY NOTES

83.08 - Clasps, frames with clasps, buckles, buckle-clasps, hooks, eyes, eyelets and the like, of base metal, of a kind used for clothing or clothing accessories, footwear, jewellery, wrist-watches, books, awnings, leather goods, travel goods or saddlery or for other made up articles; tubular or bifurcated rivets, of base metal; beads and spangles, of base metal.

8308.10 - Hooks, eyes and eyelets

8308.20 - Tubular or bifurcated rivets

8308.90 - Other, including parts

This heading includes :

(A) **Hooks, eyes and eyelets**, for clothing, footwear, awnings, tents or sails.

(B) **Tubular or bifurcated rivets** of all kinds. These are used in clothing, footwear, awnings, tents, travel goods, leather goods, belting, etc.; they also serve in engineering (e.g., in aircraft construction). The heading also covers **break mandrel blind rivets**, where during the setting operation the mandrel is pulled into or against the rivet body and breaks at or near the junction of the mandrel shank and its upset end.

(C) **Clasps, fasteners, and frames with clasps**, for handbags, purses, brief-cases, executive-cases or other travel goods, or for books or wrist-watches; but the heading **excludes** locks (including locking clasps), and frames with clasps, incorporating locks (**heading 83.01**).

(D) **Buckles** (with or without tongues) and **buckle-clasps**, whether or not ornamental, for clothes, belts, braces, suspenders, gloves, footwear, gaiters, wrist-watches, haversacks, travel goods and leather goods.

(E) **Metal beads and spangles** used, *inter alia*, for making imitation jewellery, or for decorating textile material, embroidery, clothing, etc. They are generally made of copper, copper alloys or aluminium (often gilded or silvered), and are designed to be fixed in position by glueing, sewing, etc. Beads are generally spherical or tubular or sometimes facetted; spangles, generally of geometrical form (round, hexagonal, etc.), are cut from metal foil and usually pierced.

The articles referred to in (A), (C) and (D) above may contain parts of leather, textiles, plastics, wood, horn, bone, ebonite, mother of pearl, ivory, imitation precious stones, etc., **provided** they retain the essential character of articles of base metal. They may also be ornamented by working of the metal.

This heading also **excludes** :

(a) Ornaments, other than buckles, for hats, handbags, shoes, belts, etc. (**heading 71.17**).

(b) Metal flakes (**Chapters 74 to 76**, in particular).

(c) Rivets, other than tubular or bifurcated rivets; snap hooks (usually **Chapters 73 to 76**).

(d) Press-studs and push-buttons (**heading 96.06**).

(e) Slide fasteners and parts thereof (**heading 96.07**).

8308.10

- Hooks, eyes and eyelets

8308.20

- Tubular or bifurcated rivets

8308.90

- Other, including parts

Heading 8309

Stoppers, caps and lids (including crown corks, screw caps and pouring stoppers), capsules for bottles, threaded bungs, bung covers, seals and other packing accessories, of base metal.

EXPLANATORY NOTES

83.09 - Stoppers, caps and lids (including crown corks, screw caps and pouring stoppers), capsules for bottles, threaded bungs, bung covers, seals and other packing accessories, of base metal.

8309.10 - Crown corks

8309.90 - Other

The heading covers a range of articles of base metal (often with washers or other fittings of plastics, rubber, cork, etc.) used for corking or capsuling drums, barrels, bottles, etc., or for sealing cases or other packages.

The heading includes :

(1) Metal stoppers, caps and lids, e.g., crown corks, crown caps or crown seals; stoppers, caps and covers of the screw, clip, lever, spring, etc., types as used for corking or capping beer bottles, mineral water bottles, preserve jars, tubular containers or the like.

The heading **does not**, however, **cover** spring lever stoppers predominantly of plastics, porcelain, etc.

(2) Bungs for metal drums.

(3) Pouring, dropping, anti-drip stoppers for bottles of liqueurs, oils, medicaments, etc.

(4) Tear off capsules for milk bottles, etc., fabricated capsules of lead or tin foil, of the type used for certain champagne or wine bottles.

(5) Bung covers, in the form of discs, etc., cut from sheet metal and fixed over the bung as a protection.

(6) Special wire fittings as used to secure the corks of bottles of champagne, etc.

(7) Seals of all kinds, generally of lead or tin-plate, used to secure crates, packages, buildings, railway wagons, vehicles, etc., including guarantee seals.

(8) Case corner protectors.

(9) Fastenings for sealing bags, sachets or similar containers, consisting of one or two steel wires sandwiched between two strips of plastics or two strips of paper.

(10) Tops with an incised flap and a ring pull, made of base metal, used, for example, for drink or food cans.

8309.10

- Crown corks

8309.90

- Other

CLASSIFICATION OPINIONS

1. **Aluminium tops** of different shapes (round, oval, rectangular with rounded corners, etc.) and different sizes for drink or food cans; the tops have a raised edge for permanently crimping onto the top of a can, and the bottom surface is coated with a protective varnish suitable for contact with drink or foodstuffs. The tops also incorporate an incised flap to which a ring is attached at one end, making it easy to open the can along the incised flap. *Adoption : 1999*



Heading 8310

Sign-plates, name-plates, address-plates and similar plates, numbers, letters and other symbols, of base metal, excluding those of heading 94.05.

EXPLANATORY NOTES

83.10 - Sign-plates, name-plates, address-plates and similar plates, numbers, letters and other symbols, of base metal, excluding those of heading 94.05.

With the exception of **illuminated** signs, **illuminated** name-plates and the like, having a permanently fixed light source, and parts thereof not elsewhere specified or included, of **heading 94.05**, this heading covers base metal plates which bear (by enamelling, varnishing, printing, engraving, perforation, stamping, moulding, embossing, shaping or any other process) words, letters, numbers or designs giving all the essential information required for a sign-plate, name-plate, advertising plate, address-plate or other similar plate. It is a characteristic of such plates that they are normally designed to be permanent fixtures (e.g., road sign-plates, advertising plates, machine name-plates) or to be used many times (e.g., cloakroom tokens and tags).

Some plates may be designed for the subsequent insertion of details subsidiary to the information already on the plate (e.g., the insertion of the individual serial number on a plate showing all the essential information about a machine). The heading **excludes**, however, plates, “labels”, tags and the like which bear printing, etc., that is merely subsidiary to the essential information which is to be added later in manuscript or otherwise.

The heading includes :

(1) Name-plates for districts, streets, etc.; number or name-plates for buildings, tombs, etc.; sign-plates for public services (police, fire-brigade, etc.), prohibitions (“No smoking”, “Game Preserve”, etc.); sign-post or traffic sign-plates, etc.

(2) Symbols for inns, shops, factories.

(3) Advertising sign-plates.

(4) Address-plates for houses, doors, letter-boxes, vehicles, dog-collars, etc.; horticultural labels; tags for latch keys, tags and tokens for cloakrooms.

(5) Similar plates and symbols for machines, meters, cars (e.g., number plates), etc.

The heading also includes separate letters, numbers or designs (or sets thereof), employed to make up sign-plates as described above, for shop window displays, train-indicator sign boards, etc.

Stencil plates are, however, classified according to their constituent metal.

The heading **does not include** :

(a) Plates **not** bearing letters, numbers or designs, or bearing **only** particulars incidental to the essential information which is to be added later (e.g., **headings 73.25**, **73.26**, **76.16**, **79.07**).

(b) Printers’ type (**heading 84.42**); type for typewriters and plates for addressing machines (**heading 84.73**).

(c) Signalling plates, discs and semaphores of heading 86.08.

8310.00

Sign-plates, name-plates, address-plates and similar plates, numbers, letters and other symbols, of base metal, excluding those of heading 94.05.

Heading 8311

Wire, rods, tubes, plates, electrodes and similar products, of base metal or of metal carbides, coated or cored with flux material, of a kind used for soldering, brazing, welding or deposition of metal or of metal carbides; wire and rods, of agglomerated base metal powder, used for metal spraying.

EXPLANATORY NOTES

83.11 - Wire, rods, tubes, plates, electrodes and similar products, of base metal or of metal carbides, coated or cored with flux material, of a kind used for soldering, brazing, welding or deposition of metal or of metal carbides; wire and rods, of agglomerated base metal powder, used for metal spraying.

8311.10 - Coated electrodes of base metal, for electric arc-welding

8311.20 - Cored wire of base metal, for electric arc-welding

8311.30 - Coated rods and cored wire, of base metal, for soldering, brazing or welding by flame

8311.90 - Other

This heading covers wire, rods, tubes, plates, electrodes and similar products, of base metal or of metal carbides, of a kind used for soldering, brazing, welding or deposition of metal or of metal carbides, **provided** they are coated or cored with flux material; in the latter case, the outer part is usually composed of a tube or sometimes of a spirally wrapped strip. Wire, rods, tubes, plates, electrodes, etc., of base metal not coated or cored with flux material are **excluded (Chapters 72 to 76 and 78 to 81)**.

The materials used for coating or coring are the flux (e.g., zinc chloride, ammonium chloride, borax, quartz, resin or lanolin) which would otherwise have to be added separately during the soldering, brazing, welding or deposition process. The electrodes, etc., may also contain the additive metal in powder form. In electric welding, the coating may also contain some heat-resistant material (asbestos, etc.) to direct the electric arc onto the part to be welded.

For electric arc-welding, coated electrodes or cored wire are used. The former consists of a metal core and a coating of non-metal material which may be of various thicknesses and compositions. Cored wire is a hollow product filled with material similar to that used for the coating of electrodes. This wire is presented in coils or on spools.

Prepared metal brazing plates are inserted between the parts to be joined (usually for iron or steel). They consist of a metal strip, wire cloth or grill, coated with the flux; they may be specially shaped for use, or in strip form suitable for cutting as required.

The heading also includes wire and rods obtained by extruding base metal powder (usually nickel) agglomerated with an excipient based on plastics, and used for spraying metal onto various materials (e.g., metals or cement).

The heading **does not cover** wire and rods of cored solder where, **apart from flux material**, the solder consists of an alloy containing 2 % or more by weight of any one precious metal (**Chapter 71**).

8311.10

- Coated electrodes of base metal, for electric arc-welding

8311.20

- Cored wire of base metal, for electric arc-welding

8311.30

- Coated rods and cored wire, of base metal, for soldering, brazing or welding by flame

8311.90

- Other

Section XVI

MACHINERY AND MECHANICAL APPLIANCES; ELECTRICAL EQUIPMENT; PARTS THEREOF; SOUND RECORDERS AND REPRODUCERS, TELEVISION IMAGE AND SOUND RECORDERS AND REPRODUCERS, AND PARTS AND ACCESSORIES OF SUCH ARTICLES

LEGAL NOTES

Notes.

1. This Section does not cover :

(a) Transmission or conveyor belts or belting, of plastics of Chapter 39, or of vulcanised rubber (heading 40.10), or other articles of a kind used in machinery or mechanical or electrical appliances or for other technical uses, of vulcanised rubber other than hard rubber (heading 40.16);

(b) Articles of leather or of composition leather (heading 42.05) or of furskin (heading 43.03), of a kind used in machinery or mechanical appliances or for other technical uses;

(c) Bobbins, spools, cops, cones, cores, reels or similar supports, of any material (for example, Chapter 39, 40, 44 or 48 or Section XV);

(d) Perforated cards for Jacquard or similar machines (for example, Chapter 39 or 48 or Section XV);

(e) Transmission or conveyor belts or belting of textile material (heading 59.10) or other articles of textile material for technical uses (heading 59.11);

(f) Precious or semi-precious stones (natural, synthetic or reconstructed) of headings 71.02 to 71.04, or articles wholly of such stones of heading 71.16, except unmounted worked sapphires and diamonds for styli (heading 85.22);

(g) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(h) Drill pipe (heading 73.04);

(ij) Endless belts of metal wire or strip (Section XV);

(k) Articles of Chapter 82 or 83;

(l) Articles of Section XVII;

(m) Articles of Chapter 90;

(n) Clocks, watches or other articles of Chapter 91;

(o) Interchangeable tools of heading 82.07 or brushes of a kind used as parts of machines (heading 96.03); similar interchangeable tools are to be classified according to the constituent material of their working part (for example, in Chapter 40, 42, 43, 45 or 59 or heading 68.04 or 69.09);

(p) Articles of Chapter 95; or

(q) Typewriter or similar ribbons, whether or not on spools or in cartridges (classified according to their constituent material, or in heading 96.12 if inked or otherwise prepared for giving impressions), or monopods, bipods, tripods and similar articles, of heading 96.20.

2.- Subject to Note 1 to this Section, Note 1 to Chapter 84 and Note 1 to Chapter 85, parts of machines (not being parts of the articles of heading 84.84, 85.44, 85.45, 85.46 or 85.47) are to be classified according to the following rules :

(a) Parts which are goods included in any of the headings of Chapter 84 or 85 (other than headings 84.09, 84.31, 84.48, 84.66, 84.73, 84.87, 85.03, 85.22, 85.29, 85.38 and 85.48) are in all cases to be classified in their respective headings;

(b) Other parts, if suitable for use solely or principally with a particular kind of machine, or with a number of machines of the same heading (including a machine of heading 84.79 or 85.43) are to be classified with the machines of that kind or in heading 84.09, 84.31, 84.48, 84.66, 84.73, 85.03, 85.22, 85.29 or 85.38 as appropriate. However, parts which are equally suitable for use principally with the goods of headings 85.17 and 85.25 to 85.28 are to be classified in heading 85.17, and parts which are suitable for use solely or principally with the goods of heading 85.24 are to be classified in heading 85.29;

(c) All other parts are to be classified in heading 84.09, 84.31, 84.48, 84.66, 84.73, 85.03, 85.22, 85.29 or 85.38 as appropriate or, failing that, in heading 84.87 or 85.48.

3.- Unless the context otherwise requires, composite machines consisting of two or more machines fitted together to form a whole and other machines designed for the purpose of performing two or more complementary or alternative functions are to be classified as if consisting only of that component or as being that machine which performs the principal function.

4.- Where a machine (including a combination of machines) consists of individual components (whether separate or interconnected by piping, by transmission devices, by electric cables or by other devices) intended to contribute together to a clearly defined function covered by one of the headings in Chapter 84 or Chapter 85, then the whole falls to be classified in the heading appropriate to that function.

5.- For the purposes of these Notes, the expression “machine” means any machine, machinery, plant, equipment, apparatus or appliance cited in the headings of Chapter 84 or 85.

6.- (A) Throughout the Nomenclature, the expression “electrical and electronic waste and scrap” means electrical and electronic assemblies, printed circuit boards, and electrical or electronic articles that :

(i) have been rendered unusable for their original purposes by breakage, cutting-up or other processes or are economically unsuitable for repair, refurbishment or renovation to render them fit for their original purposes; and

(ii) are packaged or shipped in a manner not intended to protect individual articles from damage during transportation, loading and unloading operations.

(B) Mixed consignments of “electrical and electronic waste and scrap” and other waste and scrap are to be classified in heading 85.49.

(C) This Section does not cover municipal waste, as defined in Note 4 to Chapter 38.

EXPLANATORY NOTES

SECTION XVI

MACHINERY AND MECHANICAL APPLIANCES; ELECTRICAL EQUIPMENT; PARTS THEREOF; SOUND RECORDERS AND REPRODUCERS, TELEVISION IMAGE AND SOUND RECORDERS AND REPRODUCERS, AND PARTS AND ACCESSORIES OF SUCH ARTICLES

Notes.

1. This Section does not cover :

(a) Transmission or conveyor belts or belting, of plastics of Chapter 39, or of vulcanised rubber (heading 40.10), or other articles of a kind used in machinery or mechanical or electrical appliances or for other technical uses, of vulcanised rubber other than hard rubber (heading 40.16);

(b) Articles of leather or of composition leather (heading 42.05) or of furskin (heading 43.03), of a kind used in machinery or mechanical appliances or for other technical uses;

(c) Bobbins, spools, cops, cones, cores, reels or similar supports, of any material (for example, Chapter 39, 40, 44 or 48 or Section XV);

(d) Perforated cards for Jacquard or similar machines (for example, Chapter 39 or 48 or Section XV);

(e) Transmission or conveyor belts or belting of textile material (heading 59.10) or other articles of textile material for technical uses (heading 59.11);

(f) Precious or semi-precious stones (natural, synthetic or reconstructed) of headings 71.02 to 71.04, or articles wholly of such stones of heading 71.16, except unmounted worked sapphires and diamonds for styli (heading 85.22);

(g) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(h) Drill pipe (heading 73.04);

(ij) Endless belts of metal wire or strip (Section XV);

(k) Articles of Chapter 82 or 83;

(l) Articles of Section XVII;

(m) Articles of Chapter 90;

(n) Clocks, watches or other articles of Chapter 91;

(o) Interchangeable tools of heading 82.07 or brushes of a kind used as parts of machines (heading 96.03); similar interchangeable tools are to be classified according to the constituent material of their working part (for example, in Chapter 40, 42, 43, 45 or 59 or heading 68.04 or 69.09);

(p) Articles of Chapter 95; or

(q) Typewriter or similar ribbons, whether or not on spools or in cartridges (classified according to their constituent material, or in heading 96.12 if inked or otherwise prepared for giving impressions), or monopods, bipods, tripods and similar articles, of heading 96.20.

2.- Subject to Note 1 to this Section, Note 1 to Chapter 84 and Note 1 to Chapter 85, parts of machines (not being parts of the articles of heading 84.84, 85.44, 85.45, 85.46 or 85.47) are to be classified according to the following rules :

(a) Parts which are goods included in any of the headings of Chapter 84 or 85 (other than headings 84.09, 84.31, 84.48, 84.66, 84.73, 84.87, 85.03, 85.22, 85.29, 85.38 and 85.48) are in all cases to be classified in their respective headings;

(b) Other parts, if suitable for use solely or principally with a particular kind of machine, or with a number of machines of the same heading (including a machine of heading 84.79 or 85.43) are to be classified with the machines of that kind or in heading 84.09, 84.31, 84.48, 84.66, 84.73, 85.03, 85.22, 85.29 or 85.38 as appropriate. However, parts which are equally suitable for use principally with the goods of headings 85.17 and 85.25 to 85.28 are to be classified in heading 85.17, and parts which are suitable for use solely or principally with the goods of heading 85.24 are to be classified in heading 85.29;

(c) All other parts are to be classified in heading 84.09, 84.31, 84.48, 84.66, 84.73, 85.03, 85.22, 85.29 or 85.38 as appropriate or, failing that, in heading 84.87 or 85.48.

3.- Unless the context otherwise requires, composite machines consisting of two or more machines fitted together to form a whole and other machines designed for the purpose of performing two or more complementary or alternative functions are to be classified as if consisting only of that component or as being that machine which performs the principal function.

4.- Where a machine (including a combination of machines) consists of individual components (whether separate or interconnected by piping, by transmission devices, by electric cables or by other devices) intended to contribute together to a clearly defined function covered by one of the headings in Chapter 84 or Chapter 85, then the whole falls to be classified in the heading appropriate to that function.

5.- For the purposes of these Notes, the expression “machine” means any machine, machinery, plant, equipment, apparatus or appliance cited in the headings of Chapter 84 or 85.

6.- (A) Throughout the Nomenclature, the expression “electrical and electronic waste and scrap” means electrical and electronic assemblies, printed circuit boards, and electrical or electronic articles that :

(i) have been rendered unusable for their original purposes by breakage, cutting-up or other processes or are economically unsuitable for repair, refurbishment or renovation to render them fit for their original purposes; and

(ii) are packaged or shipped in a manner not intended to protect individual articles from damage during transportation, loading and unloading operations.

(B) Mixed consignments of “electrical and electronic waste and scrap” and other waste and scrap are to be classified in heading 85.49.

(C) This Section does not cover municipal waste, as defined in Note 4 to Chapter 38.

GENERAL

(I) GENERAL CONTENT OF THE SECTION

(A) Subject to certain **exclusions** provided for in the Notes to this Section and to Chapters 84 and 85 and apart from goods covered more specifically in other Sections, this Section covers all mechanical or electrical machinery, plant, equipment, apparatus and appliances and parts thereof, together with certain apparatus and plant which is neither mechanical nor electrical (such as boilers and boiler house plant, filtering apparatus, etc.) and parts of such apparatus and plant.

The main **exclusions** from the Section are :

(a) Spools, cops, bobbins, reels, etc., of any material (classified according to their constituent material). However, warp beams should not be regarded as bobbins, spools or similar supports and fall in **heading 84.48**.

(b) Parts of general use as defined in Note 2 to Section XV, such as wire, chains, bolts, screws and springs, of iron or steel (**heading 73.12**, **73.15**, **73.18** or **73.20**) and similar articles of other base metals (**Chapters 74 to 76** and **78 to 81**), locks of **heading 83.01**, fittings and mountings for doors, windows, etc., of **heading 83.02**. Similar goods of plastics are also excluded from this Section and fall in **Chapter 39**.

(c) Interchangeable tools of **heading 82.07**; other similar interchangeable tools are classified according to the constituent material of their working part (e.g., in **Chapter 40** (rubber), **Chapter 42** (leather), **Chapter 43** (fur), **Chapter 45** (cork) or **Chapter 59** (textile) or in **heading 68.04** (abrasive, etc.), or **heading 69.09** (ceramics), etc.).

(d) Other articles of **Chapter 82** (e.g., tools, tool-tips, knives and cutting blades, non-electrical hair clippers, and certain mechanical domestic appliances) and articles of **Chapter 83**.

(e) Articles of **Section XVII**.

(f) Articles of **Section XVIII**.

(g) Arms and ammunition (**Chapter 93**).

(h) Machinery and apparatus having the character of toys, games or sports requisites and identifiable parts and accessories thereof (including non-electric motors and engines but **excluding** pumps for liquids and filtering or purifying machinery for liquids or gases, which fall in **heading 84.13** or **84.21**, respectively, and also excluding electric motors, electric transformers and radio remote control apparatus, which fall in **heading 85.01**, **85.04** or **85.26**, respectively) which are suitable for use solely or principally with toys, games or sports requisites (**Chapter 95**).

(ij) Brushes of a kind used as parts of machines (**heading 96.03**).

(B) In general, the goods of this Section may be of any material. In the great majority of cases they are of base metal, but the Section also covers certain machinery of other materials (e.g., pumps wholly of plastics) and parts of plastics, of wood, precious metals, etc.

The Section **does not**, however, **cover** :

(a) Transmission or conveyor belts or belting, of plastics (**Chapter 39**); articles of unhardened vulcanised rubber (e.g., transmission or conveyor belts or belting) (**heading 40.10**), rubber tyres, tubes, etc. (**headings 40.11 to 40.13**) and washers, etc. (**heading 40.16**).

(b) Articles of leather or composition leather (e.g., pickers for textile looms) (**heading 42.05**), or of furskin (**heading 43.03**).

(c) Textile articles, e.g., transmission or conveyor belts (**heading 59.10**), felt pads and polishing discs (**heading 59.11**).

(d) Certain ceramic goods of **Chapter 69** (see General Explanatory Notes to Chapters 84 and 85).

(e) Certain glass articles of **Chapter 70** (see General Explanatory Notes to Chapters 84 and 85).

(f) Articles wholly of precious or semi-precious stones (natural, synthetic or reconstructed) (**heading 71.02**, **71.03**, **71.04** or **71.16**), except unmounted worked sapphires or diamonds for styli (**heading 85.22**).

(g) Endless belts of metal wire or strip (**Section XV**).

(II) PARTS

(Section Note 2)

In general, parts which are suitable for use solely or principally with particular machines or apparatus (including those of heading 84.79 or heading 85.43), or with a group of machines or apparatus falling in the same heading, are classified in the same heading as those machines or apparatus subject, of course, to the **exclusions** mentioned in Part (I) above. Separate headings are, however, provided for :

(A) Parts of the engines of heading 84.07 or 84.08 (heading 84.09).

(B) Parts of the machinery of headings 84.25 to 84.30 (heading 84.31).

(C) Parts of the textile machines of headings 84.44 to 84.47 (heading 84.48).

(D) Parts of the machines of headings 84.56 to 84.65 (heading 84.66).

(E) Parts of the office machines of headings 84.70 to 84.72 (heading 84.73).

(F) Parts of the machines of heading 85.01 or 85.02 (heading 85.03).

(G) Parts of apparatus of headings 85.19 or 85.21 (heading 85.22).

(H) Parts of apparatus of headings 85.25 to 85.28 (heading 85.29).

(IJ) Parts of apparatus of heading 85.35, 85.36 or 85.37 (heading 85.38).

The above rules do **not** apply to parts which in themselves constitute an article covered by a heading of this Section (**other than** headings 84.87 and 85.48); these are in all cases classified in their own appropriate heading even if specially designed to work as part of a specific machine. This applies in particular to :

(1) Pumps and compressors (headings 84.13 and 84.14).

(2) Filtering machinery and apparatus of heading 84.21.

(3) Lifting and handling machinery (heading 84.25, 84.26, 84.28 or 84.86).

(4) Taps, cocks, valves, etc. (heading 84.81).

(5) Ball or roller bearings, and polished steel balls of a tolerance not exceeding 1 % or 0.05 mm, whichever is less (heading 84.82).

(6) Transmission shafts, cranks, bearing housings, plain shaft bearings, gears and gearing (including friction gears and gear-boxes and other speed changers), flywheels, pulleys and pulley blocks, clutches and shaft couplings (heading 84.83).

(7) Gaskets and similar joints of heading 84.84.

(8) Electric motors of heading 85.01.

(9) Electrical transformers and other machines and apparatus of heading 85.04.

(10) Electric accumulators assembled into battery packs (heading 85.07).

(11) Electric heating resistors (heading 85.16).

(12) Electrical capacitors (heading 85.32).

(13) Electrical apparatus for switching, protecting, etc., electrical circuits (switches, fuses, junction boxes, etc.) (headings 85.35 and 85.36).

(14) Boards, panels, consoles, desks, cabinets and other apparatus for electric control or the distribution of electricity (heading 85.37).

(15) Lamps of heading 85.39.

(16) Valves and tubes of heading 85.40 and diodes, transistors, etc., of heading 85.41.

(17) Electrical carbons (e.g., arc lamp carbons, carbon electrodes and carbon brushes) (heading 85.45).

(18) Insulators of any material (heading 85.46).

(19) Insulating fittings for electrical machines, etc., of heading 85.47.

Other parts which are recognisable as such, but are not suitable for use solely or principally with a particular machine or class of machine (i.e., which may be common to a number of machines falling in different headings), are classified in heading 84.87 (if not electrical) or in heading 85.48 (if electrical), unless they are **excluded** by the provisions set out above.

The above provisions for the classification of parts do not apply to parts of the goods falling in heading 84.84 (gaskets, etc.), 85.44 (insulated wire), 85.45 (electrical carbons), 85.46 (insulators) or 85.47 (conduit tubing); in general, such parts are classified in the appropriate materials Chapter.

Machinery parts remain classified in this Section whether or not finished ready for use. However, rough forgings of iron or steel are classified in **heading 72.07**.

(III) ACCESSORY APPARATUS

(See General Interpretative Rules 2 (a) and 3 (b) and Section Notes 3 and 4)

Accessory instruments and apparatus (e.g., manometers, thermometers, level gauges or other measuring or checking instruments, output counters, clockwork switches, control panels, automatic regulators) presented with the machine or apparatus with which they normally belong are classified with that machine or apparatus, if they are designed to measure, check, control or regulate one specific machine or apparatus (which may be a combination of machines (see Part VI below) or a functional unit (see Part VII below)). However, accessory instruments and apparatus designed to measure, check, control or regulate several machines (whether or not of the same type) fall in their own appropriate heading.

(IV) INCOMPLETE MACHINES

(See General Interpretative Rule 2 (a))

Throughout the Section any reference to a machine or apparatus covers not only the complete machine, but also an incomplete machine (i.e., an assembly of parts so far advanced that it already has the main essential features of the complete machine). Thus a machine lacking only a flywheel, a bed plate, calender rolls, tool holders, etc., is classified in the same heading as the machine, and not in any separate heading provided for parts. Similarly a machine or apparatus normally incorporating an electric motor (e.g., electro-mechanical hand tools of heading 84.67) is classified in the same heading as the corresponding complete machine even if presented without that motor.

(V) UNASSEMBLED MACHINES

(See General Interpretative Rule 2 (a))

For convenience of transport many machines and apparatus are transported in an unassembled state. Although in effect the goods are then a collection of parts, they are classified as being the machine in question and not in any separate heading for parts. The same applies to an incomplete machine having the features of the complete machine (see Part (IV) above), presented unassembled (see also in this connection the General Explanatory Notes to Chapters 84 and 85). However, unassembled components in excess of the number required for a complete machine or for an incomplete machine having the characteristics of a complete machine, are classified in their own appropriate heading.

(VI) MULTI-FUNCTION MACHINES AND COMPOSITE MACHINES

(Section Note 3)

In general, multi-function machines are classified according to the principal function of the machine.

Multi-function machines are, for example, machine-tools for working metal using interchangeable tools, which enable them to carry out different machining operations (e.g., milling, boring, lapping).

Where it is not possible to determine the principal function, and where, as provided in Note 3 to the Section, the context does not otherwise require, it is necessary to apply General Interpretative Rule 3 (c); such is the case, for example, in respect of multi-function machines potentially classifiable in several of the headings 84.25 to 84.30, in several of the headings 84.58 to 84.63 or in several of the headings 84.70 to 84.72.

Composite machines consisting of two or more machines or appliances of different kinds, fitted together to form a whole, consecutively or simultaneously performing **separate** functions which are generally complementary and are described in different headings of Section XVI, are also classified according to the principal function of the composite machine.

The following are examples of such composite machines : printing machines with a subsidiary machine for holding the paper (heading 84.43); a cardboard box making machine combined with an auxiliary machine for printing a name or simple design (heading 84.41); industrial furnaces combined with lifting or handling machinery (heading 84.17 or 85.14); cigarette making machinery combined with subsidiary packaging machinery (heading 84.78).

For the purposes of the above provisions, machines of different kinds are taken to be **fitted together to form a whole** when incorporated one in the other or mounted one on the other, or mounted on a common base or frame or in a common housing.

Assemblies of machines should not be taken to be fitted together to form a whole unless the machines are designed to be permanently attached either to each other or to a common base, frame, housing, etc. This **excludes** assemblies which are of a temporary nature or are not normally built as a composite machine.

The bases, frames or housings may be provided with wheels so that the composite machine can be moved about as required during use, **provided** it does not thereby acquire the character of an article (e.g., a vehicle) more specifically covered by a particular heading of the Nomenclature.

Floors, concrete bases, walls, partitions, ceilings, etc., even if specially fitted out to accommodate machines or appliances, should not be regarded as a common base joining such machines or appliances to form a whole.

Note 3 to Section XVI **need not be invoked** when the composite machine is covered as such by a particular heading, for example, some types of air conditioning machines (heading 84.15).

It should be noted that multi-purpose machines (e.g., machine-tools capable of working metals and other materials or eyeletting machines used equally well in the paper, textile, leather, plastics, etc., industries) are to be classified according to the provisions of Note 8 to Chapter 84.

(VII) FUNCTIONAL UNITS

(Section Note 4)

This Note applies when a machine (including a combination of machines) consists of separate components which are intended to contribute together to a clearly defined function covered by one of the headings in Chapter 84 or, more frequently, Chapter 85. The whole then falls to be classified in the heading appropriate to that function, whether the various components (for convenience or other reasons) remain separate or are interconnected by piping (carrying air, compressed gas, oil, etc.), by devices used to transmit power, by electric cables or by other devices.

For the purposes of this Note, the expression “intended to contribute together to a clearly defined function” covers only machines and combinations of machines essential to the performance of the function specific to the functional unit as a whole, and thus excludes machines or appliances fulfilling auxiliary functions and which do not contribute to the function of the whole.

The following are examples of functional units of this type within the meaning of Note 4 to this Section :

(1) Hydraulic systems consisting of a hydraulic power unit (comprising essentially a hydraulic pump, an electric motor, control valves and an oil tank), hydraulic cylinders and the pipes or hoses needed to connect the cylinders to the hydraulic power unit (heading 84.12).

(2) Refrigerating equipment consisting of components which are not fitted together to form a whole and are interconnected by means of piping through which the coolant circulates (heading 84.18).

(3) Irrigation systems consisting of a control station comprising filters, injectors, metering valves, etc., underground distribution and branchlines, and a surface network (heading 84.24).

(4) Milking machines with separate component parts (vacuum pump, pulsator, teat-cups and pails) interconnected by hoses or piping (heading 84.34).

(5) Brewhouse machinery comprising, inter alia, sprouting or germination machines, malt crushing machines, mashing vats, straining vats (heading 84.38). Auxiliary appliances (e.g., bottling machines, label-printing machines), are however not included and should be classified in their own appropriate heading.

(6) Letter sorting systems consisting essentially of coding desks, pre-sorting channel systems, intermediate sorters and final sorters, the whole being controlled by an automatic data processing machine (heading 84.72).

(7) Asphalt plant consisting of separate components, such as feed hoppers, conveyors, dryers, vibrating screens, mixers, storage bins and control units, placed side by side (heading 84.74).

(8) Machinery for assembling electric filament lamps, of which the component parts are interconnected by conveyors, and which include equipment for the heat-treatment of glass, pumps and lamp-testing units (heading 84.75).

(9) Welding equipment consisting of the welding head or tongs, with a transformer, generator or rectifier to supply the current (heading 85.15).

(10) Portable radiotelephone transmitters and their associated hand microphone (heading 85.17).

(11) Radar apparatus with the associated power packs, amplifiers, etc. (heading 85.26).

(12) Satellite television reception systems consisting of a receiver, a parabolic aerial reflector dish, a control rotator for the reflector dish, a feed horn (wave guide), a polarizer, a low-noise-block (LNB) down converter and an infra-red remote control (heading 85.28).

(13) Burglar alarms, comprising, e.g., an infra-red lamp, a photoelectric cell and a bell (heading 85.31).

It should be noted that component parts not complying with the terms of Note 4 to Section XVI fall in their own appropriate headings. This applies, for example, to closed circuit video-surveillance systems, consisting of a combination of a variable number of television cameras and video monitors connected by coaxial cables to a controller, switchers, audio board/receivers and possibly automatic data processing machines (for saving data) and/or video recorders (for recording pictures).

(VIII) MOBILE MACHINERY

As regards self-propelled or other mobile machines, reference should be made to the Explanatory Notes to the headings for the machines (e.g., lifting and handling machinery, headings 84.25 to 84.28, and excavating machinery, headings 84.29 and 84.30), and to the Explanatory Notes to the Chapters and headings of Section XVII.

(IX) MACHINERY AND APPARATUS FOR USE IN LABORATORIES

Machinery and apparatus of a kind covered by this Section remain classified in the Section even if specialised for use in laboratories or in connection with scientific and measuring instruments, **provided** they do not constitute non-industrial demonstrational apparatus of **heading 90.23** nor measuring, checking, etc., instruments of **Chapter 90**. For example, small furnaces, distillation apparatus, grinders, mixers, electrical transformers and capacitors, for use in laboratories, remain classified in this Section.

(X) ELECTRICAL AND ELECTRONIC WASTE AND SCRAP (E-WASTE)

(Note 6 de la Section)

The expression “original purpose”, in Note 6 to Section XVI, refers to functional use as an electrical or electronic goods.

CLASSIFICATION OPINIONS

1. **Ball bearing control cables:** Identifiable as suitable for use solely or principally with a particular machine, or apparatus of Sect. XVI.
   Classification as parts or accessories of the appropriate machine or apparatus.
   See also Opinions 8487.90/2, Sect. XVII/1 and 9033.00/1.
   Adoption : 1962

2. **Stirring attachements for agitators or mixers,** consisting of stirring blades (fins, rake, cross-membered frame, etc.), whether or not fitted with a shank, presented separately : Identifiable as suitable for use solely or principally with an agitator or mixer of Sect. XVI.
   Classification in the heading applicable to the agitator or mixer for which the stirring attachments are suitable.
   Application of Note 2 (b) to Section XVI.
   See also Opinion 8487.90/3.
   Adoption : 1963

3. **Gaskets for fitting to doors of an appliance of Section XVI,** being profiles of plastics incorporating a magnetic rod of barium ferrite and specially shaped to fit the door.
   Classification as parts or accessories of the appropriate appliance.
   See also Opinion 8418.99/1 and 8505.19/1.
   Adoption : 1968

Chapter 84

Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Millstones, grindstones or other articles of Chapter 68;

(b) Machinery or appliances (for example, pumps) of ceramic material and ceramic parts of machinery or appliances of any material (Chapter 69);

(c) Laboratory glassware (heading 70.17); machinery, appliances or other articles for technical uses or parts thereof, of glass (heading 70.19 or 70.20);

(d) Articles of heading 73.21 or 73.22 or similar articles of other base metals (Chapters 74 to 76 or 78 to 81);

(e) Vacuum cleaners of heading 85.08;

(f) Electro-mechanical domestic appliances of heading 85.09; digital cameras of heading 85.25;

(g) Radiators for the articles of Section XVII; or

(h) Hand-operated mechanical floor sweepers, not motorised (heading 96.03).

2.- Subject to the operation of Note 3 to Section XVI and subject to Note 11 to this Chapter, a machine or appliance which answers to a description in one or more of the headings 84.01 to 84.24, or heading 84.86 and at the same time to a description in one or more of the headings 84.25 to 84.80 is to be classified under the appropriate heading of the former group or under heading 84.86, as the case may be, and not the latter group.

(A) Heading 84.19 does not, however, cover :

(i) Germination plant, incubators or brooders (heading 84.36);

(ii) Grain dampening machines (heading 84.37);

(iii) Diffusing apparatus for sugar juice extraction (heading 84.38);

(iv) Machinery for the heat-treatment of textile yarns, fabrics or made up textile articles (heading 84.51); or

(v) Machinery, plant or laboratory equipment, designed for a mechanical operation, in which a change of temperature, even if necessary, is subsidiary.

(B) Heading 84.22 does not cover :

(i) Sewing machines for closing bags or similar containers (heading 84.52); or

(ii) Office machinery of heading 84.72.

(C) Heading 84.24 does not cover :

(i) Ink-jet printing machines (heading 84.43); or

(ii) Water-jet cutting machines (heading 84.56).

3.- A machine-tool for working any material which answers to a description in heading 84.56 and at the same time to a description in heading 84.57, 84.58, 84.59, 84.60, 84.61, 84.64 or 84.65 is to be classified in heading 84.56.

4.- Heading 84.57 applies only to machine-tools for working metal, other than lathes (including turning centres), which can carry out different types of machining operations either :

(a) by automatic tool change from a magazine or the like in conformity with a machining programme (machining centres),

(b) by the automatic use, simultaneously or sequentially, of different unit heads working on a fixed position workpiece (unit construction machines, single station), or

(c) by the automatic transfer of the workpiece to different unit heads (multi-station transfer machines).

5.- For the purposes of heading 84.62, a “slitting line” for flat products is a processing line composed of an uncoiler, a coil flattener, a slitter and a recoiler. A “cut-to-length line” for flat products is a processing line composed of an uncoiler, a coil flattener, and a shear.

6.- (A) For the purposes of heading 84.71, the expression “automatic data processing machines” means machines capable of :

(i) Storing the processing program or programs and at least the data immediately necessary for the execution of the program;

(ii) Being freely programmed in accordance with the requirements of the user;

(iii) Performingarithmetical computations specified by the user; and

(iv) Executing, without human intervention, a processing program which requires them to modify their execution, by logical decision during the processing run.

(B) Automatic data processing machines may be in the form of systems consisting of a variable number of separate units.

(C) Subject to paragraphs (D) and (E) below, a unit is to be regarded as being part of an automatic data processing system if it meets all of the following conditions :

(i) It is of a kind solely or principally used in an automatic data processing system;

(ii) It is connectable to the central processing unit either directly or through one or more other units; and

(iii) It is able to accept or deliver data in a form (codes or signals) which can be used by the system.

Separately presented units of an automatic data processing machine are to be classified in heading 84.71.

However, keyboards, X-Y co-ordinate input devices and disk storage units which satisfy the conditions of paragraphs (C) (ii) and (C) (iii) above, are in all cases to be classified as units of heading 84.71.

(D) Heading 84.71 does not cover the following when presented separately, even if they meet all of the conditions set forth in Note 6 (C) above :

(i) Printers, copying machines, facsimile machines, whether or not combined;

(ii) Apparatus for the transmission or reception of voice, images or other data, including apparatus for communication in a wired or wireless network (such as a local or wide area network);

(iii) Loudspeakers and microphones;

(iv) Television cameras, digital cameras and video camera recorders;

(v) Monitors and projectors, not incorporating television reception apparatus.

(E) Machines incorporating or working in conjunction with an automatic data processing machine and performing a specific function other than data processing are to be classified in the headings appropriate to their respective functions or, failing that, in residual headings.

7.- Heading 84.82 applies, inter alia, to polished steel balls, the maximum and minimum diameters of which do not differ from the nominal diameter by more than 1 % or by more than 0.05 mm, whichever is less.

Other steel balls are to be classified in heading 73.26.

8.- A machine which is used for more than one purpose is, for the purposes of classification, to be treated as if its principal purpose were its sole purpose.

Subject to Note 2 to this Chapter and Note 3 to Section XVI, a machine the principal purpose of which is not described in any heading or for which no one purpose is the principal purpose is, unless the context otherwise requires, to be classified in heading 84.79. Heading 84.79 also covers machines for making rope or cable (for example, stranding, twisting or cabling machines) from metal wire, textile yarn or any other material or from a combination of such materials.

9.- For the purposes of heading 84.70, the term “pocket-size” applies only to machines the dimensions of which do not exceed 170 mm x 100 mm x 45 mm.

10.- For the purposes of heading 84.85, the expression “additive manufacturing” (also referred to as 3D printing) means the formation of physical objects, based on a digital model, by the successive addition and layering, and consolidation and solidification, of material (for example, metal, plastics or ceramics).

Subject to Note 1 to Section XVI and Note 1 to Chapter 84, machines answering to the description in heading 84.85 are to be classified in that heading and in no other heading of the Nomenclature.

11.- (A) Notes 12 (a) and 12 (b) to Chapter 85 also apply with respect to the expressions “semiconductor devices” and “electronic integrated circuits”, respectively, as used in this Note and in heading 84.86. However, for the purposes of this Note and of heading 84.86, the expression “semiconductor devices” also covers photosensitive semiconductor devices and light-emitting diodes (LED).

(B) For the purposes of this Note and of heading 84.86, the expression “manufacture of flat panel displays” covers the fabrication of substrates into a flat panel. It does not cover the manufacture of glass or the assembly of printed circuit boards or other electronic components onto the flat panel. The expression “flat panel display” does not cover cathode-ray tube technology.

(C) Heading 84.86 also includes machines and apparatus solely or principally of a kind used for :

(i) the manufacture or repair of masks and reticles;

(ii) assembling semiconductor devices or electronic integrated circuits;

(iii) lifting, handling, loading or unloading of boules, wafers, semiconductor devices, electronic integrated circuits and flat panel displays.

(D) Subject to Note 1 to Section XVI and Note 1 to Chapter 84, machines and apparatus answering to the description in heading 84.86 are to be classified in that heading and in no other heading of the Nomenclature.

Subheading Notes.

1.- For the purposes of subheading 8465.20, the term “machining centres” applies only to machine-tools for working wood, cork, bone, hard rubber, hard plastics or similar hard materials, which can carry out different types of machining operations by automatic tool change from a magazine or the like in conformity with a machining programme.

2.- For the purposes of subheading 8471.49, the term “systems” means automatic data processing machines whose units satisfy the conditions laid down in Note 6 (C) to Chapter 84 and which comprise at least a central processing unit, one input unit (for example, a keyboard or a scanner), and one output unit (for example, a visual display unit or a printer).

3.- For the purposes of subheading 8481.20, the expression “valves for oleohydraulic or pneumatic transmissions” means valves which are used specifically in the transmission of “fluid power” in a hydraulic or pneumatic system, where the energy source is supplied in the form of pressurised fluids

(liquid or gas). These valves may be of any type (for example, pressure-reducing type, check type). Subheading 8481.20 takes precedence over all other subheadings of heading 84.81.

4.- Subheading 8482.40 applies only to bearings with cylindrical rollers of a uniform diameter not exceeding 5 mm and having a length which is at least three times the diameter. The ends of the rollers may be rounded.

EXPLANATORY NOTES

Chapter 84

Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof

Notes.

1.- This Chapter does not cover :

(a) Millstones, grindstones or other articles of Chapter 68;

(b) Machinery or appliances (for example, pumps) of ceramic material and ceramic parts of machinery or appliances of any material (Chapter 69);

(c) Laboratory glassware (heading 70.17); machinery, appliances or other articles for technical uses or parts thereof, of glass (heading 70.19 or 70.20);

(d) Articles of heading 73.21 or 73.22 or similar articles of other base metals (Chapters 74 to 76 or 78 to 81);

(e) Vacuum cleaners of heading 85.08;

(f) Electro-mechanical domestic appliances of heading 85.09; digital cameras of heading 85.25;

(g) Radiators for the articles of Section XVII; or

(h) Hand-operated mechanical floor sweepers, not motorised (heading 96.03).

2.- Subject to the operation of Note 3 to Section XVI and subject to Note 11 to this Chapter, a machine or appliance which answers to a description in one or more of the headings 84.01 to 84.24, or heading 84.86 and at the same time to a description in one or more of the headings 84.25 to 84.80 is to be classified under the appropriate heading of the former group or under heading 84.86, as the case may be, and not the latter group.

(A) Heading 84.19 does not, however, cover :

(i) Germination plant, incubators or brooders (heading 84.36);

(ii) Grain dampening machines (heading 84.37);

(iii) Diffusing apparatus for sugar juice extraction (heading 84.38);

(iv) Machinery for the heat-treatment of textile yarns, fabrics or made up textile articles (heading 84.51); or

(v) Machinery, plant or laboratory equipment, designed for a mechanical operation, in which a change of temperature, even if necessary, is subsidiary.

(B) Heading 84.22 does not cover :

(i) Sewing machines for closing bags or similar containers (heading 84.52); or

(ii) Office machinery of heading 84.72.

(C) Heading 84.24 does not cover :

(i) Ink-jet printing machines (heading 84.43); or

(ii) Water-jet cutting machines (heading 84.56).

3.- A machine-tool for working any material which answers to a description in heading 84.56 and at the same time to a description in heading 84.57, 84.58, 84.59, 84.60, 84.61, 84.64 or 84.65 is to be classified in heading 84.56.

4.- Heading 84.57 applies only to machine-tools for working metal, other than lathes (including turning centres), which can carry out different types of machining operations either :

(a) by automatic tool change from a magazine or the like in conformity with a machining programme (machining centres),

(b) by the automatic use, simultaneously or sequentially, of different unit heads working on a fixed position workpiece (unit construction machines, single station), or

(c) by the automatic transfer of the workpiece to different unit heads (multi-station transfer machines).

5.- For the purposes of heading 84.62, a “slitting line” for flat products is a processing line composed of an uncoiler, a coil flattener, a slitter and a recoiler. A “cut-to-length line” for flat products is a processing line composed of an uncoiler, a coil flattener, and a shear.

6.- (A) For the purposes of heading 84.71, the expression “automatic data processing machines” means machines capable of :

(i) Storing the processing program or programs and at least the data immediately necessary for the execution of the program;

(ii) Being freely programmed in accordance with the requirements of the user;

(iii) Performingarithmetical computations specified by the user; and

(iv) Executing, without human intervention, a processing program which requires them to modify their execution, by logical decision during the processing run.

(B) Automatic data processing machines may be in the form of systems consisting of a variable number of separate units.

(C) Subject to paragraphs (D) and (E) below, a unit is to be regarded as being part of an automatic data processing system if it meets all of the following conditions :

(i) It is of a kind solely or principally used in an automatic data processing system;

(ii) It is connectable to the central processing unit either directly or through one or more other units; and

(iii) It is able to accept or deliver data in a form (codes or signals) which can be used by the system.

Separately presented units of an automatic data processing machine are to be classified in heading 84.71.

However, keyboards, X-Y co-ordinate input devices and disk storage units which satisfy the conditions of paragraphs (C) (ii) and (C) (iii) above, are in all cases to be classified as units of heading 84.71.

(D) Heading 84.71 does not cover the following when presented separately, even if they meet all of the conditions set forth in Note 6 (C) above :

(i) Printers, copying machines, facsimile machines, whether or not combined;

(ii) Apparatus for the transmission or reception of voice, images or other data, including apparatus for communication in a wired or wireless network (such as a local or wide area network);

(iii) Loudspeakers and microphones;

(iv) Television cameras, digital cameras and video camera recorders;

(v) Monitors and projectors, not incorporating television reception apparatus.

(E) Machines incorporating or working in conjunction with an automatic data processing machine and performing a specific function other than data processing are to be classified in the headings appropriate to their respective functions or, failing that, in residual headings.

7.- Heading 84.82 applies, inter alia, to polished steel balls, the maximum and minimum diameters of which do not differ from the nominal diameter by more than 1 % or by more than 0.05 mm, whichever is less.

Other steel balls are to be classified in heading 73.26.

8.- A machine which is used for more than one purpose is, for the purposes of classification, to be treated as if its principal purpose were its sole purpose.

Subject to Note 2 to this Chapter and Note 3 to Section XVI, a machine the principal purpose of which is not described in any heading or for which no one purpose is the principal purpose is, unless the context otherwise requires, to be classified in heading 84.79. Heading 84.79 also covers machines for making rope or cable (for example, stranding, twisting or cabling machines) from metal wire, textile yarn or any other material or from a combination of such materials.

9.- For the purposes of heading 84.70, the term “pocket-size” applies only to machines the dimensions of which do not exceed 170 mm x 100 mm x 45 mm.

10.- For the purposes of heading 84.85, the expression “additive manufacturing” (also referred to as 3D printing) means the formation of physical objects, based on a digital model, by the successive addition and layering, and consolidation and solidification, of material (for example, metal, plastics or ceramics).

Subject to Note 1 to Section XVI and Note 1 to Chapter 84, machines answering to the description in heading 84.85 are to be classified in that heading and in no other heading of the Nomenclature.

11.- (A) Notes 12 (a) and 12 (b) to Chapter 85 also apply with respect to the expressions “semiconductor devices” and “electronic integrated circuits”, respectively, as used in this Note and in heading 84.86. However, for the purposes of this Note and of heading 84.86, the expression “semiconductor devices” also covers photosensitive semiconductor devices and light-emitting diodes (LED).

(B) For the purposes of this Note and of heading 84.86, the expression “manufacture of flat panel displays” covers the fabrication of substrates into a flat panel. It does not cover the manufacture of glass or the assembly of printed circuit boards or other electronic components onto the flat panel. The expression “flat panel display” does not cover cathode-ray tube technology.

(C) Heading 84.86 also includes machines and apparatus solely or principally of a kind used for :

(i) the manufacture or repair of masks and reticles;

(ii) assembling semiconductor devices or electronic integrated circuits;

(iii) lifting, handling, loading or unloading of boules, wafers, semiconductor devices, electronic integrated circuits and flat panel displays.

(D) Subject to Note 1 to Section XVI and Note 1 to Chapter 84, machines and apparatus answering to the description in heading 84.86 are to be classified in that heading and in no other heading of the Nomenclature.

Subheading Notes.

1.- For the purposes of subheading 8465.20, the term “machining centres” applies only to machine-tools for working wood, cork, bone, hard rubber, hard plastics or similar hard materials, which can carry out different types of machining operations by automatic tool change from a magazine or the like in conformity with a machining programme.

2.- For the purposes of subheading 8471.49, the term “systems” means automatic data processing machines whose units satisfy the conditions laid down in Note 6 (C) to Chapter 84 and which comprise at least a central processing unit, one input unit (for example, a keyboard or a scanner), and one output unit (for example, a visual display unit or a printer).

3.- For the purposes of subheading 8481.20, the expression “valves for oleohydraulic or pneumatic transmissions” means valves which are used specifically in the transmission of “fluid power” in a hydraulic or pneumatic system, where the energy source is supplied in the form of pressurised fluids (liquid or gas). These valves may be of any type (for example, pressure-reducing type, check type). Subheading 8481.20 takes precedence over all other subheadings of heading 84.81.

4.- Subheading 8482.40 applies only to bearings with cylindrical rollers of a uniform diameter not exceeding 5 mm and having a length which is at least three times the diameter. The ends of the rollers may be rounded.

GENERAL

(A) GENERAL CONTENT OF THE CHAPTER

Subject to the provisions of the General Explanatory Note to Section XVI, this Chapter covers all machinery and mechanical appliances, and parts thereof, not more specifically covered by **Chapter 85**, and not being :

(a) Articles of textile material, for technical uses (**heading 59.11**).

(b) Articles of stone, etc., of **Chapter 68**.

(c) Ceramic articles of **Chapter 69**.

(d) Laboratory glassware of **heading 70.17**; machinery and appliances and parts thereof, of glass (**heading 70.19** or **70.20**).

(e) Stoves, central heating radiators and other goods of **heading 73.21** or **73.22**, and similar articles of other base metals.

(f) Electro-mechanical domestic appliances of **heading 85.09**; digital cameras of **heading 85.25**.

(g) Radiators for the articles of Section XVII (**Section XVII**).

(h) Hand-operated mechanical floor sweepers, not motorised (**heading 96.03**).

In general, Chapter 84 covers machinery and mechanical apparatus and Chapter 85 electrical goods. However, certain machines are specified in headings of Chapter 85 (e.g., electro-mechanical domestic appliances) while Chapter 84 on the other hand covers certain non-mechanical apparatus (e.g., steam generating boilers and their auxiliary apparatus, and filtering apparatus).

It should also be noted that machinery and apparatus of a kind covered by Chapter 84 remain in this Chapter even if electric, for example :

(1) Machinery powered by electric motor.

(2) Electrically heated machinery, for example, electric central heating boilers of heading 84.03, machinery of heading 84.19 and other machinery (e.g., calenders, textile washing or bleaching machines or presses) incorporating electrical heating elements.

(3) Machines operated electro-magnetically (e.g., electro-magnetic valves) or incorporating electro-magnetic devices (e.g., textile looms with electrical automatic stop motions, cranes with electro-magnetic lifting heads and lathes with electro-magnetic chucks).

(4) Machines operated electronically (e.g., electronic calculating or automatic data processing machines) or incorporating photoelectric or electronic devices (e.g., rolling mills with photo-electric apparatus and machine-tools incorporating a variety of electronic control devices).

Since machinery or appliances (for example, pumps) of ceramic material and ceramic parts of machinery or appliances of any material **(Chapter 69),** laboratory glassware **(heading 70.17)** and machinery and appliances and parts thereof, of glass (**heading 70.19** or **70.20**) are **excluded** from this Chapter, it follows that even if a machine or mechanical appliance is covered, because of its description or nature, by a heading of this Chapter it is not to be classified therein if it has the character of an article of ceramic materials or of glass.

This applies, for example, to articles of ceramic material or of glass, incorporating components of minor importance of other materials, such as stoppers, joints, taps, etc., clamping or tightening bands or collars or other fixing or supporting devices (stands, tripods, etc.).

On the other hand, the following are, as a rule, to be taken to have lost the character of ceramic articles, laboratory glassware, or machinery or appliances and parts thereof, of ceramic material or of glass :

(i) Combinations of ceramic or glass components with a high proportion of components of other materials (e.g., of metal); also articles consisting of a high proportion of ceramic or glass components incorporated or permanently mounted in frames, cases or the like, of other materials.

(ii) Combinations of static components of ceramic material or glass with mechanical components such as motors, pumps, etc., of other materials (e.g., of metal).

(B) GENERAL ARRANGEMENT OF THE CHAPTER

(1) Heading 84.01 covers nuclear reactors, fuel elements (cartridges), non-irradiated, for nuclear reactors and machinery and apparatus for isotopic separation.

(2) Headings 84.02 to 84.24 cover the other machines and apparatus which are classified mainly by reference to their function, and regardless of the field of industry in which they are used.

(3) Headings 84.25 to 84.78 cover machines and apparatus which, with certain exceptions, are classified there by reference to the field of industry in which they are used, regardless of their particular function in that field.

(4) Heading 84.79 covers machines and mechanical appliances not covered by any preceding heading of the Chapter.

(5) Heading 84.80 covers, in addition to moulding boxes for metal foundry and moulding patterns, moulds (**other than** ingot moulds) used, by hand or in machines, for moulding certain materials.

(6) Headings 84.81 to 84.84 cover certain general-purpose goods suitable for use as machinery parts or as parts of goods of other Chapters.

(7) Heading 84.86 covers machines and apparatus of a kind used solely or principally for the manufacture of semiconductor boules or wafers, semiconductor devices, electronic integrated circuits or flat panel displays, and machines and apparatus specified in Note 11 (C) to this Chapter.

(8) Heading 84.87 covers non-electrical parts not classified elsewhere.

(C) PARTS

As regards parts in general, see the General Explanatory Note to Section XVI.

Separately presented electrical parts generally fall in one or other of the headings of **Chapter 85**, for example : electric motors (**heading 85.01**); electrical transformers (**heading 85.04**); electro-magnets, permanent magnets, electro-magnetic lifting heads for cranes and electro-magnetic chucks (**heading 85.05**); electrical starting equipment for internal combustion piston engines (**heading 85.11**); electrical switches, control panels, plugs, junction boxes, etc. (**headings 85.35 to 85.37**); electronic valves (**heading 85.40**); diodes, transistors and similar semiconductor devices (**heading 85.41**); electronic integrated circuits (**heading 85.42**); electrical carbons (**heading 85.45**); insulators (**heading 85.46**); and certain fittings of insulating material (**heading 85.47**). Unless incorporated with other parts of the machine, such goods are classified in those headings, even if designed for use solely or principally with a particular machine of this Chapter.

Other electrical parts are classified :

(1) In heading 84.09, 84.31, 84.48, 84.66 or 84.73, if they comply with the description in those headings.

(2) If not, in this Chapter in the same heading as the machine for which they are intended, **provided** they are designed for use solely or principally with that machine; when not so designed, they fall in **heading 85.48**.

(D) GOODS COVERED BY TWO OR MORE HEADINGS OF THE CHAPTER

(Chapter Notes 2, 8 and 11 (D))

Subject to Note 1 to Section XVI and Note 1 to Chapter 84, machines and apparatus answering to the description in heading 84.86 are to be classified in that heading and in no other heading of the Nomenclature.

Headings 84.01 to 84.24 cover machinery and apparatus (described generally by reference to their function), which can be used in various branches of industry. In the other headings the machinery or apparatus is described, in most cases, by reference to the industry or other field of activity in which they are used. Under Chapter Note 2, machinery or apparatus falling in two or more headings one of which is within the first group (i.e., headings 84.01 to 84.24) is classified in that heading of the first

group. Thus motors are always classified in headings 84.06 to 84.08 and 84.10 to 84.12 without regard to their use. The same principle of classification applies for pumps, even if specialised for a particular purpose (e.g., textile spinning pumps or agricultural pumps), centrifuges, calenders, filter presses, furnaces, steam generators, etc.

Certain exceptions (specified in Chapter Note 2) have been made to this general principle as regards headings 84.19, 84.22 and 84.24. Thus the following, although potentially covered by heading 84.19, are in fact classified in later headings of the Chapter :

(1) Agricultural germination plant, and poultry incubators and brooders (heading 84.36).

(2) Grain dampening machines (heading 84.37).

(3) Diffusing apparatus for sugar juice extraction (heading 84.38).

(4) Machinery for the heat-treatment of textile yarns, fabrics or made up textile articles (heading 84.51).

(5) Machinery, plant or laboratory equipment, in which the change of temperature, although necessary, is subsidiary to the main mechanical function.

Similarly the following, although potentially covered by heading 84.22, are in fact classified in later headings of the Chapter :

(1) Sewing machines (e.g., for the closing of sacks) (heading 84.52).

(2) Machines designed to insert documents or correspondence in wrappers or in envelopes and to seal them, and coin-counting or wrapping machines (heading 84.72).

Also the following, although potentially covered by heading 84.24, are in fact classified in later headings of the Chapter :

(1) Ink-jet printing machines (heading 84.43).

(2) Water-jet cutting machines (heading 84.56).

The rule of precedence for headings 84.01 to 84.24 applies **only** to machines considered as a whole. Composite machines or multi-function machines are classified in accordance with Note 3 to Section XVI and functional units in accordance with Note 4 to that Section (see Parts (VI) and (VII) of the General Explanatory Note to Section XVI).

Machines which fall in two or more headings, none of which is within headings 84.01 to 84.24, are classified in that heading which provides the most specific description of the goods, or according to the principal use of the machine. Multi-purpose machines which are used **equally** for a number of different purposes or industries (e.g., eyeletting machines used equally well in the paper, textile, leather, plastics, etc., industries) are classified in heading 84.79.

(E) MACHINES INCORPORATING OR WORKING IN CONJUNCTION WITH AN AUTOMATIC DATA PROCESSING MACHINE

AND PERFORMING A SPECIFIC FUNCTION

(Chapter Note 6 (E))

In accordance with the provisions of Note 6 (E) to Chapter 84, the following classification principles should be applied in the case of a machine incorporating or working in conjunction with an automatic data processing machine, and performing a specific function :

(1) A machine incorporating an automatic data processing machine and performing a specific function other than data processing is classifiable in the heading corresponding to the function of that machine or, in the absence of a specific heading, in a residual heading, and not in heading 84.71.

(2) Machines presented with an automatic data processing machine and intended to work in conjunction therewith to perform a specific function other than data processing, are to be classified as follows :

the automatic data processing machine must be classified separately in heading 84.71 and the other machines in the heading corresponding to the function which they perform unless, by application of Note 4 to Section XVI or Note 3 to Chapter 90, the whole is classified in another heading of Chapter 84, Chapter 85 or of Chapter 90.

Heading 8401

Nuclear reactors; fuel elements (cartridges), non-irradiated, for nuclear reactors; machinery and apparatus for isotopic separation.

EXPLANATORY NOTES

84.01 - Nuclear reactors; fuel elements (cartridges), non-irradiated, for nuclear reactors; machinery and apparatus for isotopic separation.

8401.10 - Nuclear reactors

8401.20 - Machinery and apparatus for isotopic separation, and parts thereof

8401.30 - Fuel elements (cartridges), non-irradiated

8401.40 - Parts of nuclear reactors

(I) NUCLEAR REACTORS

The term nuclear reactor covers, in general, all the apparatus and appliances inside the area screened off by the biological shield including, where appropriate, the shield itself. It also includes any other apparatus and appliances **outside** that area, **provided** they form an **integral** part of those contained **inside** the screen.

A nuclear reactor generally comprises :

(A) **The core**, consisting of :

(1) **The fuel** (**fissile or fertile**). This may be dissolved or dispersed in the moderator (homogeneous reactor) or concentrated in fuel elements (cartridges) (heterogeneous reactors).

(2) **The moderator** and, where appropriate, the neutron reflector (e.g., beryllium, graphite, water, heavy water, certain hydrocarbons such as diphenyl or terphenyls).

(3) **The coolant**. This serves to remove the heat generated by the reactor (carbon dioxide, helium, water, heavy water, molten sodium or bismuth, a molten sodium-potassium mixture, molten salts, certain hydrocarbons, etc., are frequently used for this purpose). The moderator, however, also often acts as a coolant.

(4) **The control rods**, of materials with a high neutron absorption capacity (e.g., boron, cadmium, hafnium) or of alloys or compounds of such materials.

(B) **The mechanical structure** (for example, the reactor vessel; the fuel element (cartridges) loading grid; the piping and tubing for the conveyance of the coolant; the valves; the control rod operating mechanism, etc.).

(C) **The measuring, checking and automatic-control instruments** (e.g., neutron sources, ionisation chambers, thermocouples, telecameras, pressure or flow meters).

(D) **The thermal and biological shields** (of steel, concrete, lead, etc.).

Certain other machinery, apparatus and appliances may also be used in nuclear plant and may even be located inside the area screened off by the biological shield. These are **not** regarded as having thereby acquired the essential character of parts of a nuclear reactor and must therefore be classified in their own appropriate headings (see **exclusions** (c) to (ij) below).

The nature, characteristic features and manner of assembly of the component parts of nuclear reactors may, however, differ considerably. The various types of reactors are generally distinguished by reference to :

(1) The energy of the neutrons propagating the chain reaction (e.g., thermal (or slow), intermediate or fast reactors).

(2) The distribution of the fissile material in the core of the reactor (e.g., homogeneous reactors or heterogeneous reactors).

(3) The intended use (e.g., research reactors, isotope producing reactors, material testing reactors, reactors for the conversion of fertile materials into fissile material (converters or breeders), propulsion reactors, thermal or electrical energy producing reactors).

(4) The nature of the materials used or the principle of operation (e.g., natural uranium, enriched uranium, uranium-thorium, sodium-graphite, gaseous-graphite, pressurised water, pressurised heavy water, boiling water, swimming pool, organic moderator type reactors).

In general, the size of a reactor is so calculated as to be at least "**critical**", so that any outward loss of neutrons shall never be sufficient to interrupt the chain reaction. However, for research purposes,

"**subcritical**" reactors, which require additional sources of neutrons, may sometimes be used. These reactors are also included in this heading.

Separately presented **parts** of nuclear reactors are, in general, classified in accordance with the provisions of Note 2 to Section XVI.

Control rods and the corresponding mechanisms, the neutron sources fitted to initiate the fission reaction of the reactor, the vessel, the grid for insertion of the fuel elements (cartridges) and the pressurisers for pressurised water reactors are, therefore, classified in this heading as parts of nuclear reactors.

The following goods are, however, **not** regarded as parts of nuclear reactors :

(a) Blocks of graphite (**heading 38.01** or **68.15**), beryllium (**heading 81.12**), or beryllium oxide (**heading 69.14**).

(b) Metal tubes and pipes, in special forms, or merely shaped but not otherwise worked, presented unassembled, whether or not identifiable as for the construction of nuclear reactors (**Section XV**).

(c) Steam and other vapour generating boilers (**heading 84.02**).

(d) Heat exchangers (**heading 84.04** or **84.19**).

(e) Steam turbines and other vapour turbines (**heading 84.06**).

(f) Pumps (**heading 84.13** or **84.14**).

(g) Blowers (**heading 84.14**).

(h) Apparatus for extracting minerals from water (generally **heading 84.19** or **84.21**).

(ij) Handling machinery for changing or extracting the fuel elements and travelling cranes (generally **heading 84.26**).

(k) Mechanical remote control manipulators for radioactive products (**heading 84.28**).

(II) MACHINERY AND APPARATUS FOR ISOTOPIC SEPARATION

This group covers all mechanical, thermal or electrical apparatus and devices specially designed for the enrichment of a chemical element or of a compound of that element in one of its isotopes, or for the complete separation of the constituent isotopes.

The most important are those used for the production of heavy water (deuterium oxide) or for the enrichment of uranium in U 235.

The apparatus and devices used for the production of heavy water by enrichment of natural water include :

(1) Special fractional distillation and rectification apparatus comprising a very large number of plates arranged in clusters and in cascade and utilising the slight difference in boiling point between heavy water and normal water to obtain head fractions which are continually more depleted in heavy water and tail fractions which are continually more enriched.

(2) Apparatus which, by low-temperature fractional distillation of liquid hydrogen, separates the deuterium, which can then be combusted to obtain heavy water.

(3) Apparatus for the production of heavy water or deuterium compounds, based on isotopic exchange, sometimes in the presence of catalytic agents, for example by the “dual-temperature” method or by contact of different liquid or gaseous hydrogenous phases.

(4) Electrolytic cells intended for the production of heavy water by water electrolysis, and apparatus combining electrolysis with isotopic exchange between the hydrogen produced and the originating water itself.

For the enrichment of uranium in U 235, the following apparatus is most often used :

(1) Special centrifuges called “gas” (uranium hexafluoride) centrifuges, whose cylindrical rotor (“bowl”), of plastic material or steel, rotates at very high speeds.

These centrifuges are treated internally against the corrosive effects of uranium hexafluoride. In practice, a very large number of units is used, arranged in cascade and operating down-current or counter-current.

(2) Uranium isotope separators (gaseous diffusion type). In this equipment, gaseous uranium hexafluoride is separated into two fractions, with slightly different contents of uranium 235 compared to the starting gas, by diffusion through a porous membrane (“barrier”) inside a diffusion chamber (which may be tubular). By repeating the operation many times pure uranium 235 hexafluoride can be obtained.

(3) “Nozzle” apparatus (Becker process), in which a stream of gas (uranium hexafluoride and helium or hydrogen) is injected at high speed into a highly incurved nozzle. A “paring tube” at the outlet separates the enriched fraction of uranium hexafluoride.

Calutrons for electro-magnetic separation are also classified in this heading.

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines and apparatus of this group are also covered.

(III) FUEL ELEMENTS (CARTRIDGES) NON-IRRADIATED,

FOR NUCLEAR REACTORS

Fuel elements (cartridges), non-irradiated, for nuclear reactors consist of fissile or fertile material contained in a sheath, generally of base metal (e.g., of zirconium, aluminium, magnesium, stainless steel), fitted with special attachments for handling.

Fissile fuel elements may contain natural uranium, either in the metallic state or as compounds (oxides, carbides, nitrides, etc.), uranium enriched in uranium 235 or 233 or in plutonium, either in the metallic

state or as compounds, or thorium enriched in plutonium. Fertile fuel elements (for example, with thorium or depleted uranium), when placed at the periphery of the reactor to reflect neutrons, become fissile after absorbing some of the neutrons.

Fuel elements are of different types, for example :

(1) Combustible metals or alloys thereof in the form of bars or tubes sheathed in base metal. This metallic sheath may be flanged to facilitate heat exchange, and the element may be fitted with a support and a head for convenience of insertion into and extraction from the reactor.

(2) Dispersions of the fissile fuel in graphite in the form of bars, plates or spheres encased in graphite or consisting of other types of dispersions and cermets. These are flanged or fitted in the same way as the fuel elements (cartridges) described in (1) above.

(3) An assembly of :

(i) A series of sandwiched plates consisting of the fissile or fertile fuel (metal or ceramic compound) coated on the outside with inert metal.

(ii) Inert metal tubes filled with pellets of uranium dioxide or carbide.

or

(iii) Concentric fissile metal tubes sheathed with inert metal.

All these types of fuel elements (cartridges) are fitted with supports which also serve to keep them spaced apart and fixed in place; they often have an outer casing. All the sub-elements constituting these fuel elements (cartridges) are mounted on a common base and attached to a common head.

Presented separately, these sub-elements (e.g., stainless steel sheaths filled with nuclear fuel and sealed) are classified as **parts** of fuel elements (cartridges).

Microspheres of nuclear fuel coated with layers of carbon or silicon carbide, intended for introduction into spherical or prismatic fuel elements, and spent (irradiated) fuel elements (cartridges), fall in **heading 28.44**.

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* *

The heading also **excludes** :

(a) Furnaces for the separation of irradiated nuclear fuel by pyrometallurgical processes (**heading 84.17** or **85.14**, as the case may be).

(b) Separators for irradiated fuels or for processing effluents, operating by fractional distillation (**other than** those for the production of heavy water) (**heading 84.19**).

(c) Air filters specially designed to eliminate radioactive dust (physical or electrostatic types); active-charcoal purifiers for retaining radioactive iodine; ion-exchange apparatus for the separation of radioactive elements, including such apparatus operating by electrodialysis; separators for irradiated fuels or for processing effluents, whether operating by ion-exchange or operating chemically (**heading 84.21**).

8401.10

- Nuclear reactors

8401.20

- Machinery and apparatus for isotopic separation, and parts thereof

8401.30

- Fuel elements (cartridges), non-irradiated

8401.40

- Parts of nuclear reactors

Heading 8402

Steam or other vapour generating boilers (other than central heating hot water boilers capable also of producing low pressure steam); super-heated water boilers.

EXPLANATORY NOTES

84.02 - Steam or other vapour generating boilers (other than central heating hot water boilers capable also of producing low pressure steam); super-heated water boilers.

- Steam or other vapour generating boilers :

8402.11 - - Watertube boilers with a steam production exceeding 45 t per hour

8402.12 - - Watertube boilers with a steam production not exceeding 45 t per hour

8402.19 - - Other vapour generating boilers, including hybrid boilers

8402.20 - Super-heated water boilers

8402.90 - Parts

(A) STEAM OR OTHER VAPOUR GENERATING BOILERS

This group includes apparatus for generating steam or other vapour (e.g., mercury vapour) to operate prime movers (e.g., steam turbines) or other machines using steam power (e.g., steam hammers and pumps) or to supply steam to apparatus for heating, cooking, sterilising, etc., including steam generating boilers for central heating.

It includes separately presented boilers (e.g., locomotive boilers) even though they may clearly be specially constructed to form an integral part of a particular machine, apparatus or vehicle.

Steam boilers may be heated by means of a solid, liquid or gaseous fuel, or by electricity.

The desire to obtain a more efficient heating effect, or quicker vaporisation from fuel-burning boilers has led to the production of boilers differing in structure. The main types are :

(1) **Firetube boilers** (e.g., locomotive boilers), in which the body of the boiler is traversed by tubes through which the flue gases are conducted.

(2) **Watertube boilers,** in which a system of watertubes is surrounded by the flue gases; the internal walls of some boilers are also formed of watertubes.

(3) **Hybrid boilers,** which are generally a combination of types (1) and (2) above.

In some boilers, the systems of tubes are connected by a collector to one or more generally cylindrical bodies which serve to store the water or separate the water from the vapour. In others, known as **forced circulation boilers**, there is sometimes no evaporation drum and the circulation of the water is accelerated by a pump.

Boilers vary considerably in size. Small boilers are usually presented assembled, the various components being enclosed in a shell or mounted on a common base. The larger boilers comprise as a rule a number of separate elements for assembly on site, either within a shell or within a structure of brickwork.

(B) SUPER-HEATED WATER BOILERS

These are boilers in which the water is submitted to fairly high pressure so that it can be heated to a temperature far in excess of the normal vaporisation point (generally of the order of 180 °C or more).

These boilers are structurally very similar to the boilers described in Part (A) above. The pressure required for their operation is obtained either by accumulating steam in, for example, an evaporator drum, or in some cases, by means of an inert gas (generally nitrogen). The super-heated water produced in the boiler must be kept constantly under pressure. It therefore circulates in closed circuit, starting from and returning to the boiler.

Super-heated water boilers are used to provide heat, generally at a distance, to industrial plant (motor vehicle body paint drying tunnels, for instance), or to large groups of buildings or district heating schemes. In the latter case, heat is provided through heat exchangers in which the super-heated water (primary fluid) transfers calories to a secondary fluid that heats the premises.

*

* *

In order to increase or regulate their output or efficiency, the boilers of this heading are often equipped with a wide range of auxiliary apparatus. Such auxiliary apparatus includes economisers, air pre-heaters, super-heaters, de-super-heaters, steam receivers, steam accumulators, soot removers, gas recoverers, watertube fire-box walls and other apparatus of heading 84.04, and feed water purifiers, de-aerators, de-gasifiers and softeners of heading 84.21.

Such auxiliaries are classified with the boilers in this heading when they are presented together therewith, whether they already form, or are designed to form subsequently, a whole with those boilers; if presented separately they are to be classified in their own appropriate headings.

Similarly, and **provided** they are designed to form a whole therewith, grates presented with boilers are classified in this heading together with the boiler. In this respect, no distinction is made between grates already incorporated in boilers and those designed to be combined with boilers by means of a brickwork structure.

The heading **excludes** the types of boilers designed only for heating water to a temperature below its normal vaporisation point, and central heating hot water boilers of **heading 84.03** (even if capable also of producing low pressure steam).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the boilers of this heading are also covered, e.g., boiler bodies and bases, internal assemblies for boilers consisting of tubes, watertube caps, headers, boiler drums, steam domes, non-mechanical fire-boxes, inspection covers and fusible plugs.

Metal tubes or pipes which have been bent or curved but not otherwise worked, presented unassembled, are **not** identifiable as parts of boilers and are therefore to be classified in **Section XV**.

8402.1

- Steam or other vapour generating boilers :

8402.11

-- Watertube boilers with a steam production exceeding 45 t per hour

8402.12

-- Watertube boilers with a steam production not exceeding 45 t per hour

8402.19

-- Other vapour generating boilers, including hybrid boilers

CLASSIFICATION OPINIONS

1. Steam generating boiler for steam rooms, designed to supply a steam room measuring up to 20.9 m^3. It comes in the form of a cabinet (dimensions: 57 x 48 x 71 cm). Its main components are the following:

1) water tank with electric water heaters.
2) water inlet valve.
3) steam outlet valve.
4) heat sensor (to be fixed in the steam room)
5) control panel.

Application of GIRs 1 and 6.
Adoption : 2021

8402.20

- Super-heated water boilers

8402.90

- Parts

Heading 8403

Central heating boilers other than those of heading 84.02.

EXPLANATORY NOTES

84.03 - Central heating boilers other than those of heading 84.02.

8403.10 - Boilers

8403.90 - Parts

This heading includes **central heating boilers** of any size (**other than** stoves with subsidiary boilers, of **heading 73.21**), using any type of fuel (e.g., wood, coal, coke, gas, fuel oil), for heating houses, flats, factories, workshops, greenhouses, etc., by circulation of water; it also includes electric central heating boilers.

They may be equipped with pressure regulators and gauges, water levels, taps, cocks, burners and similar parts or accessories.

Hot water boilers, even if also capable of producing low pressure steam, are also classified in this heading.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), this heading also covers identifiable parts of central heating boilers such as boiler casings, walls, doors and manhole or inspection port covers, etc.

The following are **not** regarded as parts :

(a) Pipes and fittings to connect up central heating boilers and radiators (generally **headings 73.03 to 73.07**).

(b) Expansion reservoirs or chambers (**heading 73.09**, **73.10** or **84.79**).

(c) Furnace burners (**heading 84.16**).

(d) Steam or hot water taps, cocks, etc. (**heading 84.81**).

8403.10

- Boilers

CLASSIFICATION OPINIONS

1. Electric central heating boilers, of steel, for the production of variable temperatures of hot water for heating purposes (underfloor or radiator heating); they are insulated with rigid polyurethane foam and operate on a voltage of 220 V or 380 V. They are fitted with : removable stainless-steel immersion heaters; power and control relays; a control panel including thermostats, a thermometer and switches; a variable-speed circulation pump; a hydromanometer; a safety valve; a heat outlet and return; possibly an expansion chamber; an outlet and a return for connecting a domestic hot-water tank. The power, which can be adjusted, varies from 5.6 to 24°kW or from 28.8 to 259.2 kW depending on the model; the maximum temperature is 90°C and the operating pressure 3°bars.

Application of RGI 1.
Adoption : 1994

8403.90

- Parts

Heading 8404

Auxiliary plant for use with boilers of heading 84.02 or 84.03 (for example, economisers, super-heaters, soot removers, gas recoverers); condensers for steam or other vapour power units.

EXPLANATORY NOTES

84.04 - Auxiliary plant for use with boilers of heading 84.02 or 84.03 (for example, economisers, super-heaters, soot removers, gas recoverers); condensers for steam or other vapour power units.

8404.10 - Auxiliary plant for use with boilers of heading 84.02 or 84.03

8404.20 - Condensers for steam or other vapour power units

8404.90 - Parts

(A) AUXILIARY PLANT FOR USE WITH BOILERS

OF HEADING 84.02 OR 84.03

These include :

(1) **Economisers** for pre-heating the boiler feed water by utilising the waste heat of the flue gases or, in some types, exhaust steam. They usually consist of headers fitted with a system of cast iron or steel gilled tubing, sometimes contained within a separate chamber of sheet metal into which the flue gases or exhaust steam are discharged. In the mixing type economiser waste steam is passed directly into a chamber containing the feed water.

(2) **Air pre-heaters**. These also make use of the waste heat. They consist of air chambers with heat-exchange systems of varying types, e.g., tubular types through which the hot flue gases circulate thus heating the air in the chamber; plate-type in which air and smoke gases circulate separately in adjoining narrow compartments. Certain types incorporate rotating baffle plates.

(3) **Super-heaters**. These consist of headers with a high-pressure steel tube system in which the saturated steam from the boiler is further heated to remove moisture and to produce steam at high temperature. Super-heaters are often part of the main boiler assembly, but in some cases have a separate flue system.

(4) **De-super-heaters**. These are used to prevent the development of too high a temperature in the super-heaters. Normally they are placed between two sections of the super-heater, and generally consist of a cast iron body into which the steam is passed and cooled by a flow of water.

(5) **Steam collectors**. Cylindrical bodies for collecting the steam from a group of boilers.

(6) **Steam accumulators**. Large insulated cylindrical steel high-pressure reservoirs for the storage of a reserve of steam.

(7) **Thermic or heat accumulators**. These are used to store the surplus heat from steam boilers.

(8) **Tubular furnace-walls**, i.e., a system of vertical tubing connected to conduits in which the feed water circulates, and designed to be mounted in front of the interior surface of the furnace walls. They serve the double function of preventing the over-heating of the furnace walls and at the same time pre-heating the feed water.

(9) **Soot removers** (soot blowers), automatic or not. These remove soot and similar deposits from the tubular parts of the steam-generating installation (e.g., super-heaters, watertubes, firetubes and economisers) by the use of jets of steam or compressed air. They consist of a tube (fixed or retractable) with a number of jets controlled by a valve and coupled to the steam or compressed air conduit. In other cases soot removers take the form of retractable jets.

(10) **Gas recoverers**. These are devices by which the exhaust gases are returned to the furnace for combustion of unburnt particles.

(11) **Sludge scrapers**.

(B) CONDENSERS FOR STEAM OR OTHER VAPOUR POWER UNITS

These include steam condensers of various kinds, whose function is to reduce the back pressure in steam engines by cooling and condensing the exhaust steam, thus increasing the power of the engine. They include :

(1) **Surface-condensers**. These consist of a cylindrical shell enclosing a system of tubes. The steam is led into the cylinder, and cold water circulates through the pipes (or occasionally vice versa) thus condensing the steam.

(2) **Mixing condensers**. In these the steam is mixed directly with water. The heading includes ejector condensers in which a partial vacuum is created in the condenser chamber by a jet of water (acting in the same way as the jet in an ejector pump).

(3) **Air-cooled condensers**. These consist of gilled steam tubing cooled by a forced current of air.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of the above apparatus and appliances.

Metal tubes or pipes which have been bent or curved but not otherwise worked, presented unassembled, are not identifiable as parts of goods of this heading and are therefore to be classified in **Section XV**.

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The heading **excludes** the following, whether or not for use in boiler-houses :

(a) Pumps (including water-injectors for force-feeding the boiler), blowers, fans and other machinery of **heading 84.13** or **84.14**.

(b) Furnace burners, mechanical grates, mechanical stokers and the like (**heading 84.16**).

(c) Distillation and other condensers of **heading 84.19**.

(d) Filters and purifiers for water, gases, etc. (**heading 84.21**).

8404.10

- Auxiliary plant for use with boilers of heading 84.02 or 84.03

8404.20

- Condensers for steam or other vapour power units

8404.90

- Parts

Heading 8405

Producer gas or water gas generators, with or without their purifiers; acetylene gas generators and similar water process gas generators, with or without their purifiers.

EXPLANATORY NOTES

84.05 - Producer gas or water gas generators, with or without their purifiers; acetylene gas generators and similar water process gas generators, with or without their purifiers.

8405.10 - Producer gas or water gas generators, with or without their purifiers; acetylene gas generators and similar water process gas generators, with or without their purifiers

8405.90 - Parts

This heading covers self-contained apparatus and plant for generating any kind of gas (e.g., producer gas, water gas and mixtures thereof, or acetylene) whatever the intended use of the gas produced (lighting, industrial heating, feeding gas engines, welding or cutting metals, chemical synthesis, etc.).

The heading also includes producer gas generators specially constructed for use in motor vehicles, but **excludes** acetylene generators which are in fact lamps requiring only the fitting of a burner (**heading 94.05**).

(A) PRODUCER GAS GENERATORS

These usually consist of a closed cylinder, generally fitted with a refractory lining or a water-cooled double wall enclosing a grate (either of fixed, shaking or revolving type), with provision for passing a current of air (or of air and steam) by suction or blowing. A thick bed of fuel is burned on the grate and the flow of air and steam is regulated so that combustion is incomplete. The decomposition of the water and the incomplete combustion of the fuel yield carbon monoxide and hydrogen. The resultant mixture of carbon monoxide, hydrogen and nitrogen (producer gas) is drawn off at the top of the apparatus.

In certain generators of the “reversed combustion” type, the air is blown from the top to the bottom and along the sides of the cylinder and the gas is collected at the bottom of the apparatus, below the grate. This allows for more complete combustion of tars, etc.

(B) WATER GAS GENERATORS

These are of similar construction, but are arranged so that air and a spray of water or steam are blown in alternate phases into the apparatus. The gas resulting from the water phase is a mixture of hydrogen and carbon monoxide (water gas) having a higher heating power than producer gas. It may be collected separately from the producer gas obtained during the air phase or the two gases may be mixed.

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Both producer gas and water gas generators may be adapted for burning many kinds of solid fuel (e.g., coal, coke, charcoal, wood, vegetable or other waste).

For certain uses, particularly for supplying gas engines, producer or water gases must be cleaned of impurities such as dust, tars, sulphurous compounds, etc., and sometimes reheated or cooled. For this purpose, the generators are often fitted with purifiers (comprising perforated cones, coke beds, scrubbers, etc.), coolers, dryers, reheaters, etc. Such purifiers and other auxiliary apparatus are classified with the generators when presented therewith, **provided** they are clearly suitable for use together. When presented separately they fall in their own respective headings (e.g., purifiers in **heading 84.21**).

(C) ACETYLENE WATER PROCESS GAS GENERATORS

These are generally of simple construction, consisting of a water-sealed gas reservoir, the movement of which, as it is charged and discharged, automatically controls the gas generating device. There are three types of generating devices :

(1) Producing intermittent immersion of the mass of calcium carbide in the water.

(2) Providing for the gradual addition of carbide to water.

(3) Causing water to be dripped on to the carbide.

(D) OTHER WATER PROCESS GAS GENERATORS

These include **oxygen generators** (e.g., those used in submarines) and **ethylene generators** (e.g., those based on the action of water on certain chemicals).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the apparatus of this heading are also classified here (e.g., gas generator bodies, grates, gas collectors and water-carbide mixers).

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The heading also **excludes :**

(a) Free-piston generators for gas turbines (**heading 84.14**).

(b) Coke ovens (e.g., town gas generators) (**heading 84.17**).

(c) Ozone generating and diffusing apparatus, electric, designed for non-therapeutic purposes (e.g., for industrial uses, for the ozonisation of premises), and electrolytic gas generators for the generation of, e.g., nitrogen dioxide, hydrogen sulphide or prussic acid (**heading 85.43**) and ozonotherapy apparatus (**heading 90.19**).

8405.10

- Producer gas or water gas generators, with or without their purifiers; acetylene gas generators and similar water process gas generators, with or without their purifiers

8405.90

- Parts

Heading 8406

Steam turbines and other vapour turbines.

EXPLANATORY NOTES

84.06 - Steam turbines and other vapour turbines.

8406.10 - Turbines for marine propulsion

- Other turbines :

8406.81 - - Of an output exceeding 40 MW

8406.82 - - Of an output not exceeding 40 MW

8406.90 - Parts

This heading covers steam turbines which are driven by the kinetic energy of expanding steam applied to the vanes or blades of a wheel. They consist essentially of :

(1) A rotor comprising a shaft on which is mounted a wheel (or wheels) the rim of which carries a row of closely-spaced vanes or blades generally of curved cross-section and sometimes referred to as “buckets”.

(2) A stator consisting of a casing, in which the rotor is supported and revolves, containing a system of stationary blades or nozzles to direct the steam on to the blading of the rotor.

In “impulse” turbines the stator is provided with nozzles in which the steam expands and issues at high velocity tangentially to the bucket blades of the rotor. In a “reaction” turbine the blades on the rotor

revolve between similarly shaped stationary blades mounted in the reverse form round the face of the stator, and so arranged that the steam flows axially through the blades of the stator and on to the adjacent blades of the rotor.

For greater efficiency two systems are often combined in “compound turbines”, but more often a series of rotors are mounted on a common shaft (multi-stage turbines) to allow progressive expansion of the steam.

The high rotational speed of turbines makes them particularly suitable for the direct driving of machines such as electric generators (turbo-generators), compressors, ventilators or centrifugal pumps. For some purposes (e.g., steamships and certain locomotives) turbines are fitted with reversing or reduction gear. When presented separately, these reversing or reduction gears are **excluded** (**heading 84.83**).

This heading also covers **mercury vapour turbines**. These are of a structure and use similar to the steam turbines described above, but use mercury vapour in place of steam.

PARTS

An essential component of a turbine is a governing mechanism so that the supply of steam or other vapour to the turbine can be adjusted to suit the load and to maintain constant speed.

This heading covers such governors and, **subject** to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), other parts of turbines (e.g., rotors and stators and their segments, rotor or stator blades).

8406.10

- Turbines for marine propulsion

8406.8

- Other turbines :

8406.81

-- Of an output exceeding 40 MW

8406.82

-- Of an output not exceeding 40 MW

8406.90

- Parts

Heading 8407

Spark-ignition reciprocating or rotary internal combustion piston engines.

EXPLANATORY NOTES

84.07 - Spark-ignition reciprocating or rotary internal combustion piston engines (+).

8407.10 - Aircraft engines

- Marine propulsion engines :

8407.21 - - Outboard motors

8407.29 - - Other

- Reciprocating piston engines of a kind used for the propulsion of vehicles of Chapter 87 :

8407.31 - - Of a cylinder capacity not exceeding 50 cc

8407.32 - - Of a cylinder capacity exceeding 50 cc but not exceeding 250 cc

8407.33 - - Of a cylinder capacity exceeding 250 cc but not exceeding 1,000 cc

8407.34 - - Of a cylinder capacity exceeding 1,000 cc

8407.90 - Other engines

This heading covers spark-ignition reciprocating internal combustion piston engines and rotary internal combustion piston engines (Wankel engines having a trilobal disc type “piston”), **other than** those of **Chapter 95**. It includes such engines for motor vehicles.

These engines generally have the following elements : cylinder, piston, connecting-rod, crank shaft, flywheel, inlet and exhaust valves, etc. They make use of the expansion force of a charge of inflammable gas or vapour burned inside a cylinder.

The characteristic feature of these engines is that they are equipped with sparking plugs fitted into the cylinder head and with electrical devices (such as magnetos, coils and contact breakers) synchronised with the motor, for supplying high tension current.

In the more common types the fuel and air are mixed (e.g., in a carburettor) before induction into the cylinder by the suction stroke of the piston, but in some cases (e.g., certain aircraft engines and motor car engines) the fuel is introduced into the cylinder head directly by an injector.

The most usual fuel is petrol, but others include kerosene, alcohol, hydrogen, coal gas, methane, etc.

Gas engines are most frequently fed by producer gas generators which are sometimes integral with the engine, but are more often independent. In the latter case the generators are always classified in **heading 84.05**.

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These engines may have one or several cylinders. In the latter case the connecting-rods are coupled to a single crank shaft, and the cylinders, fed separately, may be arranged in various ways, e.g., in a vertical line (upright or inverted), in two symmetrical obliquely opposed rows (V-engines), horizontally opposed on opposite sides on the crank shaft or, for certain aircraft engines, radially. The rotary piston engine (Wankel engine) operates on the same general principle as the conventional piston engines described above. However, instead of a crank shaft turned by an oscillating piston and connecting rod, the rotary piston engine has a trilobal disc (“piston”) in a specially shaped housing (epitrochoid), which directly rotates a driving shaft.

The “piston” divides the housing (combustion chamber) into several compartments and each complete rotation corresponds for each lobe to a four-stroke cycle. These engines may have one or more housings with “pistons”.

The engines of this heading are suitable for very many uses, e.g., in agricultural machines; for driving electric generators, pumps or compressors; for propelling aircraft, motorcars, motorcycles, autocycles, tractors or boats.

The engines of this heading may be equipped with fuel injection pumps, ignition parts, fuel or oil reservoirs, water radiators, oil coolers, water, oil or fuel pumps, blowers, air or oil filters, clutches or power drives, or starting devices (electric or other). Change speed gears may also be fitted. The engines may also be equipped with a flexible shaft.

The heading includes “outboard motors” for the propulsion of small boats, consisting of a motor of this heading, a propeller and a steering device, the whole constituting a single, indivisible unit. These motors, designed to be attached to the outside of the hull of the boat, are detachable, that is they can be attached and removed easily and are adjustable, the unit turning on the point of attachment. However, motors designed to be fixed to the inside of the hull at the rear of the boat combined with a block holding a steering propeller fixed to the exterior of the boat at the corresponding place are not regarded as outboard motors.

It also covers mobile motors consisting of engines mounted on a wheeled chassis or on runners, including those with driving mechanisms permitting their self-propulsion to a certain extent (but **not** constituting vehicles of **Chapter 87**).

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* *

The heading **excludes** variable compression motors of the spark-ignition internal combustion piston engine type designed specially for determination of the octane and cetane value of motor fuels (**Chapter 90**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the engines of this heading are classified in **heading 84.09**.

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° °

Subheading Explanatory Notes.

Subheading 8407.10

The expression “aircraft engines” means engines **designed or modified** for fitting with a propeller (airscrew) or rotor.

Subheadings 8407.31, 8407.32, 8407.33 and 8407.34

For engines with cylinders, the cylinder capacity is equal to the volume of that part of a cylinder swept by the piston between bottom dead centre and top dead centre, multiplied by the number of cylinders.

8407.10

- Aircraft engines

8407.2

- Marine propulsion engines :

8407.21

-- Outboard motors

8407.29

-- Other

8407.3

- Reciprocating piston engines of a kind used for the propulsion of vehicles of Chapter 87 :

8407.31

-- Of a cylinder capacity not exceeding 50 cc

8407.32

-- Of a cylinder capacity exceeding 50 cc but not exceeding 250 cc

8407.33

-- Of a cylinder capacity exceeding 250 cc but not exceeding 1,000 cc

8407.34

-- Of a cylinder capacity exceeding 1,000 cc

8407.90

- Other engines

Heading 8408

Compression-ignition internal combustion piston engines (diesel or semi-diesel engines).

EXPLANATORY NOTES

84.08 - Compression-ignition internal combustion piston engines (diesel or semi-diesel engines).

8408.10 **-** Marine propulsion engines

8408.20 - Engines of a kind used for the propulsion of vehicles of Chapter 87

8408.90 **-** Other engines

This heading covers compression-ignition internal combustion piston engines (**other than** those of **Chapter 95**), including those for motor vehicles.

These engines are of similar mechanical construction to spark-ignition internal combustion piston engines and have the same essential elements (i.e., cylinder, piston, connecting-rod, crank shaft, flywheel, inlet and exhaust valves, etc.), but differ in that the air (or sometimes air mixed with gas) is first admitted to the cylinder where it is rapidly compressed. Atomised liquid fuel is then injected into the combustion chamber where it is spontaneously ignited by the heat developed, the compression being considerably greater than in the spark-ignition engine.

In addition to diesel engines, there are intermediate compression-ignition semi-diesel engines which operate at lower compression. To start this type, the cylinder-head must be pre-heated by a blow-lamp or a glow plug must be used.

Compression-ignition internal combustion piston engines operate on heavy fluid fuels such as heavy petroleum or coal tar oils, shale oils, vegetable oils (ground-nut, castor, palm, etc.).

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The engines of this heading may have one or several cylinders. In the latter case the connecting-rods are coupled to a single crank shaft, and the cylinders, fed separately, may be arranged in various ways, e.g., in a vertical line (upright or inverted), in two symmetrical obliquely opposed rows (V-engines), horizontally opposed on opposite sides on the crank shaft.

The engines of this heading are suitable for very many uses, e.g., in agricultural machines, for propelling motorcars, tractors, locomotives or ships or in electric power stations, etc.

The engines of this heading may be equipped with fuel injection pumps, ignition parts, fuel or oil reservoirs, water radiators, oil coolers, water or oil pumps, blowers, air or oil filters, clutches or power drives, or starting devices (electric or other). Change speed gears may also be fitted. The engines may also be equipped with a flexible shaft.

It also covers mobile motors consisting of engines mounted on a wheeled chassis or on runners, including those with driving mechanisms permitting their self-propulsion to a certain extent (but **not** constituting vehicles of **Chapter 87**).

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* *

The heading **excludes** variable compression motors of the compression-ignition internal combustion piston engine type designed specially for determination of the octane and cetane value of motor fuels (**Chapter 90**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the engines of this heading are classified in **heading 84.09.**

8408.10

- Marine propulsion engines

8408.20

- Engines of a kind used for the propulsion of vehicles of Chapter 87

8408.90

- Other engines

Heading 8409

Parts suitable for use solely or principally with the engines of heading 84.07 or 84.08.
EXPLANATORY NOTES

84.09 - Parts suitable for use solely or principally with the engines of heading 84.07 or 84.08.

8409.10 - For aircraft engines

- Other :

8409.91 - - Suitable for use solely or principally with spark-ignition internal combustion piston engines

8409.99 - - Other

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), this heading covers parts of internal combustion piston engines of heading 84.07 or 84.08 (e.g., pistons, cylinders and cylinder blocks; cylinder heads; cylinder liners; inlet or exhaust valves; inlet or exhaust manifolds; piston rings; connecting-rods; carburettors; fuel nozzles).

However, the heading excludes :

(a) Injection pumps (**heading 84.13**).

(b) Engine crank shafts and cam shafts (**heading 84.83**); and gear-boxes (**heading 84.83**).

(c) Electrical ignition or starting equipment (including sparking plugs and glow plugs) (**heading 85.11**).

8409.10

- For aircraft engines

8409.9

- Other :

8409.91

-- Suitable for use solely or principally with spark-ignition internal combustion piston engines

8409.99

-- Other

Heading 8410

Hydraulic turbines, water wheels, and regulators therefor.
EXPLANATORY NOTES

84.10 - Hydraulic turbines, water wheels, and regulators therefor.

- Hydraulic turbines and water wheels :

8410.11 - - Of a power not exceeding 1,000 kW

8410.12 - - Of a power exceeding 1,000 kW but not exceeding 10,000 kW

8410.13 - - Of a power exceeding 10,000 kW

8410.90 - Parts, including regulators

This heading covers hydraulic turbines and water wheels which can, by themselves, transform into motive power the energy possessed by moving liquids or liquids under pressure (e.g., the flow or fall of water; pressure of water, oil or special fluids). These engines or motors may thus operate by directing a moving mass of water on to paddles, blades or helicoidal elements fitted to a wheel.

(A) HYDRAULIC TURBINES

Hydraulic turbines consist of a rotor encased in a stator which directs jets of water on to the blades, etc., of the rotor.

Hydraulic turbines are mainly of three types :

(1) **Pelton type**, for high-pressure water supply of comparatively small volume. The rotor consists of a wheel fitted radially around its periphery with a large number of cups. The stator consists merely of a strong casing with one or more jets directing the water tangentially on to the cups.

(2) **Francis type**, for medium or low water pressure at large volume. These comprise a one-piece cast steel rotor with large, fixed helicoidal blades, and a stator consisting of conduit tubing, usually spiralled, with large, variable angle guide blades ensuring a radial flow of water around the whole periphery of the rotor, and an axial water-outlet.

(3) **Kaplan type**, for low pressure supplies. These are turbines, closely resembling those described above, both the stator and rotor having adjustable angle blades.

The main use of hydraulic turbines is in hydro-electric installations.

(B) WATER WHEELS

These very simple engines consist of a large wheel fitted with flat or hollow paddles of wood or metal around its periphery, the axle of the wheel being generally fitted with a step-up gear. The mechanical power produced is generally used directly in small workshops, saw-mills, flour-mills, etc.

Paddle-wheels for boats, although similar in appearance, are **excluded** (**heading 84.87**).

Hydrometric paddle-wheels are also **excluded** (**heading 90.15**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the hydraulic turbines or water wheels of this heading are also classified here (e.g., rotors, stators, blades and buckets for stators or rotors, casings for spiral conduits, regulators which automatically regulate the flow of water or the angle of the variable pitch rotors or stators, according to type, in order to maintain uniformity of the speed of rotation despite variations in the load, valve needles for regulators).

8410.1

- Hydraulic turbines and water wheels :

8410.11

-- Of a power not exceeding 1,000 kW

8410.12

-- Of a power exceeding 1,000 kW but not exceeding 10,000 kW

8410.13

-- Of a power exceeding 10,000 kW

8410.90

- Parts, including regulators

Heading 8411

Turbo-jets, turbo-propellers and other gas turbines.

EXPLANATORY NOTES

84.11 - Turbo-jets, turbo-propellers and other gas turbines (+).

- Turbo-jets :

8411.11 - - Of a thrust not exceeding 25 kN

8411.12 - - Of a thrust exceeding 25 kN

- Turbo-propellers :

8411.21 - - Of a power not exceeding 1,100 kW

8411.22 - - Of a power exceeding 1,100 kW

- Other gas turbines :

8411.81 - - Of a power not exceeding 5,000 kW

8411.82 - - Of a power exceeding 5,000 kW

- Parts :

8411.91 - - Of turbo-jets or turbo-propellers

8411.99 - - Other

This heading covers **turbo-jets, turbo-propellers** and **other gas turbines**.

The turbines of this heading are, in general, internal combustion engines which do not usually require any external source of heat as does, for example, a steam turbine.

(A) TURBO-JETS

A turbo-jet consists of a compressor, a combustion system, a turbine and a nozzle, which is a convergent duct placed in the exhaust pipe. The hot pressurised gas exiting from the turbine is converted to a high velocity gas stream by the nozzle. The reaction of this gas stream acting on the engine provides the motive force which may be used to power aircraft. In its simplest form the compressor and turbine are accommodated on a single shaft. In more complex designs the compressor is made in two parts (a two spool compressor) in which the spool of each part is driven by its own turbine through concentric shafting. Another variation is to add a ducted fan usually at the inlet to the compressor and drive this either by a third turbine or connect it to the first compressor spool. The fan acts in the nature of a ducted propeller, most of its output bypassing the compressor and turbine and joining the exhaust jet to provide extra thrust. This version is sometimes called a “bypass fan jet”.

So-called “after-burning” appliances are auxiliary units for mounting in series with certain turbo-jet engines in order to boost their power output for short periods. These appliances have their own fuel supply and utilise the excess oxygen in the gases issuing from the turbo-jet.

(B) TURBO-PROPELLERS

Such engines are similar to turbo-jets, but have a further turbine downstream of the compressor turbine, which is coupled to a conventional propeller such as is used on piston engined aircraft. This latter turbine is sometimes referred to as a “free turbine”, meaning that it is not mechanically coupled to the compressor and compressor turbine shaft. Thus most of the hot pressurised gas leaving the compressor turbine is converted into shaft power by the free turbine instead of being expanded in a nozzle as is the case in turbo-jets. In some cases, the gases leaving the free turbine may be expanded in a nozzle to provide auxiliary jet power and assist the propeller.

(C) OTHER GAS TURBINES

This group includes industrial gas-turbine units which are either specifically designed for industrial use or adapt turbo-jets or turbo-propeller units for uses other than providing motive power for aircraft.

There are two types of cycles :

(1) The simple cycle, in which air is ingested and compressed by the compressor, heated in the combustion system and passed through the turbine, finally exhausting to the atmosphere.

(2) The regenerative cycle, in which air is ingested, compressed and passed through the air pipes of a regenerator. The air is pre-heated by the turbine exhaust and is then passed to the combustion system where it is further heated by the addition of fuel. The air/gas mixture passes through the turbine and is exhausted through the hot gas side of the regenerator and finally to the atmosphere.

There are two types of designs :

(a) The single-shaft gas turbine unit, in which the compressor and turbine are built on a single shaft, the turbine providing power to rotate the compressor and to drive rotating machinery through a coupling. This type of drive is most effective for constant speed applications such as electrical power generation.

(b) The two-shaft gas turbine unit, in which the compressor, combustion system and compressor turbine are accommodated in one unit generally called a gas generator, whilst a second turbine on a separate shaft receives the heated and pressurised gas from the exhaust of the gas

generator. This second turbine known as the power turbine is coupled to a driven unit, such as a compressor or pump. Two-shaft gas turbines are normally applied where load demand variations require a range of power and rotational speed from the gas turbine.

These gas turbines are used for marine craft and locomotives, for electrical power generation, and for mechanical drives in the oil and gas, pipeline and petrochemical industries.

This group also includes other gas turbines without a combustion chamber, comprising simply a stator and rotor and which use energy from gases provided by other machines or appliances (e.g., gas generators, diesel engines, free-piston generators) and compressed air or other compressed gas turbines.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the engines and motors of this heading are also classified here (e.g., gas turbine rotors, combustion chambers and vents for jet engines, parts of turbo-jet engines (stator rings, with or without blades, rotor discs or wheels, with or without fins, blades and fins), fuel feed regulators, fuel nozzles).

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° °

Subheading Explanatory Note.

Subheadings 8411.11 and 8411.12

Thrust is to be taken to mean the product of the exhaust mass flow per second and the difference between the exhaust velocity and the air inlet velocity.

8411.1

- Turbo-jets :

8411.11

-- Of a thrust not exceeding 25 kN

8411.12

-- Of a thrust exceeding 25 kN

8411.2

- Turbo-propellers :

8411.21

-- Of a power not exceeding 1,100 kW

8411.22

-- Of a power exceeding 1,100 kW

8411.8

- Other gas turbines :

8411.81

-- Of a power not exceeding 5,000 kW

8411.82

-- Of a power exceeding 5,000 kW

8411.9

- Parts :

8411.91

-- Of turbo-jets or turbo-propellers

8411.99

-- Other

Heading 8412

Other engines and motors.

EXPLANATORY NOTES

84.12 - Other engines and motors.

8412.10 - Reaction engines other than turbo-jets

- Hydraulic power engines and motors :

8412.21 - - Linear acting (cylinders)

8412.29 - - Other

- Pneumatic power engines and motors :

8412.31 - - Linear acting (cylinders)

8412.39 - - Other

8412.80 - Other

8412.90 - Parts

This heading covers engines and motors not included in the preceding headings (headings 84.06 to 84.08, 84.10 or 84.11) or in heading 85.01 or 85.02. It therefore covers non-electric engines and motors **other than** steam turbines and other vapour turbines, spark-ignition and compression-ignition internal combustion piston engines, hydraulic turbines, water wheels, turbo-jets, turbo-propellers or other gas turbines.

The heading includes reaction engines (other than turbo-jets), pneumatic power engines and motors, wind engines (windmills), spring-operated or weight-operated motors, etc., certain hydraulic power engines and motors, and certain steam or other vapour power units.

(A) REACTION ENGINES OTHER THAN TURBO-JETS

(1) **Ram-jets.**

This is a mechanically simple engine, which can function only on rapidly moving machines. It has no turbo-compressor, the feed air being forced in by the speed of motion alone and compressed in the combustion chamber under the effect of a duct. The motive force is provided by the reaction of the exhaust gases expanding through a nozzle.

(2) **Pulse-jets.**

This engine differs from the ram-jet in that its outlet nozzle emits a pulsating flow of gas instead of a continuous jet, due to the fact that combustion takes place intermittently. Unlike the ram-jet, it can be started from rest, the pulsing action providing for the intake of air.

Pulse-jets are used in aircraft mainly as an auxiliary take-off.

(3) **Rocket engines.**

These are reaction engines in which combustion is independent of external air supply, the charge comprising both fuel and the combustion agents.

There are two main types :

(i) Liquid propellant engines. These engines consist of a combustion chamber plus one or more tanks for the storage of propellants, interconnected by a system of tubes and pumps, and a jet-pipe. The pumps are powered by means of a turbine which is fed by a separate gas generator. An important part of this type of rocket engine is formed by the injection-system. The fuels used include ethyl alcohol, hydrazine hydrate, etc., and the combustion agents are hydrogen peroxide, potassium permanganate, liquid oxygen, nitric acid, etc.

(ii) Solid propellant engines. These engines consist of a cylindrical pressure chamber and a jet-pipe. The combustion chamber and the supply of propellant form a whole. The propellant in this type of engine consists of a combustion agent (usually ammonium perchlorate) and a fuel (usually polyurethanes). Certain types employ solid fuels of the nature of the propellants of Chapter 36.

Rockets are classified in this heading **only** when forming propulsive units proper (e.g., for auxiliary or take-off engines for aircraft, or for fitting to guided missiles or for satellite or spacecraft launch vehicles).

This group **excludes** :

(a) Anti-hail rockets, life-line rockets and similar rockets of a pyrotechnic type (**heading 36.04**).

(b) Satellite or spacecraft launch vehicles (**heading 88.02**).

(c) Guided missiles incorporating power-units (**heading 93.06**).

(B) HYDRAULIC POWER ENGINES AND MOTORS

This group includes :

(1) **Certain engines, other than** turbines or wheels of **heading 84.10**, producing mechanical power by utilising the energy of the waves or sea swell (Savonius rotor with two semi-cylindrical bladings) or of the tides.

(2) **Water column machines** operating by the pressure of water on pistons. The water acts on two or more pistons moving inside the cylinders which in turn drive a shaft.

(3) **Hydraulic cylinders** consisting, for example, of a brass or steel barrel and a piston operated by oil (or other liquid) under pressure applied on one side (single-acting) or on both sides (double-acting) of the piston, the energy of the liquid under pressure being converted into a linear motion. These cylinders are used on machine-tools, construction machinery, steering mechanisms, etc.

(4) **Hydraulic valve actuators**, presented separately, consisting of a metal casing containing a piston which, by means of a pin perpendicular to the piston rod, converts the linear motion caused by the action of a liquid under pressure into a rotary motion, in order to operate a plug valve or other appliance with a rotating mechanism.

(5) **Hydraulic servomotors** which perform the role of final or intermediate actuators in feedback control systems or regulating systems. These servomotors are used, e.g., in aircraft.

(6) **Hydraulic systems** consisting of a hydraulic power unit (comprising essentially a hydraulic pump, an **electric** motor, control valves and an oil tank), hydraulic cylinders and the pipes or hoses needed to connect the cylinders to the hydraulic power unit, the whole forming a functional unit within the meaning of Note 4 to Section XVI (see the General Explanatory Note to that Section). These systems are used, e.g., to operate civil engineering structures.

(7) **"Hydraulic" jet engines** ("hydrojets") for motor boats. These consist of a powerful pump taking in the sea or river water and ejecting it as a high speed jet from an adjustable tube (or tubes) under or behind the boat.

(C) PNEUMATIC POWER ENGINES AND MOTORS

These engines use an external source of compressed air (or other gases) and, in principle, resemble a steam piston engine or, in some cases, a steam turbine. In suitable cases they may have burners or other heating devices to increase the air pressure (and hence the expansion energy) and also to prevent the cylinders from frosting due to a rapid drop in temperature.

These engines are mainly used in mines for haulage tractors and winches because of their safety as regards fire-damp explosion. They are also used in certain locomotives, on aircraft, in submarines, etc., as auxiliary starting motors for internal combustion engines, and for propelling torpedoes.

This group also includes :

(1) Vane motors, gear motors, axial and radial piston motors for pneumatic transmission.

(2) Pneumatic cylinders consisting, for example, of a brass or steel barrel and a piston operated by compressed air applied on one side (single-acting) or on both sides (double-acting) of the piston, the energy of the gas under pressure being converted into a linear motion. These cylinders are used on machine-tools, construction machinery, steering mechanisms, etc.

(3) Pneumatic valve actuators, presented separately, consisting of a metal casing containing a piston which, by means of a pin perpendicular to the piston rod, converts the linear motion caused by the action of a compressed gas into a rotary motion, in order to operate a plug valve or other appliance with a rotating mechanism.

(D) WIND ENGINES (WINDMILLS)

This group includes all power units (wind engines or wind turbines), which directly convert into mechanical energy the action of the wind on the blades (often of variable pitch) of a propeller or rotor.

Usually mounted on a fairly tall metal pylon, the propellers or rotors have an arm perpendicular to their plane, forming a vane, or some similar device for orientating the apparatus according to the direction of the wind. The motive force is generally transmitted by reduction gearing through a vertical shaft to the power take-off shaft at ground level. Some wind motors ("depression motors") have hollow blades in which a pressure reduction is developed by rotation, and is transmitted to the ground by airtight conduits to drive a small reaction turbine.

Wind motors are usually of low power, and are mainly used in rural installations for driving irrigation pumps, drainage pumps or small electric generators.

Electric generator units composed of wind motors mounted integrally with an electric generator (including those for operation in aircraft slipstreams) are **excluded** (**heading 85.02**).

(E) SPRING-OPERATED OR WEIGHT-OPERATED MOTORS, ETC.

These include mechanisms which, like clockworks, use the energy produced by the release of wound-up springs, or which are operated by gravity (e.g., by a counterweight or any similar device). However, such mechanisms fitted, or adapted for fitting, with escapements are **excluded** (**heading 91.08** or **91.09**).

The motors of this group, particularly those of the spring-driven type, are used to operate a large variety of apparatus (e.g., musical boxes, automatic turnspits, revolving window displays, registering apparatus, engraving tools).

(F) PISTON ENGINES NOT INCORPORATING BOILERS

In these types the mechanical energy is produced by displacement of a piston inside a cylinder by the application of the pressure difference between the steam produced by the boiler and the atmospheric pressure (non-condensing engines) or the lower pressure of a condenser (condensing engines). The reciprocating or oscillating action of the piston is converted into rotary motion through a connecting-rod and crank shaft or flywheel.

The simplest types are the single-action engines in which the steam pressure acts on one end of the piston only; in other types (double-acting) the steam acts alternately on each end. In the more powerful engines the steam passes successively into two or more cylinders of increasing diameters, the connecting-rods of the respective pistons being coupled to a single crank shaft (compound, double or triple-expansion engines, etc.). Locomotive engines and ships' engines, for example, belong to this last category.

(G) STEAM OR OTHER VAPOUR POWER UNITS

INCORPORATING BOILERS

The engines of this group comprise a boiler (usually of the firetube type) together with a single expansion or compound piston-type steam engine equipped with one or two flywheels which frequently also act as the power take-offs.

Engines of this kind are essentially of low or medium power output designed for more or less permanent installation but capable, because of their compact structure, of easy dismounting and removal.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI) parts of the engines and motors of this heading are also classified here (e.g., combustion chambers and vents for jet engines, fuel feed regulators, fuel nozzles, windmill airwheels, cylinders, pistons, slide-valves, centrifugal ball or flyweight-type governors, connecting-rods).

In general, parts of steam or other vapour power units incorporating boilers fall to be classified as parts of boilers (**heading 84.02**) or as parts of steam power units of this heading.

Transmission shafts and crank shafts are, however, **excluded** (**heading 84.83**).

8412.10

- Reaction engines other than turbo-jets

8412.2

- Hydraulic power engines and motors :

8412.21

-- Linear acting (cylinders)

8412.29

-- Other

8412.3

- Pneumatic power engines and motors :

8412.31

-- Linear acting (cylinders)

8412.39

-- Other

8412.80

- Other

8412.90

- Parts

Heading 8413

Pumps for liquids, whether or not fitted with a measuring device; liquid elevators.

EXPLANATORY NOTES

84.13 - Pumps for liquids, whether or not fitted with a measuring device; liquid elevators (+).

- Pumps fitted or designed to be fitted with a measuring device :

8413.11 - - Pumps for dispensing fuel or lubricants, of the type used in filling-stations or in garages

8413.19 - - Other

8413.20 - Hand pumps, other than those of subheading 8413.11 or 8413.19

8413.30 - Fuel, lubricating or cooling medium pumps for internal combustion piston engines

8413.40 - Concrete pumps

8413.50 - Other reciprocating positive displacement pumps

8413.60 - Other rotary positive displacement pumps

8413.70 - Other centrifugal pumps

- Other pumps; liquid elevators :

8413.81 - - Pumps

8413.82 - - Liquid elevators

- Parts :

8413.91 - - Of pumps

8413.92 - - Of liquid elevators

This heading covers most machines and appliances for raising or otherwise continuously displacing volumes of liquids (including molten metal and wet concrete), whether they are operated by hand or by any kind of power unit, integral or otherwise.

The heading also includes delivery pumps equipped with measuring or price-calculating mechanisms such as are used for supplying petrol or oil in garages, and also pumps specially designed for use with other machines, vehicles, etc. (including petrol, oil or water pumps for internal combustion engines, and pumps for man-made textile fibre spinning machines).

The machines of this heading can be subdivided, according to their system of operation, into the following five categories.

(A) RECIPROCATING POSITIVE DISPLACEMENT PUMPS

These use the linear suction or forcing action of a piston or plunger driven within a cylinder, the inlet and outlet being regulated by valves. “Single-acting” pumps utilise the thrust or suction of one end of the piston only; “double-acting” types pump at both ends of the piston thus using both the forward and reverse strokes. In simple “lift” pumps the liquid is merely raised by suction and discharged against

atmospheric pressure. In “force” pumps, the compression stroke is used, in addition to the suction stroke, to force the liquid to heights or against pressure. Multi-cylinder pumps are used for increased output. The cylinders may be either in line or in a star shape.

This category includes :

(1) **Diaphragm pumps**. These incorporate a vibrating membrane of metal, leather, etc. (actuated either directly or through a fluid transmission) by which the liquid is raised.

(2) **“Oil-cushion” pumps** (for drainage, irrigation, pumping viscous liquids, acids, etc.). In these, a fluid immiscible with the pumped liquid acts as the membrane.

(3) **Electro-magnetic pumps**. In these, the forward and reverse strokes of the piston are produced by electro-magnetic action (oscillation of a wing placed in a magnetic field).

(4) **Machines using the suction or forcing action of two pistons**, such as those pumps designed to deliver wet concrete (concrete pumps). However, special purpose vehicles permanently equipped with the concrete pumps of this heading are **excluded** (**heading 87.05**).

(B) ROTARY POSITIVE DISPLACEMENT PUMPS

In these also, the intake and discharge of the liquid is effected by suction and compression, in this case produced by cams (lobes) or similar devices, rotated continuously on an axis. These devices make contact, at one or more points with the wall of the body of the pump, and form in this way the chambers in which the liquid is displaced.

They may be classified according to the nature of the rotating mechanism, viz. :

(1) **Gear pumps**. The liquid is displaced by the teeth of specially shaped gears.

(2) **Vane pumps**. The rotor is in the form of a cylinder revolving eccentrically and having projecting vanes free to move radially. The rotation permits the sliding vanes to maintain contact with the internal walls of the casing thereby displacing the liquid. This category also includes pumps which, in place of vanes, have rollers or a wheel with small flexible vanes or have a radial sliding vane attached to the body of the pump and rubbing on a smooth rotor turning with an eccentric movement.

(3) **Rotary piston lobe type pumps** with two interacting displacing elements rotating in a casing.

(4) **Helicoidal pumps** (screw pumps). In these the liquid is displaced longitudinally in the body of the pump under the pressure of several helicoidal threads meshed together and turning (pumps with two or more screws, pumps with helicoidal spindles, endless screw pumps).

(5) **Peristaltic pumps**. These have a flexible tube containing the liquid running along the length of the body of the housing and a rotor with rollers at each end. The rollers exert pressure on the flexible tube and the liquid is displaced by the rotational movement.

(C) CENTRIFUGAL PUMPS

In these pumps, liquid taken in axially is set in rotation by the revolving blades of a rotor (impeller), the resulting centrifugal action forcing the liquid outwards to the periphery of an annular casing containing an outlet placed tangentially. The casing is sometimes fitted with divergent vanes (diffuser vanes) to transform the kinetic energy of the fluid into high pressure.

For very high pressures, multi-stage centrifugal pumps are used in which the liquid is directed in stages through a number of impellers on a common shaft.

Centrifugal pumps may be driven by an electric or internal combustion motor or by a turbine. Because of their high working speed they are suitable for direct coupling, whereas piston or rotary pumps require to be driven through reduction gears.

This group also covers submersible pumps, central heating circulating pumps, channel impeller pumps, side channel pumps and radial flow impeller pumps.

(D) OTHER PUMPS

The following pumps fall in this group :

(1) **Electro-magnetic pumps**. These pumps have no moving parts, the liquid being put into circulation by the phenomenon of electrical conduction. These pumps should not be confused with certain reciprocating positive displacement pumps in which the in-and-out movement of a piston is obtained by electro-magnetic effect, nor with those which function by magnetic induction.

(2) **Ejectors**. In this type of pump, the kinetic energy of a jet of air, steam, water, etc., under pressure ejected from a tube, induces a suction and entrainment effect on the liquid handled. These pumps comprise a complex system of divergent and convergent pipes in a closed chamber from which the system of pipes emerges.

Injectors of the Giffard type for supplying water to boilers, and injection pumps for internal combustion piston engines, working on the same principle, are also classified here.

(3) **Emulsion pumps (gas lift pumps)**. In these, the liquid is mixed with compressed gas in the outlet pipe, the decrease in density of the emulsified liquid thus providing the lift. When compressed air is used, the pump is referred to as an air lift pump.

(4) Pumps in which the steam or gas pressure acts directly on the surface of the liquid. Examples are :

(a) **Gas combustion pumps** employing the explosive force of a suitable fuel or gas to lift liquids.

(b) **Steam pulsators (pulsometers)**, in which the delivery of the liquid pumped is achieved by displacement due to the steam entering the chamber of the pulsator; the suction is created by the subsequent pressure drop due to the condensation of the steam in the chamber.

(c) **Compressed air chamber elevators (Montejus)** using compressed air.

(d) **Hydraulic rams**, in which the increase in the energy of a moving liquid column resulting from the periodic and sudden arrest of the flow of the liquid in the supply line is used to pump a portion of the driving liquid in the discharge pipe of the apparatus.

(E) LIQUID ELEVATORS

These include :

(1) **Elevating wheels**, with buckets, scoops, etc.

(2) **Chain or cable elevators** with buckets, scoops, rubber cups, etc.

(3) **Band elevators**. These consist of endless bands of textile or metal (corrugated, multi-cellular or spiral), in which the water is held by capillarity and ejected centrifugally.

(4) **Archimedean screw-type elevators**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here, e.g., pump housings or bodies; rods specially designed to connect and drive the piston in pumps placed at some distance from the prime mover (e.g., pumping rods, "sucker rods"); pistons, plungers, vanes; cams (lobes); helicoidal screws, impeller wheels, diffuser vanes; buckets and bucket-fitted chains; bands for band-type liquid elevators; pressure chambers.

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* *

The heading also **excludes** :

(a) Pumps (e.g., for corrosive fluids) of ceramic material (**heading 69.09**).

(b) Hand powered oil cans and grease guns (**heading 82.05**) and compressed air grease guns (**heading 84.67**).

(c) Bottle-filling machines, etc., of **heading 84.22**.

(d) Appliances for projecting, dispersing or spraying liquids (**heading 84.24**).

(e) Motor fire-engines (**heading 87.05**).

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Subheading Explanatory Note.

Subheadings 8413.11 and 8413.19

These subheadings cover only those pumps, of whatever type, which form, or have been designed to form, a unit with a device permitting the volumetric control of the quantity of liquid discharged, whether or not this device is presented at the same time as the pump.

This control device may be very simple (for example, a calibrated globe or unit) or, on the contrary, consist of more complex mechanisms automatically controlling the stopping of the pump when a given total quantity is discharged (such as, for example, a delivery pump comprising a calibrated cylinder (measuring cylinder) and a device permitting, on the one hand, the determining of a desired quantity and, on the other, stopping the pump motor when the predetermined quantity is obtained) or fulfilling other operations connected with volumetric control proper (for example, pumps for integration of totals, prepayment pumps, price-calculating pumps, sampling pumps, automatic mixture regulating pumps and automatic dosage pumps).

On the other hand, when, for example, the measuring device is designed to be simply mounted on the tube through which the liquid set in motion by the pump flows, each of the two units (pump and measuring device) are to be classified in their own headings, even when presented together.

These subheadings cover, for example, pumps for delivering petrol or other motor fuels and lubricants as well as pumps with a measuring device for use in food shops, laboratories and various industrial activities.

8413.1

- Pumps fitted or designed to be fitted with a measuring device :
8413.11

-- Pumps for dispensing fuel or lubricants, of the type used in filling-stations or in garages
8413.19

-- Other
8413.20

- Hand pumps, other than those of subheading 8413.11 or 8413.19
8413.30

- Fuel, lubricating or cooling medium pumps for internal combustion piston engines
8413.40

- Concrete pumps
8413.50

- Other reciprocating positive displacement pumps
8413.60

- Other rotary positive displacement pumps
8413.70

- Other centrifugal pumps
8413.8

- Other pumps; liquid elevators :
8413.81

-- Pumps
8413.82

-- Liquid elevators
8413.9

- Parts :

8413.91

-- Of pumps

8413.92

-- Of liquid elevators

Heading 8414

Air or vacuum pumps, air or other gas compressors and fans; ventilating or recycling hoods incorporating a fan, whether or not fitted with filters; gas-tight biological safety cabinets, whether or not fitted with filters.

EXPLANATORY NOTES

84.14 - Air or vacuum pumps, air or other gas compressors and fans; ventilating or recycling hoods incorporating a fan, whether or not fitted with filters; gas-tight biological safety cabinets, whether or not fitted with filters.

8414.10 - Vacuum pumps

8414.20 - Hand- or foot-operated air pumps

8414.30 - Compressors of a kind used in refrigerating equipment

8414.40 - Air compressors mounted on a wheeled chassis for towing

- Fans :

8414.51 - - Table, floor, wall, window, ceiling or roof fans, with a self-contained electric motor of an output not exceeding 125 W

8414.59 - - Other

8414.60 - Hoods having a maximum horizontal side not exceeding 120 cm

8414.70 - Gas-tight biological safety cabinets

8414.80 - Other

8414.90 - Parts

This heading covers machines and appliances, hand-operated or power driven, for the compression of air or other gases, or for creating a vacuum, and also machines for circulating air or other gases.

(A) PUMPS AND COMPRESSORS

In general, air pumps, vacuum pumps and compressors function on the same principles as and are broadly of similar construction to the liquid pumps (piston, rotary, centrifugal or ejector pumps) described under the preceding heading.

In addition, however, there are certain special types, particularly for producing high vacua, such as diffusion pumps (the pump fluid being oil or mercury), molecular pumps and entrapment pumps (getter pumps, cryopumps). Diffusion pumps, however, are sometimes made of glass, in which case they are **excluded** (**Chapter 70**).

Air and vacuum pumps serve many purposes : for facilitating boiling, distilling or evaporating at reduced pressure; for evacuating electric lamps or tubes, vacuum flasks, etc. Air pumps serve for pumping air at pressure (e.g., for inflating pneumatic tyres).

Unlike liquid pumps, air or other gas compressors (other than low pressure or intermittent working compressors) are water-cooled or have fins or other means for air cooling (surface cooling) to dissipate the considerable heat of compression which is generated.

There are several types of compressors, for example, reciprocating piston, centrifugal, axial and rotary compressors. A special type of compressor is the exhaust-gas turbocharger used in internal-combustion piston engines to increase power output.

Compressors are widely used : for compressing gases into gas cylinders; in chemical processes; for refrigerators, etc. and for compressing air or other gases in reservoirs to be used to force feed machines or apparatus such as compressed air engines, pneumatic picks, winches, brakes, pneumatic conveyor tubes, submarine ballast tanks, etc.

*

* *

The heading also includes free-piston generators for gas turbines, consisting of two horizontally-opposed driving pistons sliding in a common cylinder which is extended and enlarged at each end to form compression cylinders in which slide two other pistons, connected to the driving pistons, forming a pneumatic recoil. The driving pistons are forced apart by the explosion of an ignited gas, thus displacing the compression pistons. The return stroke of the compression pistons compresses air admitted into the compression cylinders, and forces it through exhaust valves together with the exhaust gases. The high pressure of the hot gases enables them to be applied directly to the rotors of gas turbines, the generator thus replacing the usual combustion chamber and compressor of the gas turbine.

As in the case of the pumps of **heading 84.13**, the air pumps and compressors of this group may be built with integral motors or turbines, the latter being most often employed for high pressure compressors operating on the principle of the multi-stage gas turbine in reverse.

(B) FANS

These machines, which may or may not be fitted with integral motors, are designed either for delivering large volumes of air or other gases at relatively low pressure or merely for creating a movement of the surrounding air.

Those of the first kind may act as air extractors or as blowers (e.g., industrial blowers used in wind tunnels). They consist of a propeller or blade-type impeller revolving in a casing or conduit, and function on the principle of rotary or centrifugal compressors.

The second type are of more simple construction, and consist merely of a driven fan rotating in free air.

Fans are used, *inter alia*, for ventilating mines and premises of all kinds, silos, ships; for extracting by suction dust, steam, smoke, hot gases, etc.; for drying many materials (leather, paper, textiles, paint, etc.); in mechanical draught apparatus for furnaces.

This group also includes **room fans**, whether or not with a tilting or oscillating device. These include ceiling fans, table fans, wall bracket fans, ring mounted fans for building into walls, window panes, etc.

This heading **excludes** fans fitted with elements additional to their motors or housing (such as large dust separating cones, filters, cooling or heating elements and heat exchangers) if such elements give them the characteristics of more complexmachines of other headings, e.g., air heaters, not electrically heated (**heading 73.22**), air conditioning machines (**heading 84.15**), dust extractors (**heading 84.21**), air coolers for the industrial treatment of materials (**heading 84.19**) or for premises (**heading 84.79**), electric space heating apparatus with built-in fans (**heading 85.16**).

(C) VENTILATING OR RECYCLING HOODS INCORPORATING

A FAN, WHETHER OR NOT FITTED WITH FILTERS

This group includes cooker hoods incorporating a fan, for use in the home or in restaurants, canteens, hospitals, etc., as well as laboratory hoods and industrial hoods incorporating a fan.

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* *

Compressors, air pumps, fans, blowers, etc., specially constructed for use with other machines remain classified in this heading and not as parts of such other machines.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here (e.g., pump or compressor bodies, blades, rotors or impellers, vanes and pistons).

*

* *

This heading also **excludes** :

(a) Exhaust-gas turbines (**heading 84.11**).

(b) Emulsion pumps (**heading 84.13**).

(c) Pneumatic elevators and conveyors (**heading 84.28**).

(d) Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables (**heading 84.37**).

8414.10

- Vacuum pumps

8414.20

- Hand- or foot-operated air pumps

8414.30

- Compressors of a kind used in refrigerating equipment

8414.40

- Air compressors mounted on a wheeled chassis for towing

8414.5

- Fans :

8414.51

-- Table, floor, wall, window, ceiling or roof fans, with a self-contained electric motor of an output not exceeding 125 W

8414.59

-- Other

8414.60

- Hoods having a maximum horizontal side not exceeding 120 cm

CLASSIFICATION OPINIONS

1. Laminar airflow cabinet used for the preparation and handling of cell cultures in laboratories, etc., and consisting of a metal cabinet containing :

(i) an air recirculating hood incorporating an electric fan and a filter to purify the air;

(ii) a perforated sheet located below the hood to serve as a work surface;

(iii) a tank beneath the perforated sheet to collect any spilled liquids.

The cabinet is open at the front and is designed to be placed on a workbench or table.The hood sets up a laminar airflow which creates a protective barrier at the opening of the cabinet to shield the operator from any possible contamination while handling biological material.

Adoption : 1988

8414.70

- Gas-tight biological safety cabinets

8414.80

- Other

CLASSIFICATION OPINIONS

1. Laminar airflow cabinet used for the preparation and handling of cell cultures in laboratories, etc., and consisting of a metal cabinet containing :

(i) an air recirculating hood incorporating an electric fan and a filter to purify the air;

(ii) a perforated sheet located below the hood to serve as a work surface;

(iii) a tank beneath the perforated sheet to collect any spilled liquids.

The cabinet is open at the front and is designed to be placed on a workbench or table. The hood sets up a laminar airflow which creates a protective barrier at the opening of the cabinet to shield the operator from any possible contamination while handling biological material.

Adoption : 1988

1. **Horizontal laminar air flow "clean bench"**, equipped with a blower/motor system, motor speed controller, high-velocity return air slots, HEPA supply filter with removable screen, washable, re-useable pre-filter, and fluorescent lamps for the work surface. The high-velocity return air slots capture contaminated air, ensuring that no unfiltered air enters the work area, and then recirculates the air through the HEPA filter. The clean bench is designed for a variety of industries and applications, such as intravenous admixture preparation, drug compounding, plant cell culture, media preparations, pharmaceutical procedures, electronic assembly and limited experimental research. It is used to protect only the product and not the operator or the environment. It has the following specifications :

- Exterior width : 127.0 cm;

- Interior width : 118.1 cm;

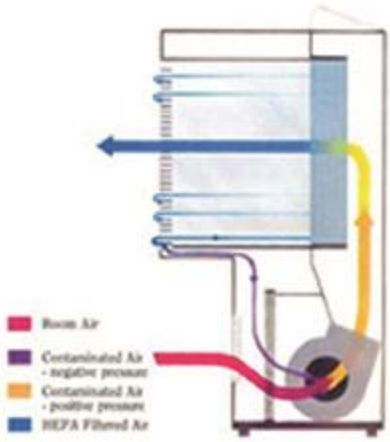
- Interior height : 71.4 cm;

- Interior depth : 55.9 cm;

- Exterior height : 162.6 cm.

Application of GIRs 1 and 6.
Adoption : 2018
A High velocity return air slots
B Stainless steel work surface and side walls





8414.90

- Parts

Heading 8415

Air conditioning machines, comprising a motor-driven fan and elements for changing the temperature and humidity, including those machines in which the humidity cannot be separately regulated.

EXPLANATORY NOTES

84.15 - Air conditioning machines, comprising a motor-driven fan and elements for changing the temperature and humidity, including those machines in which the humidity cannot be separately regulated (+).

8415.10 - Of a kind designed to be fixed to a window, wall, ceiling or floor, self-contained or "split-system"

8415.20 - Of a kind used for persons, in motor vehicles

- Other :

8415.81 - - Incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps)

8415.82 - - Other, incorporating a refrigerating unit

8415.83 - - Not incorporating a refrigerating unit

8415.90 - Parts

This heading covers certain apparatus for maintaining required conditions of temperature and humidity in closed spaces. The machines may also comprise elements for the purification of air.

They are used for air conditioning offices, homes, public halls, ships, motor vehicles, etc., and also in certain industrial installations requiring special atmospheric conditions (e.g., in the textile, paper, tobacco or food industries).

The heading applies **only** to machines :

(1) Equipped with a motor-driven fan or blower, **and**

(2) Designed to change both the temperature (a heating or cooling element or both) and the humidity (a humidifying or drying element or both) of air, **and**

(3) For which the elements mentioned in (1) and (2) are presented together.

In these machines the elements for humidifying or drying the air may be separate from those for heating or cooling it. However, certain types incorporate only a single unit which changes both the temperature and, by condensation, the humidity of the air. These air conditioning machines cool and dry (by condensation of water vapour on a cold coil) the air of the room in which they are installed or, if they have an outside air intake (damper), a mixture of fresh air and room air. They are generally provided with drip pans to catch the condensate.

The machines may be in the form of single units encompassing all the required elements, such as self-contained window or wall types (referred to as “through-the-wall” units). Alternatively, they may be in the form of “split-systems” which operate when connected together, i.e., a condenser unit for external installation plus an evaporator unit for internal installation. These “split-systems” are ductless and utilize a separate evaporator for each area to be air conditioned (e.g., each room).

From the structural point of view, the air conditioning machines of this heading must therefore incorporate, in addition to the motor-driven fan or blower for circulating the air, **at least** the following elements :

An air heating device (operated by hot water, steam or hot air tubes or by electric resistances, etc.) **and** an air humidifier (generally consisting of a water spray) or an air de-humidifier;

or A cold water coil or a refrigerator unit evaporator (either of which changes both the temperature and, by condensation, the humidity of the air);

or Some other type of cooling element with a separate device for changing the humidity of the air.

In certain cases, the de-humidifier makes use of the hygroscopic properties of absorbent materials.

This heading covers, *inter alia*, reversible heat pumps designed, through a single system fitted with a valve for reversal of the cooling/heat cycle, to perform the dual function of heating and cooling premises. In the cooling cycle, the reversing valve directs the flow of hot, high pressure vapour to the outdoor coil where the heat released during condensation is fanned into the outdoor air and then compressed refrigerant flows into an indoor coil where it vaporizes and absorbs heat and cools the air that is driven around the premises by a fan. In the heating cycle, the shifting of the valve for reversal

of the cooling/heat cycle causes the refrigerant flow to reverse so that the heat is released inside the premises.

Air conditioning machines may be supplied with their means of heating or cooling from an external source. They are usually fitted with air cleaners consisting of one or more layers of filtering material, often impregnated with oil (textile material, glass wool, steel or copper wool, expanded metal, etc.) through which the air is passed to remove suspended dust, etc. They may also be provided with devices for adjusting or automatically controlling the temperature and humidity of the air.

This heading also covers apparatus which, although not fitted with a device for separately regulating the humidity of the air, change the humidity by condensation. Examples of such apparatus are the above-mentioned self-contained units and split-systems which utilize a separate evaporator for each area to be air conditioned (e.g., each room), and also apparatus for cold stores consisting of a combined cooling evaporator and motorized blower. Also included are units for heating/cooling a closed chamber (lorry, trailer or container), consisting of a compressor, a condenser and a motor in a housing mounted on the outside of the goods compartment and of a ventilator and an evaporator within the container.

However, the heading **excludes** refrigeration units designed to maintain a fixed temperature well below 0 °C in a closed chamber (e.g., lorry, trailer or container), and fitted with a heating system to raise the temperature in the chamber, within certain limits, when the outside temperature is very low. Such equipment is classifiable in **heading 84.18** as refrigerating or freezing equipment, the heating function being subsidiary to the equipment's essential function, which is to keep perishable products cool during transportation.

PARTS

In accordance with the provisions of Note 2 (b) to Section XVI, this heading includes separately presented indoor units and outdoor units for split-system air conditioning machines of this heading.

Other parts for air-conditioning machines, whether or not designed for building into a self-contained unit, are to be classified in accordance with the provisions of Note 2 (a) to Section XVI (**headings 84.14, 84.18, 84.19, 84.21, 84.79, etc.**) or, if Note 2 (a) is not applicable, in accordance with Note 2 (b) or 2 (c) to Section XVI, depending on whether or not they are identifiable as suitable for use solely or principally with the air-conditioning machines of which they are parts.

*

* *

The heading **excludes :**

(a) Air heaters and hot air distributors of **heading 73.22** which can also distribute fresh or conditioned air.

(b) Non- reversible heat pumps of **heading 84.18** and chillers for air conditioning machines (**heading 84.18**).

(c) Apparatus which, althoughincorporating a motor-driven fan, has the sole function of changing either the temperature or humidity of the air (**headings 84.79**, **85.16**, etc.).

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Subheading Explanatory Notes.

Subheading 8415.10

This subheading covers air conditioning machines of a kind designed to be fixed to a window, wall, ceiling or floor,self-contained or “split-system”.

The term “fixed” means placed or set into position in a more or less permanent manner, taking into account factors such as size, weight, physical construction (e.g. the presence or absence of castors or handles), interconnections, etc.

The self-contained type air conditioners are in the form of single units encompassing all the required elements and being self-contained.

The “split-system” type air conditioners are ductless and utilize a separate evaporator for each area to be air conditioned (e.g., each room). The indoor heat exchanger unit may be mounted in various locations, for example, in a wall or window, or on a ceiling or floor.

However, this subheading **excludes** ducted central air conditioning systems which utilize ducts to carry refrigerated air from an evaporator to several areas to be cooled.

Subheading 8415.20

This subheading covers equipment which is intended mainly for passenger motor vehicles of all kinds, but which may also be fitted in other kinds of motor vehicles, for air conditioning the cabs or compartments in which persons are accommodated.

Subheading 8415.90

This subheading includes both indoor and outdoor units for split-system air conditioning machines of subheading 8415.10 when presented separately. The units are designed to be connected by electrical wiring and copper tubing through which refrigerant passes between the indoor and outdoor units.

8415.10

- Of a kind designed to be fixed to a window, wall, ceiling or floor, self-contained or «split-system»

CLASSIFICATION OPINIONS

1. A ceiling-type split-system air conditioning machine consisting of :

(i) an indoor unit comprising a heat exchanger and a motor driven fan in a single housing designed to be fixed upon the ceiling; and

(ii) an outdoor unit comprising a refrigerant type compressor and a heat exchanger with motorized fan in a single housing.

Both units are designed to be connected to each other by electrical wiring and copper tubing.
Application of GIRs 1 and 6.
Adoption : 2012

2. Floor-type split-system air conditioning machine consisting of :

(i) a standing-type indoor unit, comprising of a heat exchanger (evaporator) and a motor driven fan in a single housing. This unit is designed to be placed on the floor or against the wall but not to be fixed tightly or set in concrete where it is located; and

(ii) an outdoor unit, comprising a refrigerant type compressor, a heat exchanger (condenser) and a motor driven fan in a single housing. This unit is designed to be mounted or fixed on the ground or steel bars.

Both units are designed to be connected to each other by electric wires and tubing through which refrigerant passes.
Application of GIRs 1 and 6.
Adoption : 2013

8415.20

- Of a kind used for persons, in motor vehicles

8415.8

- Other :

8415.81

-- Incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps)

8415.82

-- Other, incorporating a refrigerating unit

CLASSIFICATION OPINIONS

1. Portable self-contained air conditioning machine consisting of two motor driven fans, an evaporator, a condenser and a compressor in a single housing. The unit is mounted on four castors for ease of mobility and has two hand grips for shifting and moving. The unit can be attached with a flexible exhaust hose as an accessory for venting warm exhaust air through a window or wall.
Application of GIRs 1 and 6.
Adoption : 2013



8415.83

-- Not incorporating a refrigerating unit

8415.90

- Parts

CLASSIFICATION OPINIONS

1. **Indoor unit for a compression-type split-system air conditioning machine**, comprising an evaporator heat exchanger coil, a motor-driven electric fan for drawing air over the evaporator heat exchanger coil and blowing the air into a room, an air filter and a thermostat and control board fitted together in a common housing. The unit is designed to be connected to the outdoor unit by electrical wiring and copper tubing through which refrigerant circulates. **Application of GIRs 1 (Note 2 (b) to Section XVI) and 6.** *Adoption : 2007*

2. **Outdoor refrigerating unit for a compression-type split-system air conditioning machine (cooling only),** comprised of a compressor, a condenser heat exchanger coil, a motor-driven electric fan for drawing air over the condenser heat exchanger coil to evacuate the heat and other components for the control and protection of the unit, fitted together in a common housing. The unit is designed to be connected to one or more indoor evaporator units by electrical wiring and copper tubing through which the refrigerant circulates. **Application of GIRs 1 (Note 2 (b) to Section XVI) and 6.** *Adoption : 2009*

3. **Outdoor refrigerating unit for a compression-type reversible, cooling or heating, split-system air conditioning machine,** comprised of a compressor, a condenser heat exchanger coil, a motor-driven electric fan for drawing air over the condenser heat exchanger coil, a 4-way valve to reverse the cycle and other components for the control and protection of the unit fitted together in a common housing. The unit is designed to be connected to one or more indoor evaporator units by electrical wiring and copper tubing through which the refrigerant circulates. **Application of GIRs 1 (Note 2 (b) to Section XVI) and 6.** *Adoption : 2009*

4. **Outdoor unit for variable refrigerant flow (VRF) system for cooling and heating**, comprised of an inverter compressor, a fan, a heat exchanger, an expansion valve, control electronics and heat

recovery unit. It is also equipped with an electro-mechanical, reversing valve providing reversal of the cooling/heating cycle. The unit is designed to be connected, by pipeline with a certain number of indoor units mounted in an ambient temperature space and is capable of working with a medium pressure refrigerant within the internal heat exchange system. **Application of GIRs 1 and 6.** *Adoption : 2021*

Heading 8416

Furnace burners for liquid fuel, for pulverised solid fuel or for gas; mechanical stokers, including their mechanical grates, mechanical ash dischargers and similar appliances.

EXPLANATORY NOTES

84.16 - Furnace burners for liquid fuel, for pulverised solid fuel or for gas; mechanical stokers, including their mechanical grates, mechanical ash dischargers and similar appliances.

8416.10 - Furnace burners for liquid fuel

8416.20 - Other furnace burners, including combination burners

8416.30 - Mechanical stokers, including their mechanical grates, mechanical ash dischargers and similar appliances

8416.90 - Parts

This heading covers a range of apparatus for the mechanical or automatic firing and stoking of furnaces of all kinds, and for evacuating the ash and cinders.

(A) FURNACE BURNERS

These project a flame directly into the furnace, and dispense with the need for a grate and for ash removal. They include the following types :

(1) **Heavy oil burners (atomisers)**.

In these the heavy fuel is atomised in the air stream, in some cases by compressed air and in others by high pressure steam or mechanically (the latter types of apparatus usually incorporate a motor, a pump and an air blower).

(2) **Pulverised coal burners**.

These are often of large size. A jet of pulverised coal is forced into the furnace by means of an air blast which also provides the primary air supply. The burners may sometimes incorporate a coal conveyor and a grinding mill. In another type, soft coal is pulverised and injected intermittently by the alternate action of high or low pressure steam.

(3) **Gas burners**.

These include both high pressure types for use with forced draught, and low pressure types for use with atmospheric air. The air and gas is in either case fed through concentric or converging tubes.

(4) **Combination burners**.

These provide for the simultaneous combustion of oil, gas and powdered coal, or any two of them.

(B) MECHANICAL STOKERS, MECHANICAL GRATES, MECHANICAL ASH DISCHARGERS AND SIMILAR APPLIANCES

These are various mechanical appliances for feeding solid fuels to furnaces, or for forming the fire bed. Mechanical stokers and mechanical grates are frequently combined and also equipped with devices for the automatic removal of the slag and ash after combustion, thus forming a fully automatic installation. In other cases a mechanical or automatic element may be combined with a non-mechanical element.

(1) **Mechanical stokers.**

These are of widely differing types. They usually comprise a coal hopper together with various devices such as Archimedean screws, mechanical shovels, sliding trays, propelling pistons, operated by hand or by power, for regulating the supply of coal and conveying it to the furnace bed. These appliances are often fitted with breakers for reducing the coal supply to uniform size. The heading covers mechanical stokers for central heating (including domestic) boilers.

(2) **Mechanical grates**.

These are appliances of varying design by which the coal is distributed over the fire-bed and moved forward through the furnace to secure even combustion. The most common systems are based on the principle of the caterpillar band, or take the form of oscillating inclined steps. These grates often terminate with appliances for removing the slag and ash. In other systems the slag and ash removal is effected by separate mechanical units; these are also classified in this heading.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here (e.g., burner nozzles, thrust pistons and trays for mechanical stokers; chassis for mechanical grates, link sections and links, guides and rolls for mechanical grates).

*

* *

The heading **does not cover** non-mechanical fire-bars or grates, industrial or other. Fire-boxes consisting of fixed grates in a metal body designed to be fitted as an integral part into certain types of

boilers are **excluded** and are regarded as parts of boilers and fall in **heading 84.02**. Similarly, certain other types of non-mechanical grates which are identifiable as specialised for particular machines or appliances are classified as parts for such machines and appliances (e.g., for gas generators - **heading 84.05**). On the other hand, iron fire-bars and grates of general use, for fitting into brickwork, are classified in **heading 73.21**, **73.22** or **73.26** according to type.

8416.10

- Furnace burners for liquid fuel

8416.20

- Other furnace burners, including combination burners

8416.30

- Mechanical stokers, including their mechanical grates, mechanical ash dischargers and similar appliances

8416.90

- Parts

Heading 8417

Industrial or laboratory furnaces and ovens, including incinerators, non-electric.

EXPLANATORY NOTES

84.17 - Industrial or laboratory furnaces and ovens, including incinerators, non-electric.

8417.10 - Furnaces and ovens for the roasting, melting or other heat-treatment of ores, pyrites or of metals

8417.20 - Bakery ovens, including biscuit ovens

8417.80 - Other

8417.90 - Parts

This heading covers non-electrical industrial or laboratory type furnaces and ovens, designed for the production of heat in chambers at high or fairly high temperatures by the combustion of fuel (either directly in the chamber or in separate combustion chambers). They are used for the heat treatment (e.g., by roasting, fusion, calcination or decomposition) of various kinds of products which may be placed on the fire-bed, in crucibles, in retorts or on shelves. It also includes steam heated ovens.

In certain types (tunnel ovens) the goods to be heat-treated are passed continuously through the oven (e.g., on a conveyor band).

The heading includes :

(1) Ovens and furnaces for roasting ores or pyrites.

(2) Metal-melting furnaces, including cupolas.

(3) Ovens and furnaces for hardening, annealing or similar heat-treatment of metals.

(4) Cementation ovens.

(5) Bakery ovens, including biscuit ovens.

(6) Coke ovens.

(7) Wood carbonisation furnaces.

(8) Rotary cement ovens and kilns and rotary plaster ovens.

(9) Ovens and furnaces used in the glass or ceramic industries, including tunnel ovens.

(10) Enamel baking ovens.

(11) Furnaces specially designed for the melting, sintering or heat processing of fissile materials recovered with a view to recycling, for the separation of irradiated nuclear fuel by pyrometallurgical processes, for burning radioactive graphite or filters, or for firing earthenware or glass containing radioactive slag.

(12) Cremation furnaces.

(13) Incinerators and similar apparatus specially designed for the burning of waste, etc.

The heading **excludes** furnaces and ovens consisting essentially of refractory or ceramic materials, and also blocks, bricks and similar refractory or ceramic materials for building or lining furnaces and ovens (**Chapter 69**), while metallic structural material is, in general, classified in **Section XV**. On the other hand, the heading includes made up linings or other integral and specialised ceramic or refractory parts presented with, and as components of, furnaces or ovens (assembled or not) made mainly of metal.

Many industrial furnaces and ovens incorporate equipment for charging or discharging, for manipulating the doors, covers, hearths or other moving parts, or for tilting the furnace, etc. Such lifting or handling equipment is to be classified with the furnace or oven **provided** it forms an integral part thereof; otherwise it is to be classified in **heading 84.28**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here (e.g., oven or furnace doors, dampers, side-shields; observation windows, arches and tuyères for blast furnaces).

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The heading **does not cover** :

(a) Ovens other than industrial or laboratory types (**heading 73.21**).

(b) Apparatus of **heading 84.19**, including oil-cracking plant, autoclaves, steamers and drying plant.

(c) Converters (**heading 84.54**).

8417.10

- Furnaces and ovens for the roasting, melting or other heat-treatment of ores, pyrites or of metals

8417.20

- Bakery ovens, including biscuit ovens

8417.80

- Other

8417.90

- Parts

Heading 8418

Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps other than air conditioning machines of heading 84.15.

EXPLANATORY NOTES

84.18 - Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps other than air conditioning machines of heading 84.15.

8418.10 - Combined refrigerator-freezers, fitted with separate external doors or drawers, or combinations thereof

- Refrigerators, household type :

8418.21 - - Compression-type

8418.29 - - Other

8418.30 - Freezers of the chest type, not exceeding 800 l capacity

8418.40 - Freezers of the upright type, not exceeding 900 l capacity

8418.50 - Other furniture (chests, cabinets, display counters, show-cases and the like) for storage and display, incorporating refrigerating or freezing equipment

- Other refrigerating or freezing equipment; heat pumps :

8418.61 - - Heat pumps other than air conditioning machines of heading 84.15

8418.69 - - Other

- Parts :

8418.91 - - Furniture designed to receive refrigerating or freezing equipment

8418.99 - - Other

(I) REFRIGERATORS, FREEZERS AND OTHER REFRIGERATING

OR FREEZING EQUIPMENT

The refrigerators and refrigerating equipment of this heading are in the main machines or assemblies of apparatus for the production, in a continuous cycle of operations, of low temperatures (in the region of 0 °C or less) at the active cooling element, by the absorption of the latent heat of evaporation of liquefied gases (e.g., ammonia, halogenated hydrocarbons), of volatile liquids or, in the case of certain marine types, of water.

The heading therefore **excludes** :

(a) Freezing-salt type freezers (**heading 82.10** or **84.19**).

(b) Water-flow coolers of the simple heat-exchange type (see the Explanatory Note to **heading 84.19**).

(c) Ice-chests, insulatedcabinets, etc., not designed for fitting with refrigerating units (generally **heading 94.03**).

The refrigerators of this heading are of two main types :

(A) COMPRESSION TYPE REFRIGERATORS

Their essential elements are :

(1) **The compressor** which receives expanded gas from the evaporator and delivers it under pressure to

(2) **The condenser** or liquefier where the gas is cooled and liquefied, and

(3) **The evaporator**, the active cooling element, consisting of a tubular system in which the condensed refrigerant, released through an expansion valve, evaporates rapidly with the absorption of heat from the surrounding air or, in the case of large cooling installations, from brine or a solution of calcium chloride kept in circulation around the evaporator coils.

In the marine type there is no compressor and condenser in the refrigerant (water or brine) circuit, but the evaporation is induced by a vacuum produced by an ejector pump working with a steam condenser. The latter condenses and disposes of the vapours produced, which are not returned to the system.

(B) ABSORPTIONTYPE REFRIGERATORS

In these the compressor is replaced by a “generator” in which a strong aqueous solution of ammonia is heated (by gas, oil or electric element), the gas being driven off and accumulating under pressure in the condenser. The cycle of condensation followed by expansion and cooling in the evaporator continues as in the compressor type, the expanded gas being re-dissolved in the weakened solution, either in a separate absorber which feeds the generator by simple pressure effect or through a pump, or in the generator itself which, in certain types, functions as the absorber on cooling during periods when the heat is withdrawn.

In certain dry types the ammonia gas is absorbed by a solid (e.g., calcium chloride or silica-gel) instead of being in solution.

*

* *

Apparatus of the foregoing kinds are classified in this heading if in the following forms :

(1) Units comprising a compressor (with or without motor) and condenser mounted on a common base, whether or not complete with evaporator; or self-contained absorption units. (These units are commonly fitted into domestic-type refrigerators or other refrigerating cabinets.) Certain compression type machines, known as “liquid-cooling units”, combine on a common base (with or without condensers), compressors and a heat exchanger containing an evaporator and tubing carrying the liquid to be cooled. These latter machines include those known as “chillers”, which are used in air conditioning systems.

(2) Cabinets or other furniture or appliances incorporating a complete refrigerating unit or an evaporator of a refrigerating unit, whether or not equipped with ancillary devices such as agitators, mixers, moulds. These appliances include domestic refrigerators, refrigerated show cases and counters, ice-cream or frozen food storage containers, refrigerated water or beverage fountains, milk cooling vats, beer coolers, ice-cream makers, etc.

(3) Refrigerating installations of larger type consisting of components which are not mounted on a common base or as self-contained units but are designed to operate together, either by direct expansion (an evaporator then being incorporated in the “cold-using” appliance), or by means of a refrigerating medium (brine) which is cooled by a refrigerating unit and piped into the “cold-using” appliances (indirect cooling). Such installations are used, for example, in cold storage plants and for manufacturing operations (manufacture of block ice, quick-freezing of food products, rapid chilling in chocolate manufacture, separating paraffin wax in petroleum refining, in chemical industries, etc.).

Ancillary apparatus essential to the application of the low temperature produced in such installations are classified in this heading **provided** they are presented together with the other components of these installations. Such apparatus include, for example, sectional or tunnel-type quick freezers, cold tables for confectionery or chocolate, etc.

*

* *

This heading also includes refrigerating equipment operating by vaporisation of liquefied gas in an enclosed space and consisting generally of one or more liquefied-gas tanks, a thermostat, an electro-magnetic valve, a control box and electric switches and a perforated spreader tube. These components are classified here **if presented together**.

(II) HEAT PUMPS

A heat pump is a device which draws heat from a suitable heat source (principally underground or surface water, the soil or the air) and converts it with the assistance of a supplementary energy source (e.g., gas or electricity) into a source of more intense heat.

A heat-transfer fluid is generally used to transfer the heat from the source to the heat pump and from the heat pump to the medium to be treated.

There are two types of heat pumps : the **compression type** and the **absorption type**.

Compression heat pumps consist essentially of the following elements :

(1) an evaporator which extracts energy from the environment and transmits it to the heat-transfer fluid;

(2) a compressor which, by mechanical means, draws off the vaporised fluid from the evaporator and transfers it at increased pressure to the condenser;

(3) a condenser, which is a heat exchanger in which the vapour liquefies, giving up heat to the medium to be treated;

In absorption heat pumps, the compressor is replaced by a boiler containing water and a refrigerant and incorporating a burner.

Heat pumps are usually designated by the association of two factors, the first being the initial source of the heat and the second the medium whose temperature is to be modified. Among the principal types of apparatus are :

(i) Air/water or air/air heat pumps, which draw ambient heat from the atmosphere and restore it in the form of warm water or warm air.

(ii) Water/water or water/air heat pumps, which obtain heat from an underground source or from a mass of surface water.

(iii) Earth/water or earth/air heat pumps : in these, heat is obtained by means of a system of tubes buried in the earth.

Heat pumps may be presented as a single item of apparatus, the various elements of the circuit forming a unit. Such a unit is referred to as a monobloc type. They may also be presented as several separate items. Certain heat pumps may be presented without an evaporator when they are intended for installation in plant already containing one. They are, in such cases, to be considered as incomplete articles having the essential character of the complete articles and remain classified here.

Heat pumps are used essentially to heat buildings or provide domestic hot water. Non-reversible heat pumps are generally used for these purposes.

However, the heading **excludes** reversible heat pumps comprising a motor-driven fan and elements for changing both the temperature and the humidity. These are regarded as air conditioning machines of **heading 84.15**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading, whether for domestic or industrial uses, are also classified here, e.g., condensers, absorbers, evaporators, generators, cabinets, counters and other refrigerating furniture, of the kind referred to in paragraph (2) above, not yet fitted with a complete refrigerating unit or with an evaporator but clearly designed to receive such equipment.

Compressors fall to be classified as such in **heading 84.14**, even when specially designed for use in refrigerators. Non-specialised parts (e.g., tubes and tanks) are classified in their own appropriate headings.

*

* *

This heading also **excludes** :

(a) Air conditioning machines incorporating a refrigerator unit or a refrigerator unit evaporator (**heading 84.15**).

(b) Gas liquefaction apparatus (e.g., Linde apparatus) (**heading 84.19**).

8418.10

- Combined refrigerator-freezers, fitted with separate external doors or drawers, or combinations thereof

8418.2

- Refrigerators, household type :

8418.21

-- Compression-type

8418.29

-- Other

8418.30

- Freezers of the chest type, not exceeding 800 l capacity

CLASSIFICATION OPINIONS

1. **Horizontal freezer** with a curved glass lid; the freezer is designed for preserving and displaying food products in markets. It has a storage capacity of 365 l or 550 l depending on the model; a built-in refrigerating system makes it possible to maintain a temperature of between -20°C and -24°C at an ambient temperature of 30°C.
   Adoption :2000





8418.40

- Freezers of the upright type, not exceeding 900 l capacity

8418.50

- Other furniture (chests, cabinets, display counters, show-cases and the like) for storage and display, incorporating refrigerating or freezing equipment

8418.6

- Other refrigerating or freezing equipment; heat pumps :

8418.61

-- Heat pumps other than air conditioning machines of heading 84.15

8418.69

-- Other

CLASSIFICATION OPINIONS

1. **Thermo-electric batteries** consisting of thermo-electric couples connected in series, each couple being composed of two dissimilar semiconductor blocks (one positive and the other negative) joined by a copper bridge; a DC current gives cooling effect on one side of the battery and a heating effect on the other; used as a cooling element in small refrigerators, air conditioning equipment, precision instruments, etc. *Adoption : 1965*

2. **Refrigerated outdoor cabinet**, designed for the insertion of electric and electronic apparatus such as rectifiers, batteries and telecommunication equipment. The cabinet is made of insulated steel and designed to be installed directly outdoors on the ground. The internal structure has double compartments : 1) a battery compartment which is composed of four battery racks; and 2) an equipment compartment which provides for "rack" units. It is equipped with a 2000 W direct current (DC) air conditioner without an air humidity control function on the front door and a DC emergency exhaust fan on the cabinet roof. **Application of GIRs 1, 3 (b) and 6.** *Adoption : 2017*

A Exhaust Fan (roof)**B** Battery / Equipment Compartments**C** Air Conditioner (installed)**D** Air Conditioner



8418.9

- Parts :

8418.91

-- Furniture designed to receive refrigerating or freezing equipment

8418.99

-- Other

CLASSIFICATION OPINIONS

1. Gaskets for fitting to doors of refrigerators, being profiles of plastics incorporating a magnetic rod of barium ferrite and specially shaped to fit the door.
Application of Note 2 (b) to Section XVI.
See also Opinions Sect. XVI/3 and 8505.19/1.
Adoption : 1968

Heading 8419

Machinery, plant or laboratory equipment, whether or not electrically heated (excluding furnaces, ovens and other equipment of heading 85.14), for the treatment of materials by a process involving a change of temperature such as heating, cooking, roasting, distilling, rectifying, sterilising, pasteurising, steaming, drying, evaporating, vaporising, condensing or cooling, other than machinery or plant of a kind used for domestic purposes; instantaneous or storage water heaters, non-electric.

EXPLANATORY NOTES

84.19 - Machinery, plant or laboratory equipment, whether or not electrically heated (excluding furnaces, ovens and other equipment of heading 85.14), for the treatment of materials by a process involving a change of temperature such as heating, cooking, roasting, distilling, rectifying, sterilising, pasteurising, steaming, drying, evaporating, vaporising, condensing or cooling, other than machinery or plant of a kind used for domestic purposes; instantaneous or storage water heaters, non-electric.

- Instantaneous or storage water heaters, non-electric :

8419.11 - - Instantaneous gas water heaters

8419.12 - - Solar water heaters

8419.19 - - Other

8419.20 - Medical, surgical or laboratory sterilisers

- Dryers :

8419.33 - - Lyophilisation apparatus, freeze drying units and spray dryers

8419.34 - - Other, for agricultural products

8419.35 - - Other, for wood, paper pulp, paper or paperboard

8419.39 - - Other

8419.40 - Distilling or rectifying plant

8419.50 - Heat exchange units

8419.60 - Machinery for liquefying air or other gases

- Other machinery, plant and equipment :

8419.81 - - For making hot drinks or for cooking or heating food

8419.89 - - Other

8419.90 - Parts

It should be noted that this heading **does not include :**

(a) Domestic stoves, grates, cookers, etc., of **heading 73.21**.

(b) Air heaters and hot air distributors, not electrically heated of **heading 73.22**.

(c) Domestic cooking or heating apparatus of **heading 74.18**.

(d) Apparatus for fractional distillation (for example, in the production of heavy water) and for rectification, specially designed for isotopic separation, and isotopic exchange apparatus employing the “dual-temperature” method (**heading 84.01**).

(e) Steam generating boilers and super-heated water boilers (**heading 84.02**) and auxiliary plant therefor (**heading 84.04**).

(f) Central heating boilers of **heading 84.03**.

(g) Industrial or laboratory furnaces and ovens, including those for the separation of irradiated nuclear fuel by pyrometallurgical processes and microwave ovens (**heading 84.17** or **85.14,** as the case may be).

(h) Refrigerating machinery and heat pumps of **heading 84.18**.

(ij) Germination plant, incubators or brooders (**heading 84.36**).

(k) Grain dampening machines (**heading 84.37**).

(l) Diffusing apparatus for sugar juice extraction (**heading 84.38**).

(m) Machinery for the heat-treatment of textile yarns, fabrics or made up textile articles (e.g., yarn conditioners and singeing machines) (**heading 84.51**).

(n) Chemical vapour deposition apparatus for the manufacture of semiconductor devices (**heading 84.86**).

(o) Industrial or laboratory equipment for the heat treatment of materials by induction or dielectric loss including microwave equipment (**heading 85.14**).

(p) Microwave ovens for industrial or commercial use, of the type used in restaurants or similar establishments **(heading 85.14)**.

(q) Immersion heaters, not permanently incorporated for heating liquids, semi-fluid (other than solid) substances or gases, **as well as** immersion heaters permanently incorporated in a vat and designed for water heating only (**heading 85.16**).

(r) Electric soil heating apparatus, electric space heating apparatus, and electro-thermic domestic appliances of **heading 85.16**.

With these exceptions, the heading covers machinery and plant designed to submit materials (solid, liquid or gaseous) to a heating or cooling process in order to cause a simple change of temperature, or to cause a transformation of the materials resulting principally from the temperature change (e.g., heating, cooking, roasting, distilling, rectifying, sterilising, pasteurising, steaming, drying, evaporating, vaporising, condensing or cooling processes). But the heading **excludes** machinery and plant in which the heating or cooling, even if essential, is merely a secondary function designed to facilitate the main mechanical function of the machine or plant, e.g., machines for coating biscuits, etc., with chocolate, and conches (**heading 84.38**), washing machines (**heading 84.50** or **84.51**), machines for spreading and tamping bituminous road-surfacing materials (**heading 84.79**).

The machinery and plant classified in this heading may or may not incorporate mechanical equipment.

They may be heated by any system (coal, oil, gas, steam, electricity, etc.), **except** in the case of instantaneous water heaters and storage water heaters which are classified in **heading 85.16** when heated electrically.

The heading covers **only** non-domestic equipment, **except** for the instantaneous or storage water heaters referred to later in this Explanatory Note.

The heading includes a very wide range of machinery and plant of the types described below.

(I) HEATING OR COOLING PLANT AND MACHINERY

This group covers plant of general use in many industries for the simple treatment of materials by heating, boiling, cooking, concentration, evaporation, vaporisation, cooling, etc. They include :

(A) **Vessels, vats, etc., of various kinds for heating or cooling :**

(1) Vessels, vats, etc., for indirect heating or cooling with double walls or bottoms incorporating provision for the circulation of steam, chilled brine or other heating or cooling media. However, double-walled or double-bottomed vessels fall in **Section XIV** or **Section XV** (e.g., **heading 73.09**) if they do not have such provision for circulating heating or cooling media (e.g., heat-insulated containers) or in **heading 84.18** if they incorporate an evaporator of a refrigerating unit (direct cooling).

(2) Single-wall vessels, vats, etc., incorporating provision for direct heating (including heating by perforated steam coils) **other than** such vessels normally used in the household (**heading 73.21**, generally). In general, the industrial types are distinguished by their large size and solid construction, or the provision of filters or condensing domes or of mechanical devices such as agitators or tippers.

Such vessels, whether of the single or double-walled type, are frequently constructed for working under high pressure (e.g., autoclaves), or at reduced pressures for special purposes, particularly in the chemical and allied industries.

Vessels fitted with mechanical devices but **not** incorporating means of direct or indirect heating fall in **heading 84.79 unless** clearly designed as machinery of a type specified in another heading.

This group of heating vessels includes pasteurisers, sometimes operating at reduced pressure, used to submit food or drink products (milk, butter, wines, beers, etc.) to pre-determined temperatures to eliminate harmful micro-organisms.

(B) **Heat exchange units** in which a hot fluid (hot gas, steam or hot liquid) and a cold fluid are made to traverse parallel paths, but usually in opposite directions, separated by thin metal walls in such a manner that the one fluid is cooled and the other heated. These units are usually of the three following types, viz., in the form of :

(i) Concentric tube systems : one fluid flows in the annular interval, the other in the central tube.

(ii) A tubular system for the one fluid, enclosed in a chamber through which flows the other fluid.

or (iii) Two parallel series of interconnected narrow chambers formed of baffle plates.

As stated in the first paragraph of this Explanatory Note (exclusion (e)), the heading **does not include** auxiliary plant for steam generating boilers (**heading 84.04**) much of which (e.g., steam condensers, air pre-heaters and economisers) are of the general type of heat exchange unit mentioned above.

The following are examples of machinery and plant which, **subject** to the provisions referred to above, are covered by Part (I) of this Explanatory Note :

(1) Freezing-salt type freezers (**other than** those of **heading 82.10**).

(2) Condensers for nitrogen or other gases.

(3) Pasteurising, concentrating, cooling, etc., plant for milk (including storage vats with cooling equipment).

(4) Processing and maturing vats for the cheese industry.

(5) Plant for concentrating, cooling, etc., fruit juices, wines, etc.

(6) Plant for use in agriculture (e.g., autoclaves for cooking potatoes, etc., as fodder; hot water baths for re-melting honeycombs, including those with pressing screws).

(7) Cooling columns (e.g., for the bread grain milling industry).

(8) Autoclaves and steaming, boiling, cooking, frying, etc., plant for cooking, preparing or preserving food (e.g., cooking chests for ham; fish friers; cookers, blanching autoclaves, etc., for fruit, vegetables, etc.; autoclaves and coolers for the canning or preserving industry; jam boilers; confectionery boilers).

(9) Macerating vessels and mashing vats with heating equipment; vessels for the decoction of hops; beer pasteurisers, coolers, etc.

(10) Defecation vessels, juice concentration plant, vacuum boiling pans, carbonation, sulphiting or refining vats, etc., for use in the sugar industry.

Diffusing apparatus (diffusor vessel and “calorisator” presented together), for extracting the juice from sugar beet, are **excluded** (see Part (V) (B) (3) of Explanatory Note to **heading 84.38**); “calorisators” presented separately are, however, classified in this heading.

(11) Autoclaves for melting tallow or for saponifying fats; margarine solidifying tanks, incorporating a cooled rotating cylinder on to which the margarine solidifies.

(12) Vats, vessels, autoclaves, etc., for the chemical preparation of wood pulp or for the hydrolysis of wood.

(13) Vats, etc., for the preparation of dyes.

(14) Autoclaves for vulcanising rubber.

(15) Vats, etc., for pickling or de-greasing metals.

(16) *Immersion coils* consisting of an assembly of plastic tubes, placed in parallel or braided, and sealed at each end into a honeycomb structure to which a connector is attached. When immersed

in a bath, these devices will keep it at a constant temperature, or heat or cool it, by means of a fluid or steam circulating in the tubes.

(17) Specialised heating or cooking apparatus which are not normally used in the household (e.g., counter-type coffee percolators, tea or milk urns, steam kettles, etc., used in restaurants, canteens, etc.; steam-heated cookers, hot-plates, warming cupboards, drying cabinets, etc.; deep-fat friers).

(18) Automatic hot or cold beverage-dispensing machines without a device to accept payment.

The apparatus described above is essentially used industrially, but the heading also covers **non-electric instantaneous water heaters and storage water heaters**, **including solar water heaters, domestic or not**. If electrically heated, such appliances are **excluded** (**heading 85.16**).

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It is to be noted that this heading **excludes** domestic steamers, pressure cookers and certain percolators, of base metal (**Section XV**).

(II) DISTILLING OR RECTIFYING PLANT

With the **exception** of distillation apparatus of ceramics (**heading 69.09**) or of glass (**heading 70.17** or **70.20**), this group comprises all plant designed for distilling substances (whether liquid or solid).

(A) **Simple distillation plant**.

This consists essentially of a retort or still body in which the liquid to be distilled is vaporised, a cooling device for condensing the vapours issuing from the retort and a receptacle(s) in which the distillate(s) is collected. They may be arranged for intermittent use (e.g., simple batch stills heated directly or by internal steam coils), or for continuous use, in which case the still body is fed continuously with liquid and is usually heated by steam tubes or coils. Continuous stills may be connected in series, the first being heated directly or with steam while the others are fed by the distillate and heated by the distillation vapours from the preceding still.

(B) **Fractionating or rectifying plant**.

These are more complicated continuous installations incorporating vertical fractionating columns which enable complex mixtures to be separated in one operation. The most usual type of column is divided into interconnecting sections by plates fitted with bubbling caps and down-flow tubes. Vapour rising from one section is thus brought into intimate contact with a condensed portion of the vapour in the section above and, since the temperature decreases as the vapours rise in the column, they can be separated at different levels corresponding to their boiling points.

Plant for distilling solids (coal, lignite, wood, etc.) work on the same principle, but the products are heated in furnaces classified in **heading 84.17**. This heading covers **only** the condensing or rectifying plant used for separating the volatile products evolved in the furnace.

The essential parts of distilling, etc., plants are usually made of metal (e.g., stainless steel, copper or nickel), but they may be lined with glass or refractory material. Plant for distillation at reduced or increased pressure may be fitted with vacuum pumps or compressors.

Batch stills are mainly used for the preparation of essential oils, liqueurs, etc. Continuous distillation plant (simple or fractional) is used in many industries (e.g., for the distillation of industrial alcohols, fatty acids, liquid air, synthetic motor-fuels or chemical products; in crude petroleum refining; for the distillation of wood, coal, shale, lignite, coal tar).

Also included in this group are separators for irradiated fuels or for processing effluents, operating by fractional distillation.

(III) EVAPORATING OR DRYING PLANT

This plant is constructed in various designs (sometimes for operation *in vacuo*), to suit different types of materials and their sensitivity to heat. It may be heated directly or indirectly. The heading applies, however, **only** to plant evaporating or drying at a relatively low temperature, and is not to be confused with the industrial furnaces or ovens of **heading 84.17** in which much higher temperatures are developed.

The most common forms of the industrial appliances of this heading are :

(A) **Evaporators**. These usually take the form of vessels, providing a large surface heated directly or indirectly by steam coils, and often equipped with an evacuator for removing the vapours produced. They may be single or multiple-effect, the latter being similar in operation and construction to multiple-effect stills but without provision for the recuperation of the condensed vapour.

(B) **Laboratory lyophilisation apparatus and freeze drying units**. These are used for the stabilising and preservation by dehydration of biological specimens such as antitoxins, bacteria, viruses, plasma and serums. The specimens are frozen, and then allowed to reheat gently under very low pressure when the ice sublimes leaving the dehydrated product.

(C) **Tunnel dryers**. These consist of large chambers generally provided with conveyor equipment on which the products are conveyed through the chambers at a suitable speed against a current of hot air. They are used, *inter alia*, in pottery; in glass-making; in the food industry (including plant incorporating provision for smoking fish, meat, etc.); for drying wood, hay, etc.

(D) **Rotary dryers**. These consist of revolving cylinders or drums which may be heated internally or **externally**. They are used in various industries (paper-making, preparation of potato flakes, etc.).

(E) **Plate dryers**. These consist of metal chambers fitted with a number of horizontal slotted plates or shelves, sometimes internally heated. A central revolving shaft fitted with grids spreads the material over the hot plates and directs it downwards through the slots to each succeeding plate. This type of plant is used for treating malted barley.

(F) **Spray dryers**. These function as evaporators, and consist of metal chambers fitted internally with a horizontal disc revolving at high speed. They incorporate a heater and fan to provide a current of hot air through which the liquid material is dispersed centrifugally as a fine spray by the revolving disc; the liquid is thus dried instantaneously in powder form. In another type the liquid

is injected into the chamber as a fine spray against a counter-current of hot air. This type is used particularly for the preparation of powdered milk.

This group also includes machinery and apparatus for the evaporation of fissile solutions or radioactive solutions or for drying fissile or radioactive products.

The heading **does not**, however, **include :**

(a) Centrifuges for drying radioactive precipitates (**heading 84.21**).

(b) Machinery for drying bottles or other containers (**heading 84.22**).

(c) Machinery specialised for the drying of textile yarns, fabrics or made up textile articles (**heading 84.51**).

(IV) ROASTING PLANT

This frequently consists of revolving cylindrical or spherical receptacles in which the products to be treated (e.g., coffee beans, cocoa beans, cereals or nuts) are subjected to controlled heat by contact with the heated walls of the containers, or by a direct stream of air forced through the heating medium (e.g., gas or oil burners or coke fires). These appliances usually incorporate devices which keep the products in constant rotation to ensure uniform treatment and to prevent charring. Other types take the form of perforated, inclined or rotating shelves in a chamber fed with heated gases.

The goods of this heading should not be confused with the industrial or laboratory furnaces and ovens of **heading 84.17**.

(V) STEAMING PLANT

This may be in the form of closed vessels (of the general type described earlier in this Explanatory Note) in which materials of various kinds may be subjected to humid heat (e.g., by steaming under pressure, or by the action of the vapours given off by the products themselves).

Such plant is used in various manufacturing operations (e.g., in the preparation of vegetable or animal extracts; in the food industry generally; in operations involving the use of steam for de-greasing or cleansing processes). Other types consist of larger chambers for subjecting material to more or less prolonged action of an atmosphere of steam; these are used, for example, for conditioning textile fibres in the mass, for steam-treatment of wood, etc.

The heading **excludes** machines for conditioning textile yarns or fabrics or for other steam-treatment of such textiles (**heading 84.51**).

(VI) STERILISING APPARATUS

These consist essentially of receptacles or chambers, heated usually by steam or boiling water (or sometimes by hot air), in which the articles or materials to be sterilised are maintained for a period at a sufficiently high temperature to kill bacteria, etc., without alteration of the composition or physical condition of the articles or materials themselves. Low-temperature-steam-formaldehyde (LTSF) sterilisers are also classified in this heading. These sterilisers function by heating a sterilising agent,

to produce a gaseous mixture of the sterilising agent and steam, and heating the chamber to keep the sterilising agent in a gaseous state for a sufficient time to kill bacteria, etc.

Many sterilisers for liquids resemble the apparatus described in Part (I) above (e.g., pasteurisers). Some large types of sterilisers may be equipped with a conveyor on which the goods are carried through the heating medium and, if necessary, subsequently through a cooling apparatus which may also form part of the plant.

The group includes not only sterilisers for industrial use (e.g., for milk, wine, fruit juices, cotton wool) but also those for installation in operating theatres, etc.

(VII) MACHINERY FOR LIQUEFYING AIR;

SPECIAL LABORATORY APPARATUS AND EQUIPMENT

The heading includes **machines of the Linde or Claude type used for the liquefaction of air**.

The heading further includes **specially designed laboratory apparatus and equipment**, generally small in size (autoclaves, distilling, sterilising or steaming apparatus, dryers, etc.), but it **excludes** demonstrational apparatus of **heading 90.23**, and measuring, checking, etc., apparatus more specifically covered by **Chapter 90**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading covers parts of the above. Such parts include certain elements of distillation apparatus or rectifying columns, such as retorts, bubble caps and rings, plates and certain tube elements; revolving plates and drums, etc., for roasters or dryers.

Metal tubes and pipes which have been bent or curved but not otherwise worked, presented unassembled, are **not** identifiable as parts of goods of this heading and are therefore to be classified in **Section XV**.

8419.1

- Instantaneous or storage water heaters, non-electric :
8419.11

-- Instantaneous gas water heaters
8419.12

-- Solar water heaters
8419.19

-- Other
8419.20

- Medical, surgical or laboratory sterilisers
CLASSIFICATION OPINIONS

1. Low-temperature steriliser using an aqueous solution of formaldehyde as a sterilising agent for preparing heat-sensitive goods. An aqueous solution of formaldehyde is heated at a temperature of 55 to 60 °C in the continuous evaporator unit to transform it to a gaseous state. The formaldehyde

vapour is then uniformly distributed around the material or objects in the sterilisation chamber.

It is primarily intended for use in sterilising laboratory equipment and materials and medical devices.

Application of GIRs 1 and 6.
Adoption : 2021

8419.3

- Dryers :
8419.33

-- Lyophilisation apparatus, freeze drying units and spray dryers
8419.34

-- Other, for agricultural products
8419.35

-- Other, for wood, paper pulp, paper or paperboard
8419.39

-- Other
8419.40

- Distilling or rectifying plant
CLASSIFICATION OPINIONS

1. Rotary vacuum evaporator for concentrating and distilling organic substances, consisting of glass components (evaporation flasks, coil condenser, recipient for collecting the distillate, tubes and valves) and metal components (tubular frame, electric motor with variable drive, electrically heated bath with hydraulic lift for vertical adjustment), the whole being fixed on a trolley-type base of metal.
Adoption : 1969

8419.50

- Heat exchange units
8419.60

- Machinery for liquefying air or other gases
8419.8

- Other machinery, plant and equipment :
8419.81

-- For making hot drinks or for cooking or heating food
8419.89

-- Other
CLASSIFICATION OPINIONS

1. **Surface heating appliances** (electrical), for heating materials contained in drums, tanks, conduits, etc., in which the heating device consists of glass cloth fitted with electrically insulated heating resistors, specially designed either to accommodate the drums, tanks and other containers to be heated or to be fixed around containers or conduits. *See also Opinions 8419.89/2 and 8516.80/1.*
Adoption : 1965

2. **Heating mantles** consisting essentially of a heating surface (electrically insulated wire heating resistors fixed on a glass fibre fabric) enclosed in a metal casing, for fitting as heating elements

in autoclaves or in apparatus used in laboratories or in the food industry. *See also Opinions 8419.89/1 and 8516.80/1.*
Adoption : 1965

3. **A dissolution testing unit** that includes seven stirrer stations used for dissolution of tablets or capsules and drug release of transdermal patches in a specially prepared dissolution medium within a predetermined length of time and under the preset operating parameters. It also includes an electrical heating coil that heats the dissolution solution in accordance with a predetermined temperature, in order to simulate normal human body temperature during the dissolution process.
A built-in control panel allows setting up of the dissolution testing unit's operating conditions required for the particular dissolution or drug release test, such as temperature (20 – 60 °C), speed of stirrers (25 – 250 rpm), testing method, tablet feeding, sampling time, etc. The dissolution testing unit, which does not carry out any type of analysis, can be connected to an apparatus such as a spectrophotometer for the subsequent determination of the amount of released active ingredient(s) in the dissolution medium, and to an automatic data processing machine.
Application of GIRs 1 and 6.
Adoption : 2012



8419.90

- Parts

CLASSIFICATION OPINIONS

1. Steel plate elements, specially processed and treated for high absorption of solar rays, for fixing to roof mounted solar water heaters.
Adoption : 1965

Heading 8420

Calendering or other rolling machines, other than for metals or glass, and cylinders therefor.

EXPLANATORY NOTES

84.20 - Calendering or other rolling machines, other than for metals or glass, and cylinders therefor.

8420.10 - Calendering or other rolling machines

- Parts :

8420.91 - - Cylinders

8420.99 - - Other

With the **exception** of metal-rolling or metal-working machines of **heading 84.55**, **84.62** or **84.63** and of glass-working machines of **heading 84.75**, this heading covers **calendering or other rolling machines**, whether specialised to a particular industry or not.

These machines consist essentially of two or more parallel cylinders or rollers revolving with their surfaces in more or less close contact so as to perform the following operations, either by pressure of the cylinders alone or by pressure combined with friction, heat or moisture :

(1) The rolling into sheet form of material (including bakery, confectionery, biscuit, etc., doughs, chocolate, rubber, etc.) fed to the rollers in a plastic condition.

(2) The production of certain effects on the surface of sheet materials (**other than** metal or glass) passed between the rollers, e.g., smoothing (including ironing), lustring, glazing, polishing, embossing or graining.

(3) The application of dressings or surface coatings.

(4) The bonding of fabrics.

Machines of this kind are employed in various industries (e.g., the paper, textile, leather, linoleum, plastics or rubber manufacturing industries).

In certain industries particular names are given to calendering machines (e.g., ironing machines in laundries, finishing mangles for the textile industry, or supercalenders for the paper industry), but they are classified in this heading whether called calendering machines or not.

Calendering machines frequently constitute subsidiary units of other machines (e.g., paper-making machines). When the calendering machines are presented together with these other machines, classification is governed by Notes 3 and 4 to Section XVI.

On the other hand, calendering machines which merely incorporate auxiliary appliances, such as impregnating baths or rollers, winding or cutting devices, remain in this heading.

The heading also covers smoothing or ironing machines of the calender type, whether or not for domestic use.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading are also classified here. These include **cylinders** clearly identifiable as for use with calendering or rolling machines of this heading. These cylinders may be made of metal, wood or other suitable material (e.g., compressed paper). They may be of various lengths and diameters, may be solid or hollow and, depending on the particular purpose for which they are required, their surface may be polished, corrugated, grained, or may bear engraved patterns. They may also be covered with other materials (e.g., leather, textile fabric or rubber). Metal cylinders are usually so designed that they can be heated internally by means of steam,

gas, etc. Sets of cylinders for a particular calendering machine may comprise cylinders of different composition.

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This heading **does not include** machines which, though somewhat similar to calendering or rolling machines, do not fulfil the purposes described above, for example :

(a) Cylinder drying machines for textiles, paper, etc. (**heading 84.19** or **84.51**).

(b) Wine or cider presses, etc. (**heading 84.35**).

(c) Roller crushing or grinding machines (**heading 84.36**, **84.74** or **84.79**).

(d) Cylinder machines for flour milling (**heading 84.37**).

(e) Laundry wringing machines (**heading 84.51**).

(f) Rolling mills (**heading 84.55**).

(g) Sheet-metal flattening machines (**heading 84.62**) and sheet-metal embossing machines (**heading 84.63**).

(h) Machines for making plate or other flat glass by rolling, and calenders for working glass (**heading 84.75**).

8420.10

- Calendering or other rolling machines

8420.9

- Parts :

8420.91

-- Cylinders

8420.99

-- Other

Heading 8421

Centrifuges, including centrifugal dryers; filtering or purifying machinery and apparatus, for liquids or gases.

EXPLANATORY NOTES

84.21 - Centrifuges, including centrifugal dryers; filtering or purifying machinery and apparatus for liquids or gases.

- Centrifuges, including centrifugal dryers :

8421.11 - - Cream separators

8421.12 - - Clothes-dryers

8421.19 - - Other

- Filtering or purifying machinery and apparatus for liquids :

8421.21 - - For filtering or purifying water

8421.22 - - For filtering or purifying beverages other than water

8421.23 - - Oil or petrol-filters for internal combustion engines

8421.29 - - Other

- Filtering or purifying machinery and apparatus for gases :

8421.31 - - Intake air filters for internal combustion engines

8421.32 - - Catalytic converters or particulate filters, whether or not combined, for purifying or filtering exhaust gases from internal combustion engines

8421.39 - - Other

- Parts :

8421.91 - - Of centrifuges, including centrifugal dryers

8421.99 - - Other

This heading covers :

(I) Machines which, by the use of centrifugal force, completely or partly separate substances according to their different specific gravities, or which remove the moisture from wet substances.

(II) Filtering or purifying machinery and apparatus for liquids or gases, **other than**, e.g., filter funnels, milk strainers, strainers for filtering paints (generally **Chapter 73**).

(I) CENTRIFUGES, INCLUDING CENTRIFUGAL DRYERS

Most of these machines consist essentially of a perforated plate, drum, basket or bowl, etc., revolving at great speed in a stationary collector, usually cylindrical, against the walls of which the expelled materials are projected by centrifugal force. In some types the substances of different specific gravities are collected at different levels by means of a series of inverted separator cones. In other types the solid ingredients are retained in the perforated revolving drum, basket, etc., and the liquid ingredients expelled. Machines of this latter type may also be used to force liquids to penetrate thoroughly into materials (e.g., in dyeing or cleaning).

The heading includes :

(1) Centrifugal driers for laundries, dyeworks, pulp mills, flour mills, etc.

(2) Sugar refining centrifuges.

(3) Cream separators and centrifugal clarifiers for milk.

(4) Centrifuges for clarifying oils, wines, spirits, etc.

(5) Centrifuges for dehydrating or de-waxing petroleum products.

(6) Centrifuges for dehydrating wines, tallow, starches, etc.

(7) Nitrating centrifuges for gun-cotton manufacture.

(8) Separators for yeast cultures.

(9) Centrifuges for the chemical industry (e.g., high-speed extractors for antibiotics).

(10) Centrifuges, mainly used in laboratories, in which liquids are separated in superimposed layers ready for decantation.

(11) Centrifuges for separating the plasma from blood.

(12) Centrifuges for drying radioactive precipitates.

(13) Centrifuges for extracting honey.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of centrifuges are also classified here (e.g., plates, drums, baskets, bowls and collectors).

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* *

The heading **excludes** certain other types of machines operating on the centrifugal principle, e.g. :

(a) Special centrifuges, called “gas” centrifuges, for the separation of uranium isotopes (**heading 84.01**).

(b) Centrifugal pumps for liquids (**heading 84.13**).

(c) Centrifugal air pumps and blowers (**heading 84.14**).

(d) Centrifugal bolting (or sifting) machines for the milling industry (**heading 84.37**).

(e) Centrifugal casting machines for metal (e.g., for cast iron tubes) (**heading 84.54**), or for unhardened cements (e.g., for casting concrete tubes) (**heading 84.74**).

(f) Centrifugal grinding machines (**heading 84.74**).

(g) Centrifugal spin dryers for semiconductor wafer manufacturing (**heading 84.86**).

(II) FILTERING OR PURIFYING MACHINERY AND APPARATUS, FOR LIQUIDS OR GASES

Much of the filtration or purification plant of this heading is purely static equipment with no moving parts. The heading covers filters and purifiers of all types (physical or mechanical, chemical, magnetic, electro-magnetic, electrostatic, etc.). The heading covers not only large industrial plant, but also filters for internal combustion engines and small domestic appliances. The heading **does not**, however, **include** filter funnels, milk strainers, vessels, tanks, etc., simply equipped with metallic gauze or other straining material, nor general purpose vessels, tanks, etc., even if intended for use as filters after insertion of a layer of gravel, sand, charcoal, etc.

In general, filtering machinery and plant of this heading is of two distinct types according to whether it is intended for liquids or gases.

(A) **Filtering and purifying machinery, etc., for liquids, including water softeners**.

The liquid filters of this group separate solid, fatty, colloidal, etc., particles from a liquid, for example, by passing it through a sheet, membrane or mass of porous material (e.g., cloth, felt, wire-cloth, skin, stoneware, porcelain, kieselguhr, sintered metallic powders, asbestos, paper pulp, cellulose, charcoal, animal black, sand). In the treatment of drinking water, some of these materials (e.g., porcelain and charcoal) remove bacteria, etc., in the process of filtration; filters using these materials are therefore sometimes called “water purifiers”. Filters are also used to eliminate liquids from materials in the form of a slurry (e.g., from ceramic materials or ore concentrates). The heading covers liquid filters whether of the gravity, suction (or vacuum) or pressure types.

It includes, *inter alia* :

(1) **Domestic type water filters**. Pressure type domestic filters are designed for fitting to the mains pipes or to the tap, and usually consist of a cylindrical ceramic filtering element enclosed in a metal container. Gravity types are similar but often larger. But the heading **excludes** filters made mainly of ceramics or glass (**Chapter 69** or **70**, respectively).

(2) **Filter candles for man-made textile manufacture**. These consist of a non-corrosive container housing a textile element which filters the spinning solution.

(3) **Oil filters for internal combustion engines, machine-tools, etc.** They are of two main types :

(i) Those containing a filtering element, usually of superimposed layers of felt, metallic gauze, steel wool, etc.

(ii) Those containing permanent magnets or electromagnets for the extraction of ferrous particles from the oil.

(4) **Filters for boiler water**. These usually consist of a large vessel fitted internally with several superimposed layers of filtering materials and, in addition to the inlet and outlet tubes, a system of pipes and valves for cleaning the filtering elements by a cross-current of water.

(5) **Filter presses**. These consist of a horizontal series of filtering chambers formed by readily detachable vertical filter plates and frames; these are covered by a filtering medium (cloth, cellulose, etc.), and are held in place by a screw or press mechanism. The liquid is forced through the cells by a pump, and the chambers may be heated internally by steam, etc. The filtrate is drawn from the press and the residue collects in cakes between the plates. Filter presses are used for filtering or clarifying many liquids (e.g., in the chemical industry, the sugar industry, in brewing, wine making, oil purification, ore concentration, in the manufacture of ceramics, man-made textiles, etc.).

(6) **Rotary drum vacuum filters**. These comprise a cylinder covered with filter cloth or gauze and mounted in the tank containing the liquid to be filtered. The liquid is sucked into the drum, and mechanical devices remove the solid residue from the periphery.

(7) **Intermittent vacuum filters**. These consist of a number of "leaves" or chambers each covered with filter cloth and connected to a common vacuum line. The filter is submerged in the feed tank and the vacuum applied.

(8) **Chemical water purifiers**, e.g., permutite or zeolite softeners and lime water purifiers.

(9) **Electro-magnetic water purifiers**. In these purifiers the action of an alternating magnetic field prevents the calcareous salts in the water from crystallising and forming deposits on the walls of the tubes; instead, the salts separate as sludges which can readily be removed.

The heading also covers **dialysers**, special type filters consisting essentially of a semi-permeable membrane through which liquids can pass by diffusion and thus be separated from colloidal particles.

(B) **Filtering or purifying machinery, etc., for gases**

These gas filters and purifiers are used to separate solid or liquid particles from gases, either to recover products of value (e.g., coal dust, metallic particles, etc., recovered from furnace flue gases), or to eliminate harmful materials (e.g., dust extraction, removal of tar, etc., from gases or smoke fumes, removal of oil from steam engine vapours).

They include :

(1) **Filters and purifiers acting solely by mechanical or physical means**; these are of two types. In the first type, as in liquid filters, the separating element consists of a porous surface or mass (felt, cloth, metallic sponge, glass wool, etc.). In the second type, separation is achieved by suddenly reducing the speed of the particles drawn along with the gas, so that they can then be collected by gravity, trapped on an oiled surface, etc. Filters of these types often incorporate fans or water sprays.

Filters of the first type include :

(i) **Intake air filters for internal combustion engines**. These often combine the two systems described above.

(ii) **Bag filters**. These consist of a series of bag shaped cloth filtering elements, and often incorporate a shaker mechanism to cause the trapped particles to fall through the bottom of the bags.

(iii) **Screen filters**. These consist of an endless filtering gauze running on two rollers and stretched across the chamber through which the gases are passed. The screen is cleaned by a scraper mechanism.

(iv) **Rotary drum filters**, e.g., as used in sand blasting plant. They usually consist of a filter drum into which the air is drawn by suction. The drum revolves against a scraper which frees the drum of the residue.

Filters of the second type include :

(v) **Dust extractors, smoke filters, etc**., fitted with various types of obstructing elements to reduce the speed of the particles in the gas stream, e.g., baffle plates, partitions perforated with non-corresponding orifices, circular or spiral circuits fitted with baffles, and cones of superimposed baffle rings.

(vi) **Cyclones**, usually consisting essentially of sheet metal cones enclosed in a cylindrical tank. The gases are fed into the narrower part of the cone by a tangential pipe and the turbulent currents thus set up decrease sharply as the gases approach the broader section of the cone, so that the dust falls to the bottom of the tank.

(2) **Electrostatic filters for air or other gases** in which the essential element is usually a series of vertical wires charged with static electricity. The dust in the air passing through the apparatus is attracted to and retained on the wires from which it is removed periodically.

(3) **Gas scrubbers or absorption towers**. These are used for purifying producer gas, coal gas, etc.; they consist of tall metal columns containing coke or other fillings, and fitted at the top with water sprays.

(4) **Other chemical filters and purifiers for air or other gases** (including catalytic converters which change carbon monoxide in the exhaust gases of motor vehicles).

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This group also includes the following machinery employed in the nuclear industry : air filters specially designed to eliminate radioactive dust (physical or electrostatic types); active-charcoal purifiers for retaining radioactive iodine; ion-exchange apparatus for the separation of radioactive elements, including such apparatus operating by electrodialysis; separators for irradiated fuels or for processing effluents, whether operating by ion-exchange or operating chemically (by means of solvents, precipitation, etc.).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading covers parts for the above-mentioned types of filters and purifiers. Such parts include, *inter alia* :

Leaves for intermittent vacuum filters; chassis, frames and plates for filter presses; rotary drums for liquid or gas filters; baffles and perforated plates, for gas filters.

It should be noted, however, that filter blocks of paper pulp fall in **heading 48.12** and that many other filtering elements (ceramics, textiles, felts, etc.) are classified according to their constituent material.

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The heading also **excludes** :

(a) Gas diffusion apparatus for the separation of uranium isotopes (**heading 84.01**).

(b) Air conditioning machines of **heading 84.15** or air de-humidifiers of **heading 84.79**.

(c) Wine-presses, cider-presses, etc. (**heading 84.35**).

(d) Artificial kidney (dialysis) apparatus (**heading 90.18**).

8421.1

- Centrifuges, including centrifugal dryers :

8421.11

-- Cream separators

8421.12

-- Clothes-dryers

8421.19

-- Other

8421.2

- Filtering or purifying machinery and apparatus for liquids :

8421.21

-- For filtering or purifying water

CLASSIFICATION OPINIONS

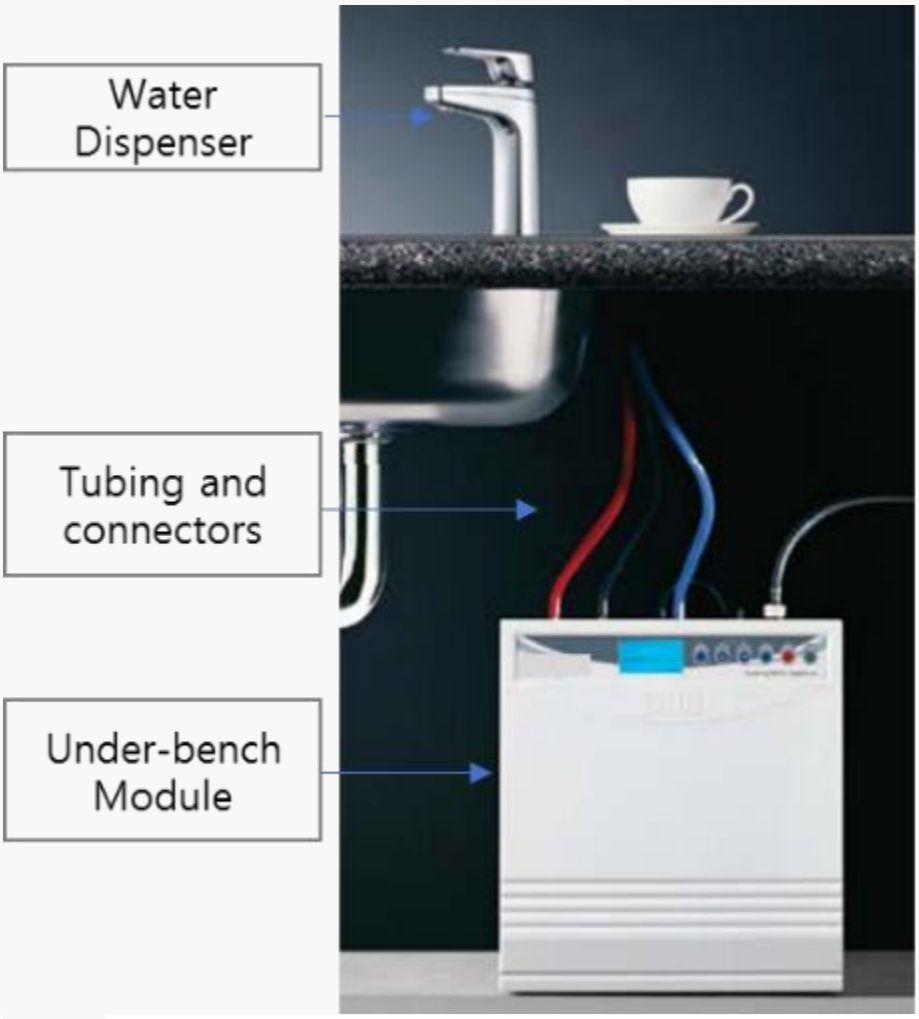
1. **Composite apparatus for treatment of water** consisting of two filters (a pre-filter and a carbon filter), an ionizer and a control device, fitted on a common base. In this apparatus, the water passes through the pre-filter which removes sediment; the sediment-free water then passes through the carbon filter which removes chlorine, bacteria and odours; the treated water then undergoes ionization to separate the positive and the negative ions. **Application of Note 3 to Section XVI.** *Adoption : 1998*

2. **Instant boiling and chilled filtered drinking water system**, comprising the following components :

i) Under-bench module, incorporating one or two filter cartridges, electric heating and chilling apparatus in a common housing, to be installed inside of an under-bench cabinet (Dimension (H x W x D): 340 mm x 315 mm x 465 mm).
ii) Water dispenser (tap) of metal, with two levers for dispensing hot and cold water respectively either by depressing or lifting, to be installed on sink-top or bench-top; and
iii) Tubing and connectors for connecting external water supply, under-bench module and water dispenser.

The product is designed to provide boiling and chilled filtered drinking water for approximately 40 users, with a capacity of 150 cups of boiling water and 175 cups of chilled water per hour. However, it does not provide ambient filtered water without boiling or chilling.

Application of GIRs 1, 3 (b) and 6.
Adoption : 2021







8421.22

-- For filtering or purifying beverages other than water
8421.23

-- Oil or petrol-filters for internal combustion engines
8421.29

-- Other

CLASSIFICATION OPINIONS

1. **Disposable sterilised dialyzer** consisting of a 25 cm long cylindrical casing, of rigid plastics, containing hollow fibres; the casing has stoppers with threaded fittings at both ends and two 3 cm tubes extending from the casing; the stoppers and tubes are also made of rigid plastics. In order to function, the article is connected, by means of tubes, to a special appliance (e.g., an artificial kidney) which enables the blood and the dialysate to circulate and toxic matter to be evacuated.
Application of Note 2 (a) to Chapter 90.
Adoption : 1999



2. **Apparatus for filtering blood** consisting essentially of a filtration mesh of polyester in a transparent housing. The apparatus is used to remove microaggregates consisting of leukocytes, platelets, cell fragments and proteins, in sizes ranging from 30 to 200µm, from stored blood.
Application of GIR 1.
Adoption : 1999

8421.3

- Filtering or purifying machinery and apparatus for gases :

8421.31

-- Intake air filters for internal combustion engines

8421.32

-- Catalytic converters or particulate filters, whether or not combined, for purifying or filtering exhaust gases from internal combustion engines

8421.39

-- Other

CLASSIFICATION OPINIONS

1. Booths for paint-spraying :

(i) “Dry booths”, equipped with a motor-driven fan which renews the air breathed by the operator, and a bladed grid which purifies the expelled air by retaining some of the suspended paint particles.

(ii) “Wet booths”, equipped with a motor-driven fan which renews the air breathed by the operator, a water screen which purifies the expelled air by trapping some of the suspended paint particles, and a motor-driven pump for circulating the water.

Adoption : 1961

8421.9

- Parts :

8421.91

-- Of centrifuges, including centrifugal dryers

8421.99

-- Other

CLASSIFICATION OPINIONS

1. Replacement oil filter cartridges, consisting of a perforated metal or paper casing (whatever the material used as filtering medium).

Adoption : 1961

Heading 8422

Dish washing machines; machinery for cleaning or drying bottles or other containers; machinery for filling, closing, sealing or labelling bottles, cans, boxes, bags or other containers; machinery for capsuling bottles, jars, tubes and similar containers; other packing or wrapping machinery (including heat-shrink wrapping machinery); machinery for aerating beverages.

EXPLANATORY NOTES

84.22 - Dish washing machines; machinery for cleaning or drying bottles or other containers; machinery for filling, closing, sealing or labelling bottles, cans, boxes, bags or other containers; machinery for capsuling bottles, jars, tubes and similar containers; other packing or wrapping machinery (including heat-shrink wrapping machinery); machinery for aerating beverages (+).

- Dish washing machines :

8422.11 - - Of the household type

8422.19 - - Other

8422.20 - Machinery for cleaning or drying bottles or other containers

8422.30 - Machinery for filling, closing, sealing, or labelling bottles, cans, boxes, bags or other containers; machinery for capsuling bottles, jars, tubes and similar containers; machinery for aerating beverages

8422.40 - Other packing or wrapping machinery (including heat-shrink wrapping machinery)

8422.90 - Parts

This heading covers dish washing machines (for plates, glasses, spoons, forks, etc.), whether or not incorporating provision for drying, including electrically-operated types, whether or not domestic. The heading also covers machines of different types designed for cleaning or drying bottles or other containers, for filling or closing such containers (including machines for aerating beverages) and,

generally, for packing (including heat-shrink wrapping) goods for sale, transport or storage. These include :

(1) Machines (whether or not steam-operated) for cleaning, washing, rinsing or drying bottles, jars, cans, boxes, casks, milk churns, cream separator bowls or other containers. These machines sometimes incorporate provision for disinfection or sterilisation.

(2) Machines for filling containers (e.g., casks, barrels, cans, bottles, jars, tubes, ampoules, boxes, packets or bags), frequently equipped with subsidiary automatic volume or weight control and with devices for closing the containers.

(3) Bottle or jar closing, corking or capping machines; can closers and sealers (including those closing by soldering).

(4) Wrapping or cartoning machines, including those with provision for forming, printing, tying, stapling, taping, glueing, closing or otherwise finishing the packing. The heading includes machines for packing filled cans or bottles into external containers (crates, boxes, etc.).

(5) Labelling machines, including those which also print, cut and gum the labels.

(6) Machines for aerating beverages. These are, in effect, bottle filling and closing machines with provision for supplying carbon dioxide gas simultaneously with the liquid.

(7) Baling or banding machines, including hand-operated portable appliances, provided with plates or similar devices enabling them to be rested, while in use, on the bales, cases or other packages to be strapped.

Machines of this heading frequently perform several of the foregoing functions. They may also incorporate provision for filling or sealing *in vacuo* or under other controlled atmospheric conditions.

Machines which in addition to packing, wrapping, etc., also perform other operations remain classified in the heading **provided** the additional operations are incidental to the packing, etc. Thus machines which pack or wrap goods into the forms or presentations in which they are normally distributed and sold in commerce, are classified in this heading, whether or not the machines also contain devices for weighing or measuring. Similarly the heading includes machines incorporating devices which, as a secondary function, cut, mould or press previously prepared products into purely presentational forms without affecting their essential character (e.g., machines for moulding butter or margarine into blocks, etc., and wrapping them). The heading **does not**, however, **cover** machines whose primary function is not to pack, wrap, etc., but to manufacture raw or semi-finished materials into finished products (e.g., combined cigarette making and packaging machines).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of the above-mentioned machinery. It should be noted, however, that in the case of composite machines, parts of any component machine which would not on its own fall in this heading, are classified in their own appropriate headings, e.g., parts of weighing machines (**heading 84.23**), of carton or paper bag making machines (**heading 84.41**) or of printing machines (**heading 84.43**).

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The heading **excludes** :

(a) Domestic type bottling or canning machines and other domestic mechanical appliances weighing 10 kg or less (**heading 82.10**).

(b) Straw or fodder balers (**heading 84.33**).

(c) Paper bag or carton making machines (**heading 84.41**).

(d) Sewing machines for sewing up sacks, etc., after filling (**heading 84.52**).

(e) Presses for compressing scrap metal into bales, etc. (**heading 84.62**).

(f) Case nailing machines (**heading 84.65**).

(g) Machines for inserting letters in envelopes, or for wrapping them with paper bands (**heading 84.72**).

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Subheading Explanatory Note.

Subheading 8422.11

This subheading covers dish washing machines, whether or not electrically operated, of the household type, irrespective of their intended use. The external dimensions of such machines to be stood on the floor are of the following order :

width : up to 65 cm

height : up to 95 cm

depth : up to 70 cm

The dimensions of machines and appliances to be stood on a table or counter are appreciably smaller.

8422.1

- Dish washing machines :
8422.11

-- Of the household type
8422.19

-- Other
8422.20

- Machinery for cleaning or drying bottles or other containers
8422.30

- Machinery for filling, closing, sealing, or labelling bottles, cans, boxes, bags or other containers; machinery for capsuling bottles, jars, tubes and similar containers; machinery for aerating beverages
8422.40

- Other packing or wrapping machinery (including heat-shrink wrapping machinery)
8422.90

- Parts

Heading 8423

Weighing machinery (excluding balances of a sensitivity of 5 cg or better), including weight operated counting or checking machines; weighing machine weights of all kinds.

EXPLANATORY NOTES

84.23 - Weighing machinery (excluding balances of a sensitivity of 5 cg or better), including weight operated counting or checking machines; weighing machine weights of all kinds (+).

8423.10 - Personal weighing machines, including baby scales; household scales

8423.20 - Scales for continuous weighing of goods on conveyors

8423.30 - Constant weight scales and scales for discharging a predetermined weight of material into a bag or container, including hopper scales

- Other weighing machinery :

8423.81 - - Having a maximum weighing capacity not exceeding 30 kg

8423.82 - - Having a maximum weighing capacity exceeding 30 kg but not exceeding 5,000 kg

8423.89 - - Other

8423.90 - Weighing machine weights of all kinds; parts of weighing machinery

With the **exception** of balances of a sensitivity of 5 cg or better (**heading 90.16**), this heading covers :

(A) Machinery and appliances for the direct determination of the weight of objects, whether electronically (by means of transducers), by balancing the object against exchangeable weights, by manipulation of movable (cursor) weights on a calibrated beam (steelyard or other), or by automatic recording on a scale or indicator in machines operating by means of springs, levers or counterweights, or hydraulically, etc.

(B) Appliances working on a weight determination principle but recording automatically in other units (e.g., volume, number, price or length) having a direct relation to weight.

(C) Predetermined weight machines for checking the uniformity of, or indicating defects in, products by reference to weight, or for dispensing fixed weights of goods ready for packing.

The numerous types of machines falling in the heading include the following :

(1) Spring balances.

(2) Household or shop scales.

(3) Letter or parcel scales.

(4) Personal weighing machines (coin operated or not), including baby scales.

(5) Portable or mobile platform type scales.

(6) Weighbridges (hydraulic or other) and other weighing platforms.

(7) Scales for weighing goods on conveyor bands, overhead conveyors, etc.

(8) Weight operated counting scales.

(9) Constant weight scales such as check scales (indicating excess or deficiency over standard weight) and continuous weighers for checking the uniformity of textile or other materials.

(10) Hopper scales, for automatically weighing materials discharged from hoppers, including those weighing ingredients from several hoppers in compounding a mixture.

(11) Scales for discharging a predetermined weight of material into a bag or container, but **not including** such machines which also pack or wrap the goods in the forms or presentations in which they are normally distributed and sold in commerce.

(12) Automatic balances for weighing a continuous flow of liquid.

(13) Apparatus fully automatic, which weighs and labels prepacked goods, comprising a weighing, machine, a calculator and a printer with built-in package totaliser and label ejector.

These various weighing machines may incorporate provision for automatically printing weight tickets, for recording and totalling a series of weighing operations, for projecting or magnifying the reading, etc.

The heading also covers weights of all kinds and of any material, whether or not in sets or cases, for any type of weighing machine, including separately presented weights for precision machines of **heading 90.16**; weights presented with such precision machines are, however, classified therewith. Cursor weights (including those of platinum) are also covered by this heading.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading includes parts for the weighing machines of this heading. Such parts include :

Scale beams, calibrated or not; scale pans and platforms; base-plates, supports and casings; knife-edges, pivots and pivot bearings (**except** those wholly of agate or other precious or semi-precious stones (**heading 71.16**)); hydraulic dash-pots (oscillation dampers); weight indicator dials.

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The heading **does not cover** :

(a) Hydrostatic (or specific gravity) balances (**heading 90.16**).

(b) Machines for balancing mechanical parts (**heading 90.31**).

(c) Instruments such as dynamometers of a kind primarily designed for measuring tractive, compressive forces, etc., and not for weighing goods, persons, animals, etc. (**heading 90.24** or **90.31**).

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Subheading Explanatory Note.

Subheading 8423.20

The scales for continuous weighing of goods on conveyors of this subheading, which may be either of the totaliser or integrating kind, measure and record the weight of materials as they go past in buckets, on chains or the like.

8423.10

- Personal weighing machines, including baby scales; household scales

8423.20

- Scales for continuous weighing of goods on conveyors

8423.30

- Constant weight scales and scales for discharging a predetermined weight of material into a bag or container, including hopper scales

8423.8

- Other weighing machinery :

8423.81

-- Having a maximum weighing capacity not exceeding 30 kg

8423.82

-- Having a maximum weighing capacity exceeding 30 kg but not exceeding 5,000 kg
8423.89

-- Other
8423.90

- Weighing machine weights of all kinds; parts of weighing machinery
Heading 8424

Mechanical appliances (whether or not hand-operated) for projecting, dispersing or spraying liquids or powders; fire extinguishers, whether or not charged; spray guns and similar appliances; steam or sand blasting machines and similar jet projecting machines.
EXPLANATORY NOTES

84.24 - Mechanical appliances (whether or not hand-operated) for projecting, dispersing or spraying liquids or powders; fire extinguishers, whether or not charged; spray guns and similar appliances; steam or sand blasting machines and similar jet projecting machines (+).

8424.10 - Fire extinguishers, whether or not charged

8424.20 - Spray guns and similar appliances

8424.30 - Steam or sand blasting machines and similar jet projecting machines

- Agricultural or horticultural sprayers :

8424.41 - - Portable sprayers

8424.49 - - Other

- Other appliances :

8424.82 - - Agricultural or horticultural

8424.89 - - Other

8424.90 - Parts

This heading covers machines and appliances for projecting, dispersing or spraying steam, liquids or solid materials (e.g., sand, powders, granules, grit or metallic abrasives) in the form of a jet, a dispersion (whether or not in drips) or a spray.

This heading, however, **does not include** water-jet or water-abrasive jet cutting machines which are designed for precise cutting of a variety of materials (e.g., stone, composites, rubber, glass, metal). These machines typically operate under pressures of 3,000 to 4,000 bars with a stream of water or water mixed with fine abrasives, at a velocity of 2 to 3 times the speed of sound (**heading 84.56**).

(A) FIRE EXTINGUISHERS, WHETHER OR NOT CHARGED

This group covers extinguishers, filled or not, of the kind which use foam-producing or other charges, including simple extinguishers fitted with taps, valves, percussion caps or other opening devices.

The heading **does not include :**

(a) Fire extinguishing grenades and charges for fire extinguishers (**heading 38.13**).

(b) Fire fighting pumps with or without internal reservoirs, **heading 84.13** (non-automobile types) or **heading 87.05** (automobile types).

(B) SPRAY GUNS AND SIMILAR APPLIANCES

Spray guns and similar hand controlled appliances are usually designed for attaching to compressed air or steam lines, and are also connected, either directly or through a conduit, with a reservoir of the material to be projected. They are fitted with triggers or other valves for controlling the flow through the nozzle, which is usually adjustable to give a jet or more or less divergent spray. They are used for spraying paint or distemper, varnishes, oils, plastics, cement, metallic powders, textile dust, etc.. They may also be used for projecting a powerful jet of compressed air or steam for cleaning stonework in buildings, statuary, etc.

The group also includes separately presented hand controlled “anti-smudge” spraying devices for fitting to printing machines, and hand controlled metal spraying pistols operating either on the principle of a blow pipe, or by the combined effect of an electric heating device and a jet of compressed air.

Hand controlled spray guns with self-contained electric motor, incorporating a pump and a container for the material to be sprayed (paint, varnish, etc.), are also covered by the heading.

(C) STEAM OR SAND BLASTING MACHINES AND SIMILAR JET PROJECTING MACHINES

Sand blasting machines and the like are often of heavy construction and sometimes incorporate compressors. They are used for de-scaling or cleaning metal articles, for etching or putting a matt surface on glass, stone, etc., by subjecting the articles to the action of high pressure jets of sand, metal abrasives, etc. They are usually fitted with dust extractors to remove the residual sand and dust. The heading also covers steam blast appliances used, for example, for de-greasing machined metal, etc.

(D) SYRINGES, SPRAYS AND POWDER DISTRIBUTORS

These are used for insecticides, fungicides, etc., in agriculture, horticulture or the home. The heading includes such appliances, with or without integral reservoirs, of the type operated by hand (including simple piston pump sprays) or by foot pedal, as well as powder bellows, knapsack sprayers and transportable sprayers. The heading also includes mobile spraying machines in which the motor providing the power for pumping or spraying can also be geared to provide a limited movement of the apparatus for working purposes, but it **does not include** machines constituting true vehicles within the meaning of **heading 87.05**.

Providedthey incorporate mechanical devices for producing or dispersing the spray or jet, or for automatically orientating the spray head (including simple mechanisms activated by water pressure), the heading includes the following types of appliances, whether fixed, transportable or mobile :

(1) Sprinklers and sprays for lawns, orchards, etc. (e.g., rotary sprays and oscillating sprays).

(2) Hydraulic guns designed for dislodging minerals (e.g., gold bearing sands) from mountain sides, etc., by projecting powerful jets of water and water-jet bark strippers used by the paper industry.

The heading also includes mechanical windscreen and headlamp washing devices for motor vehicles, and flame guns of the type used for destroying weeds or for other agricultural purposes.

The heading **does not include :**

(a) Insecticides put up under pressure in containers fitted with simple pressure release valves (**heading 38.08**).

(b) Hose pipe nozzles (**Section XV**, or **heading 84.81** if fitted with taps, cocks, valves or other appliances for regulating the liquid flow).

(c) Medical instruments of **heading 90.18**.

(d) Scent sprays and similar toilet sprays (**heading 96.16**).

(E) IRRIGATION SYSTEMS

These irrigation systems, consisting of various components linked together usually include :

(i) a control station (mesh filters, fertiliser injectors, metering valves, non-return valves, pressure regulators, pressure gauges, air vents, etc.);

(ii) an underground network (distribution lines and branchlines which carry the water from the control station to the irrigation zone); and

(iii) a surface network (dripper lines incorporating the drippers).

Such systems are classified in this heading as functional units within the meaning of Note 4 to Section XVI (see the General Explanatory Note to that Section).

*

* *

This heading also covers :

(1) Machines for coating various objects (for example, cups, cartons, boxes) by spraying with paraffin wax or molten wax.

(2) Electrostatic painting apparatus consisting of a spray gun connected to a paint container by a flexible tube carrying paint, and also connected to a high-tension generator by an electric cable. The electrostatic field created between the object to be painted and the gun attracts the paint particles sprayed by compressed air to that object and prevents dispersion.

(3) Industrial robots specially designed for projecting, dispersing or spraying liquids or powders.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading includes parts for the appliances and machines of this heading. Parts falling in this heading thus include, *inter alia*, reservoirs for sprayers, spray nozzles, lances and turbulent sprayer heads not of a kind described in **heading 84.81**.

*

* *

The heading also **excludes :**

(a) Hand-powered oil cans and grease guns (**heading 82.05**) and compressed air grease guns and other force-feed lubricating equipment (**heading 84.67**).

(b) Steam blast soot removers for boilers (**heading 84.04**).

(c) Furnace burners (**heading 84.16**).

(d) Machines for cleaning barrels or other containers by jets of water, steam, sand, etc. (**heading 84.22**).

(e) Ink-jet printing machines (**heading 84.43**).

(f) Automatic vending machines of the scent spraying type (**heading 84.76**).

(g) Machines for spreading mortar or concrete or for spraying gravel onto road or similar surfaces (**heading 84.79**).

(h) Salt and sand spreaders for clearing snow, designed to be mounted on a lorry (**heading 84.79**).

(ij) Spraying appliances for etching, developing, stripping, or cleaning semiconductor wafers and flat panel displays; deflash machines for cleaning and removing contaminants from the metal leads of semiconductor packages prior to the electroplating process (deflash by high pressure spray) (**heading 84.86**).

(k) Electric machines and apparatus for hot spraying of metals or cermets, of **heading 85.15**.

(l) Jet-type dental drills (**heading 90.18**) and aerosol therapy apparatus (nebulisers) (**heading 90.19**).

Subheading Explanatory Notes.

Subheading 8424.20

This subheading covers the appliances described in Part (B) of the Explanatory Note to heading 84.24.

Subheading 8424.41

The term “portable sprayers” refers to those sprayers which are designed to be pulled or carried by the operator either by a handle, or one or two shoulder straps.

This subheading includes pressure sprayers (which may be marketed as “spray guns”), consisting of a pressure tank incorporating a funnel and integrated pressure pump, a carrying strap, flexible tubing and a hand-held spray arm with a brass lance and an adjustable nozzle, all of which exhibit physical characteristics which clearly render them most suitable for agricultural or horticultural use (for example, operating pressure of 3 bars, 5 litre capacity, adjustable nozzle orifice).

Manual compression and lever operated knapsack sprayers, motorized knapsack sprayers, motorized knapsack mistblowers, operator carried rotary nozzle applicators and manually pulled or pushed boom sprayers are further examples of the portable sprayers of this subheading.

This subheading does not include hot and cold foggers.

8424.10

- Fire extinguishers, whether or not charged

8424.20

- Spray guns and similar appliances

8424.30

- Steam or sand blasting machines and similar jet projecting machines

CLASSIFICATION OPINIONS

1. “**Sand-blasting**” machines of the centrifugal type, for de-scaling and cleaning metal articles, generally consisting of a rotating horizontal drum in which the moving articles are subjected to the action of jets of steel grit projected, not by compressed air, but by the centrifugal action of a high-speed impeller.
   Adoption : 1959

2. Cleaning appliances (“steam cleaners”), consisting of a single unit comprising, inter alia, a motor, an automatic burner, a heating coil and a metering pump, and fitted with a nozzle, designed to project a concentrated jet of detergent solution, used for washing cars, machines, garages, repair shops, buildings, etc.
Adoption : 1963

8424.4

- Agricultural or horticultural sprayers :
8424.41

-- Portable sprayers
CLASSIFICATION OPINIONS

1. Pressure sprayer with a 3-bar operating pressure, a 5-litre filling capacity, provided with a piston pressure gauge having an integrated safety valve and with an integrated filler funnel. The sprayer has a pump, brass lance, adjustable carrying strap, a sturdy container with a funnel and an adjustable nozzle. The physical characteristics of the sprayer clearly render it most suitable for agricultural or horticultural use.
Application of GIRs 1 and 6.
Adoption : 2006

8424.49

-- Other
8424.8

- Other appliances :
8424.82

-- Agricultural or horticultural
8424.89

-- Other
CLASSIFICATION OPINIONS

1. **Fountains,** multi-coloured, having the character of base metal articles, consisting of an electric motor driven pump, inlet and outlet pipes, jet crown to spray the water, filters, lamps and a multi-coloured glass disc rotated by the action of a special water jet. *Adoption : 1969*

2. **Spraying appliance consisting of a valve fitted with a press-button incorporating a nozzle** (spray cap), comprising the following components :

(i) A press-button incorporating a nozzle (spray cap), of plastics;

(ii) A cup, of base metal;

(iii) A cup gasket, of plastics;

(iv) A stem gasket, of plastics;

(v) A stem, of plastics;

(vi) A housing, of plastics;

(vii) A steel spring;

(viii) A diptube, of plastics.

The article is designed to be mounted on the neck of a container, the contents (liquids, powders or foams) of which are sprayed into the air by depressing the press-button which allows propellant gas to escape through the spray cap. This article does not incorporate a control mechanism to regulate the flow or dispersion of the contents.

See also Opinions 8424.89/3 and 8481.80/3.
Adoption : 1996

3. "**Pump**" comprising a press-button, a nozzle; a piston-spring, a sealing-piston, a stem, a container-gasket, a screw cap, housing, a spring, a sealing-ball and a diptube. The article is designed to be mounted on the neck of a container for projecting liquids, powders or foams through the nozzle by means of a piston-pump.
See also Opinions 8424.89/2 and 8481.80/3.
Adoption : 1996

4. Automatic finishing line for top coat, base coat and staining for furniture manufacture, comprising :

- a motorised conveyor system (roller/belt conveyor);

- an electronic stain and lacquer spraying system, comprising :

(1) a rotary spraying machine for staining and base-coating of furniture, equipped with the following :

- self-cleaning conveyor belt with stain recovery;

- one feeding circuit equipped with 10 pneumatic guns and a low-pressure pump;

- water curtain.

2) an automatic spraying machine for top-coating of furniture, equipped with the following :

- self-cleaning conveyor belt with lacquer recovery;

- oscillating double unit with 8 air-mix guns and high-pressure pump;

- water curtains and tank with automatic sludge separator;

- exhaust air system with scrubber for solid content reduction;

- pressurised enclosure for protection from dust;

- hyper filtering unit with high efficiency cartridges for dust-free air supply.

- an in-line drying system which uses drying processes based on heat exchange and ultra-violet radiation.

Application of Note 4 to Section XVI and GIR 6.
Adoption : 1998

8424.90

- Parts

Heading 8425

Pulley tackle and hoists other than skip hoists; winches and capstans; jacks.

EXPLANATORY NOTES

84.25 - Pulley tackle and hoists other than skip hoists; winches and capstans; jacks.

- Pulley tackle and hoists other than skip hoists or hoists of a kind used for raising vehicles :

8425.11 - - Powered by electric motor

8425.19 - - Other

- Winches; capstans :

8425.31 - - Powered by electric motor

8425.39 - - Other

- Jacks; hoists of a kind used for raising vehicles :

8425.41 - - Built-in jacking systems of a type used in garages

8425.42 - - Other jacks and hoists, hydraulic

8425.49 - - Other

This heading covers simple lifting or handling equipment. The provisions of Explanatory Note to heading 84.26 apply, *mutatis mutandis*, to the equipment of this heading insofar as they concern self-propelled and other "mobile" machines, multi-function machines and lifting, loading, handling, etc., machines intended for incorporation in other machines or for mounting on transport vehicles or vessels of Section XVII. However, if a winch is the normal working tool of a tractor, the complete machine (tractor and winch) is classifiable in **heading 87.01**.

The heading covers :

(I) PULLEY TACKLE AND HOISTS OTHER THAN SKIP HOISTS

The **pulley tackle and hoists** classified in this heading consist of more or less complex systems of pulleys and cables, chains, ropework, etc., designed to give a mechanical advantage to facilitate lifting (e.g., by use of pulleys of different diameter, toothed wheels, gearing systems).

This group includes, *inter alia* :

(1) Tackle and hoists in which the chain engages in specially designed projections on the pulley rims.

(2) Drum type pulley hoists in which the cable is wound on a drum enclosing the pulley mechanism. This self-contained type of hoist, usually pneumatic or electric, is often mounted on a trolley or crab running on an overhead rail.

(3) Hoists consisting of a roller chain running over a geared system of sprocket wheels operated by a crank handle or lever, somewhat as in a jacking system.

Separately presented pulleys and pulley blocks are **excluded** (**heading 84.83**).

Davits, also included in this heading, consist of twin tipping or swivelling supports from which ships' boats, etc., may be raised or lowered by means of pulley tackle type hoisting gear.

(II) WINCHES AND CAPSTANS

Winches consist of hand-operated or power-driven horizontal ratchet drums around which the cable is wound. **Capstans** are similar, but the drum is vertical.

This group includes :

(1) Marine winches and capstans for operating cargo lifting gear, raising anchor, manoeuvring the steering gear, hauling in tow lines, fishing nets, dredging cables, etc. The power unit is often built into those machines as an integral whole.

(2) Winches for tractors, etc.

(3) Pit-head winding gear, consisting essentially of a large power-driven winch.

(4) Capstans for operating turn-tables, or for shunting railway wagons, etc. For shunting, the cable is usually passed along a number of bollards each freely turning on bearings to facilitate haulage. These bollards are classified in **heading 73.25** or **73.26**.

(5) Drawing blocks for wire-drawing benches.

(III) JACKS

Jacks are designed to raise heavy loads through short distances. The heading includes **rack and pawl jacks**, **screw jacks** in which the screw is raised by rotation or by rotating a nut fixed in the jack base, and **telescopic screw jacks** operated by the action of two or more concentric screws, the outer screw turning in the nut in the jack base.

In **hydraulic or pneumatic jacks**, the lifting piston is forced along a cylinder by pressure generated in a pump or compressor which may be separate or built-in.

Special types of jacks include :

(1) Portable jacks for cars, etc.

(2) Trolley mounted garage jacks, crate-lifting jacks, etc.

(3) Garage type built-in jacking systems, usually hydraulic.

(4) Jacks used in tipping mechanisms for lorries.

(5) Jacks for firmly anchoring cranes, heavy lorries, mobile workshops, guns, etc.

(6) Jacks for lifting railway track.

(7) Jacks for lifting railway rolling-stock.

(8) Horizontal action jacks for moving girders, sections of building structures, etc.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the equipment of this heading are classified in **heading 84.31**.

*

* *

The heading also **excludes** :

(a) Hydraulic or pneumaticcylinders of **heading 84.12**.

(b) Level crossing control gear and railway signalling equipment of **heading 86.08**.

8425.1

- Pulley tackle and hoists other than skip hoists or hoists of a kind used for raising vehicles :

8425.11

-- Powered by electric motor

8425.19

-- Other

8425.3

- Winches; capstans :

8425.31

-- Powered by electric motor

CLASSIFICATION OPINIONS

1. Lift winding gear comprising an electric motor coupled to a winch on a common base; the winch consists of gearing driving a shaft designed for a pulley and fitted with a brake.
Adoption : 1965

8425.39

-- Other

8425.4

- Jacks; hoists of a kind used for raising vehicles :

8425.41

-- Built-in jacking systems of a type used in garages

8425.42

-- Other jacks and hoists, hydraulic

8425.49

-- Other

Heading 8426

Ships' derricks; cranes, including cable cranes; mobile lifting frames, straddle carriers and works trucks fitted with a crane.

EXPLANATORY NOTES

84.26 - Ships' derricks; cranes, including cable cranes; mobile lifting frames, straddle carriers and works trucks fitted with a crane.

- Overhead travelling cranes, transporter cranes, gantry cranes, bridge cranes, mobile lifting frames and straddle carriers :

8426.11 - - Overhead travelling cranes on fixed support

8426.12 - - Mobile lifting frames on tyres and straddle carriers

8426.19 - - Other

8426.20 - Tower cranes

8426.30 - Portal or pedestal jib cranes

- Other machinery, self-propelled :

8426.41 - - On tyres

8426.49 - - Other

- Other machinery :

8426.91 - - Designed for mounting on road vehicles

8426.99 - - Other

The heading covers a number of intermittent-action lifting or handling machines.

SELF-PROPELLED AND OTHER "MOBILE" MACHINES

In general, the heading covers not only fixed or stationary machines, but (with certain **exceptions** referred to below concerning machines mounted on transport equipment of the type falling in Section XVII) also mobile machines, whether or not self-propelled.

The **exceptions** are :

(a) **Machines mounted on vehicles proper to Chapter 86**.

Lifting or handling machines are classified in **heading 86.04** if they are mounted on wagons or trucks, of a kind suitable for coupling to a train designed to run on a railway network of any gauge. Railway breakdown cranes or crane wagons or trucks for servicing the permanent way or rolling-stock, and crane wagons or trucks for use in railroad goods loading depots, usually comply with this condition. Self-propelled vehicles for the servicing and maintenance of railway tracks fall also in **heading 86.04**. On the other hand, lifting or handling machines mounted on trucks or platforms **not** meeting the specifications of true railway rolling-stock remain classified in this heading. This is usually the case, for example, with contractors' cranes mounted to run on rails in servicing building sites, quarries, etc.

(b) **Machines mounted on tractors or motor vehicles proper to Chapter 87**.

(1) **Machines mounted on tractor type bases**.

Certain working parts of the machines of this heading may be mounted on tractors which are constructed essentially for hauling or pushing another vehicle, appliance or load but, like agricultural tractors, are fitted with simple devices for operating the working tools. Such working tools are subsidiary equipment for occasional work. In general, they are **relatively light** and can be mounted or changed at the working site by the user himself. In such cases, the working tools remain in this heading **provided** they constitute machines of this heading, or in **heading 84.31** if they are parts of those machines, even if presented with the tractor (whether or not mounted thereon), while the tractor with its operating equipment is classified **separately** in **heading 87.01**.

On the other hand, this heading covers self-propelled machines in which the propelling base, the operating controls, the working tools and their actuating equipment are specially designed for fitting together to form an integral mechanical unit. This applies, for example, to a propelling base resembling a tractor, but specially designed, constructed or reinforced to form an integral part of a machine performing one or more of the functions mentioned in this heading (lifting, handling, etc.). Presented separately, such propelling bases also fall in this heading, as incomplete machines having the essential features of complete machines of the same kind. Propelling bases potentially classifiable in several of the headings 84.25 to 84.30 because they can be equipped with several different working parts, are classified in accordance with Note 3 to Section XVI or by application of Interpretative Rule 3 (c).

For more detailed criteria for distinguishing between the tractors of heading 87.01 and the propelling bases of this Chapter, see Explanatory Note to heading 87.01.

(2) **Machines mounted on automobile chassis or lorries.**

Certain lifting or handling machines (e.g., ordinary cranes, light breakdown cranes) are often mounted on what is in fact an essentially complete automobile chassis or lorry in that it comprises at least the following mechanical features : propelling engine, gear-box and

controls for gear-changing, and steering and braking facilities. Such assemblies fall to be classified in **heading 87.05** as special purpose motor vehicles, whether the lifting or handling machine is simply mounted on the vehicle or forms an integral mechanical unit with it, unless they are vehicles designed essentially for transport purposes falling in **heading 87.04**.

On the other hand, this heading includes self-propelled machines in which one or more of the propelling or control elements referred to above are located in the cab of a lifting or handling machine (generally a crane) mounted on a wheeled chassis, whether or not the whole can be driven on the road under its own power.

The cranes of this heading do not generally move under load or, if they do, the movement is limited and subsidiary to their main function of lifting.

(c) **Machines on floating structures proper to Chapter 89.**

All lifting or handling machines (e.g. derricks and cranes) mounted on pontoons or other floating structures, whether or not self-propelled, are classified in **Chapter 89**.

MULTI-FUNCTION MACHINES

Many machines, in addition to carrying out the functions described in this heading or heading 84.25, 84.27 or 84.28 (lifting, loading, etc.) can also perform the functions described in heading 84.29 or 84.30 (excavating, levelling, boring, etc.). These machines are classified in accordance with Note 3 to Section XVI or by application of Interpretative Rule 3 (c). Examples are mechanical shovels, draglines, etc., which by interchanging jibs or end attachments can be used as cranes, combined coal-cutting and loading machines, combined trenching and pipe lifting and lowering machines, etc.

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Lifting, loading, handling, etc., machines presented separately are, however, classified in this heading even if intended for incorporation in other machines or for mounting on transport vehicles or vessels of Section XVII.

*

* *

The heading covers lifting or handling machines usually based on pulley, winch or jacking systems, and often including large proportions of static structural steelwork, etc.

These static structural elements (e.g., crane pedestals and gantries) are classified in this heading when they are presented as parts of a more or less complete handling machine.

When presented separately, they are classified in **heading 84.31 provided** they are fitted or designed to be fitted with the mechanical features essential for the operation of the moving parts of the complete installation (wheels, rollers, pulleys, running or guide rails, etc.). Otherwise these structural elements are classified in **heading 73.08**.

The heading covers :

(1) **Bridge cranes**, which consist of a powerful lifting unit suspended from a heavy cross beam or "bridge", the whole moving on wide gauge rails. Similar bridge cranes used in nuclear reactors for changing or extracting the fuel elements are also classified here.

(2) **Gantry cranes and overhead travelling cranes** in which the beam itself runs on rails fixed on walls or on suitable supporting metal structures.

(3) **Transporter cranes**, fixed or running on rails. These are sometimes very long and normally have a cantilever extension (which may or may not be articulated) over berths or unloading areas and are equipped with a hoisting trolley or crab running along the whole length of the beam. Special types are used for handling blocks of building stone or containers and in shipbuilding.

(4) **Mobile lifting frames** on tyred wheels, particularly for container handling. These machines may be self-propelled, **provided** they are designed to operate when stationary or, if they are able to move with their load over short distances, that they are simple portals which in most cases consist of a horizontal beam supported by two vertical members (sometimes of the telescopic type), each resting on a set of wheels.

(5) **Straddle carriers**, which consist of a chassis of the "straddle" type, generally with vertical telescopic members for adjusting the height. This chassis is normally mounted on four or more tyred wheels which usually serve both as driving and steering wheels so as to permit manoeuvres within a very small radius.

Owing to their special design they are able to position themselves over a load, lift it by means of special gripping devices, transport it over short distances and then lower it again. Some of these carriers are sufficiently wide and high to be positioned directly over transport vehicles for lifting or lowering the load.

Straddle carriers are used in factories, warehouses, dock areas, airports, etc., for handling long loads (profile shapes, tree trunks, timber, etc.) or for stacking containers.

(6) **Tower cranes**. These cranes comprise essentially a tower, usually composed of individual sections, of considerable height, fixed or running on rail, a main horizontal jib, fitted with trolleys, winches, service platforms and a cab for the operator, a counterweight jib with counterweights, tie bars to support the jibs, and a slewing device, either at the top or at the bottom, to enable the crane to rotate. The tower may contain hydraulic cylinders or jacks and a climbing frame which raise the jib so that additional tower sections can be attached to increase the working height of the crane.

(7) **Portal or pedestal cranes**, as used in harbours, which are jib cranes supported on tall four legged pedestals which run on rails of such wide gauge as to span one or more normal railway tracks.

(8) **Jib or derrick cranes** (but see the introduction to this Explanatory Note regarding railway breakdown cranes, crane lorries, floating cranes, etc.). Jib or derrick cranes are used for lifting loads and sometimes also moving them laterally. They consist essentially of a boom or jib which may be jointed to provide adjustable reach and to facilitate working. The hoisting cable passes over pulleys at the top of the boom and is driven by a winch. The jib or boom may be supported by a vertical support, sometimes of considerable height.

(9) **Cableways and cable cranes**, which are installations for transporting suspended loads. They consist of one or more bearer cables supported on fixed or movable towers, and a trolley running on the cables and fitted with a mechanism for hoisting and lowering the loads. They are used for handling materials on large construction sites, dams, bridges, quarries, etc.

(10) **Ships' derricks**, which consist of a fixed upright arm, to the base of which is pivoted a load-carrying arm which can be raised by a pulley system. (See the introduction to this Explanatory Note regarding similar machines mounted on floating pontoons, etc.)

(11) **Works trucks fitted with a crane**, which are designed for moving loads over short distances in factories, warehouses, dock areas or airports by means of a light crane mounted on a chassis of the works truck type, usually in the form of a box frame, with a long wheel-base and a wide track to avoid overbalancing.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading are classified in **heading 84.31**.

*

* *

The heading **excludes** crane lorries of **heading 87.05**.

8426.1

- Overhead travelling cranes, transporter cranes, gantry cranes, bridge cranes, mobile lifting frames and straddle carriers :

8426.11

-- Overhead travelling cranes on fixed support

8426.12

-- Mobile lifting frames on tyres and straddle carriers

8426.19

-- Other

8426.20

- Tower cranes

8426.30

- Portal or pedestal jib cranes

8426.4

- Other machinery, self-propelled :

8426.41

-- On tyres

CLASSIFICATION OPINIONS

1. **Reach stacker**, a self-propelled machine fitted with a diesel engine, tyres, a telescopic boom with a winch and a spreader or a hoist system with a hook block. It is used for "pick and carry" duties and is specially designed for a variety of industrial and cargo handling attachments

such as spreader (for ISO containers), piggy-back (for semi-containers), hook block and winch, fixed hook, grapple arms, grabs (for timbers, pipes, etc.) and forks. It can lift and handle industrial goods and loads weighing up to 60 tons. It uses a hydraulic system for lifting purposes and its main function is that of a crane for lifting and stacking of containers. **Application of GIRs 1 and 6.**
Adoption : 2006

2. **Self-propelled mobile crane**, consisting of a 6-wheeled chassis with a diesel engine and four outriggers. The chassis supports a turntable capable of rotating 360°, on which are permanently mounted the following : a 36 m long hydraulic telescopic boom with a hoist system and a hook block; the driving and operator's cab, which houses both crane and driving controls, mounted on a telescopic arm. During road driving the cab is positioned and mechanically locked at the front of the chassis. During crane operation, the telescopic arm can lift the cab up to a maximum operator eye level of 7.8 m. The crane has a maximum hoisting capacity of 45 tons, a maximum lifting height of 48 m and a maximum radius of 39 m. **Application of GIRs 1 and 6.**
Adoption : 2013





8426.49

-- Other

8426.9

- Other machinery :

8426.91

-- Designed for mounting on road vehicles

8426.99

-- Other

Heading 8427

Fork-lift trucks; other works trucks fitted with lifting or handling equipment.

EXPLANATORY NOTES

84.27 - Fork-lift trucks; other works trucks fitted with lifting or handling equipment.

8427.10 - Self-propelled trucks powered by an electric motor

8427.20 - Other self-propelled trucks

8427.90 - Other trucks

With the **exception** of straddle carriers and works trucks fitted with a crane of **heading 84.26**, this heading covers works trucks fitted with lifting or handling equipment.

Works trucks of this description include, for example :

(A) FORK-LIFT AND OTHER ELEVATING OR STACKING TRUCKS

(1) **Mechanically propelled fork-lift trucks**, which are sometimes of large size, carry the load on an elevating carriage sliding on a vertical mast. This lifting mechanism is normally situated in front of the driver's seat; it is designed to support the load during movement and to lift it for stacking or to place it on a vehicle.

This group also includes side-loading stacking trucks, which are designed to handle long loads (girders, planks, pipes, containers, etc.) and are usually equipped with a platform to support the load during transport over short distances.

The lifting device of the above trucks is normally powered by the motive power unit of the vehicle, and is usually designed to be fitted with various special attachments (forks, jibs, buckets, grabs, etc.) according to the type of load to be handled.

(2) Other **stacking machines**, usually mounted on a truck, are equipped with a platform or fork which can be raised and lowered in a vertical support, by hand or power-operated winch or rack systems. They are used for stacking sacks, crates, casks, etc.

Some stacking machines which work on the same principle as elevators are classified in **heading 84.28**.

(B) OTHER WORKS TRUCKS FITTED WITH LIFTING OR

HANDLING EQUIPMENT

This group includes :

(1) **Trucks with mechanically elevating platforms** for the maintenance of electric cables, public lighting systems, etc. (See the introduction to Explanatory Note to heading 84.26 regarding elevating platforms of this type mounted on lorries.)

(2) **Other trucks** fitted with lifting or handling equipment including those specialised for use in particular industries (e.g., in the textile or ceramic industries, in dairies, etc.).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the trucks of this heading are classified in **heading 84.31**.

8427.10

- Self-propelled trucks powered by an electric motor

CLASSIFICATION OPINIONS

1. Self-Propelled-Articulated Boom Lift, being an electric motor-powered wheeled base unit works truck with an articulated hydraulic lifting boom, which has a working platform (cage or man-basket) mounted on the boom. This lift has a maximum speed of 5.2 km/h (folded) and 0.8 km/h (unfolded), maximum working height 15.7 m, maximum gross weight 6,500 kg and platform capacity 227 kg. It is designed to accommodate a worker to enable work at heights.

Application of GIRs 1 and 6.
Adoption : 2021

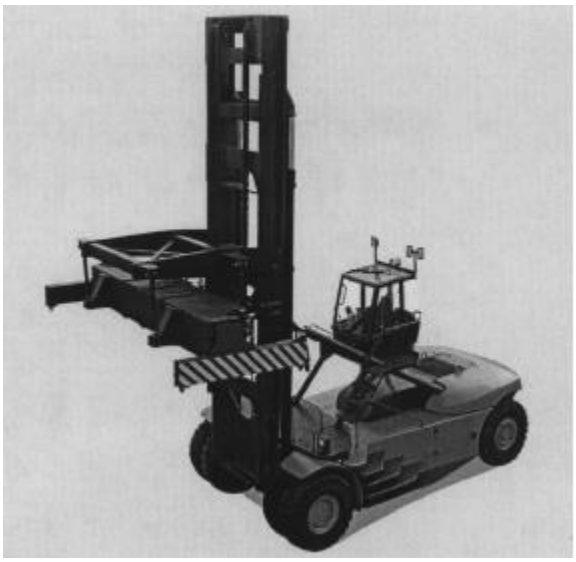


8427.20

- Other self-propelled trucks

CLASSIFICATION OPINIONS

1. **Self-propelled container handlers** consisting of a diesel powered six-wheeled chassis, an enclosed driver's cab mounted on the chassis, a vertical telescoping lift mast fitted to the front of the chassis and a belt-driven spreader fitted to the mast. The outer section of the mast telescopes vertically in and out from the inner section of the mast, raising and lowering the spreader which is additionally also lifted or lowered via the belt drive. Depending on the model, these container handlers can lift up to 36 tons and can stack containers up to 13 m. They have a maximum speed of 23 - 24 km/h and a lift speed of 0.30 - 0.40 m/s. Their turning radius is 7.6 m. **Application of GIRs 1and 6.** *Adoption : 2006*



8427.90

- Other trucks

Heading 8428

Other lifting, handling, loading or unloading machinery (for example, lifts, escalators, conveyors, teleferics).

EXPLANATORY NOTES

84.28 - Other lifting, handling, loading or unloading machinery (for example, lifts, escalators, conveyors, teleferics).

8428.10 - Lifts and skip hoists

8428.20 - Pneumatic elevators and conveyors

- Other continuous-action elevators and conveyors, for goods or materials :

8428.31 - - Specially designed for underground use

8428.32 - - Other, bucket type

8428.33 - - Other, belt type

8428.39 - - Other

8428.40 - Escalators and moving walkways

8428.60 - Teleferics, chair-lifts, ski-draglines; traction mechanisms for funiculars

8428.70 - Industrial robots

8428.90 - Other machinery

With the **exception** of the lifting and handling machinery of **headings 84.25 to 84.27**, this heading covers a wide range of machinery for the mechanical handling of materials, goods, etc. (lifting, conveying, loading, unloading, etc.). They remain here even if specialised for a particular industry, for agriculture, metallurgy, etc. This heading is not limited to lifting or handling equipment for solid materials but also includes such machinery for liquids or gases. But the heading **excludes** liquid elevators of the type falling in **heading 84.13**, and floating docks, coffer-dams and similar marine lifting and re-floating appliances operating solely by hydrostatic buoyancy (**heading 89.05** or **89.07**).

The provisions of Explanatory Note to heading 84.26 apply, *mutatis mutandis*, to the equipment of this heading insofar as they concern self-propelled and other “mobile” machines, multi-function machines and lifting, loading, handling, etc., machines intended for incorporation in other machines or for mounting on transport vehicles or vessels of Section XVII.

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The heading covers lifting or handling machines usually based on pulley, winch or jacking systems, and often including large proportions of static structural steelwork, etc.

These static structural elements (e.g., pylons specialised for teleferics, etc.) are classified in this heading when they are presented as parts of a more or less complete handling machine.

When presented separately, they are classified in **heading 84.31 provided** they are fitted or designed to be fitted with the mechanical features essential for the operation of the moving parts of the complete installation (wheels, rollers, pulleys, running or guide rails, etc.). Otherwise these structural elements are classified in **heading 73.08**.

These more complex machines include :

(I) INTERMITTENT ACTION MACHINES

(A) **Lifts** are usually operated by winch and cable, or by rams worked by water, air or oil. They are used for raising or lowering a passenger cage or goods platform between vertical guide bars, and are generally fitted with counter-balance weights. The control, stopping, safety, etc., equipment, whether or not electrical, is also classified in this heading **provided** it is presented with the lift itself. The heading also includes manually operated lifts.

Rack and pinion driven lifts or hoists also belong to this category. These lifts and hoists consist of a lift cage, fitted with a motor that drives a pinion, and a mast, equipped with a toothed rack. When the pinion is engaged with the toothed rack, it permits the lift cage to move along the mast, up or down, at a controlled speed.

The group also includes so-called “ship-lifts”, i.e., very powerful hydraulic or jack operated installations for lifting a vessel and lock basin complete from one canal level to another, and thus replacing normal locks.

(B) **Skip hoists** are a type of lift in which bulk material containers are hoisted up a ramp or vertical shaft. They are used for raising coal from mines, for hoisting ores, limestone, fuel, etc., into blast furnaces, lime kilns, etc.

The heading also includes skips for such skip hoists, i.e., large capacity metallic containers or bins often fitted with automatically opening bottoms. Mining skips usually incorporate a cabin for the miners mounted above the load bin.

(C) **Certain lifting machines** :

(1) **Lifting gins** consist of a winch mounted on a two-legged or tripod support.

(2) **Well drilling derricks** for hoisting the drilling tubes, etc., in petroleum wells, etc. (**other than** those mounted on lorries, etc. - see the introduction to Explanatory Note to heading 84.26).

(3) **Telphers** are similar in operation to overhead travelling or transporter cranes. The hoisting trolleys run (sometimes for considerable distances) on overhead rails supported on pylons.

(D) **Teleferics** are large winch-operated installations generally for lifting passengers or goods in the mountains. They consist of the bearer and traction cables supported on pylons, and two cabins (or grabs, containers, etc.) which ascend and descend on the bearer cable.

(E) **Funiculars** operate on the same principle as teleferics but the coaches run on rails. The heading in this case covers only the traction mechanism and winch; it **excludes** the coaches (**heading 86.05**) and the track (**heading 73.02** or **86.08** according to type).

(F) **Wagon tippers** are platforms with guide rails or grooves, so that the wagon can be run into position, clamped and then emptied by tilting, tipping or rotating the whole machine by a jacking or other lifting system. The heading also includes **wagon shaking machines** used to facilitate the discharge of hopper type wagons.

(II) CONTINUOUS ACTION MACHINES

(A) **Elevators** used for raising a constant stream of goods or persons vertically or obliquely. They consist essentially of a series of carriers of various types, attached at intervals to a jointed mechanism which turns as a continuous chain. They include bucket lifts for pulverised or granular materials, platform elevators for crates, parcels, etc., finger-tray elevators for sacks, barrels, bales of straw, sheaves, etc., and continuous multiple-cage lifts for passengers, etc.

(B) **Escalators and moving walkways**.

(C) **Conveyors** are used for moving goods, usually in a horizontal direction, sometimes over very long distances (in mines, quarries, etc.). They include :

(1) **Conveyors operated by continuously-moving carrying or pushing elements**, e.g., bucket, tray or pan type conveyors; scraper or screw conveyors (in which the materials are forced along a trough by a push plate or worm respectively); band, belt, apron, slat, chain, etc., conveyors.

(2) **Conveyors consisting of a train of motor-driven rollers** (e.g., as used for feeding steel into cogging mills). The heading also covers roller conveyors, not power-driven, usually mounted on bearings (e.g., horizontal roller runways for manoeuvring crates, etc., and gravity roller conveyors), but it **excludes** similar equipment without rollers, e.g., straight, curved or spiral sliding chutes (**heading 73.08**, **73.25** or **73.26** according to type).

(3) **Vibrator or shaker conveyors** operated by vibratory or reciprocating movements of the trough supporting the goods.

(D) **Pneumatic elevators and conveyors** (e.g., pneumatic tube conveyors), in which small containers (for documents, small machined parts, etc.) or bulk materials (grain, straw, hay, sawdust, pulverised coal, etc.) are forced along a tube by an air current (including similar machines for transporting and cleaning grain).

(E) **Roller supports ("castors")**, similar to roller conveyors, consist of a number of tubular posts fixed in the factory floor. The top of each post consists of a roller running on bearings and pivoting freely in all directions, so that the set of "castors" provides a roller table system (e.g., for handling sheet metal in rolling mills).

(F) **Cable-operated hauling or towing machines** consist essentially of an endless cable or chain in continuous motion for hauling wagons (e.g., for colliery tubs and tip wagons), for towing barges, sledges, etc., for carrying passengers (ski-lifts), etc.

(III) OTHER SPECIAL LIFTING OR HANDLING MACHINERY

(A) **Locomotive or wagon traversers** for transferring locomotives, trucks, etc., from one track to another.

(B) **Wagon pushers of various kinds**, e.g. :

(1) Appliances fixed between the rails, consisting essentially of two reciprocating power-driven pistons which engage on the axles and thus push the trucks forward.

(2) Hydraulic ram or piston type machines for pushing mining trucks into the pithead cages, etc.

(3) Self-propelled one-wheel machines running on one rail of the permanent way. They have to be supported by a walking operator in the same way as wheelbarrows, and are powered by small petrol engines. It should, however, be noted that small tractors, also sometimes known as "wagon pushers" and used for that purpose, are **excluded** (**heading 87.01**).

(C) **Mechanical loaders** for picking up coal, ores, excavated earth, pebbles, sand or other bulk materials. These machines are usually combined with a conveyor or an elevator (shaker type conveyor-loader, pick-up conveyor-loader, etc.).

(D) **Auxiliary mechanical appliances for manipulating pneumatically**, **hydraulically or electrically operated hand tools** (drills, hammers, etc.). These appliances help to support the tool or push it forward into the work, e.g., pneumatically operated tool supports and pushers; drilling rigs and carriages ("Jumbos"); mechanical "balancers" for suspending tools during working. But the heading **excludes** simple static supports, etc.

(E) **Industrial robots** specifically designed for lifting, handling, loading or unloading.

(F) **Mechanical ladders** consisting of sliding sections operated by a mechanism (e.g., pulley tackle or winch).

(G) **Mechanically adjustable wheeled platforms ("dollies")** for mounting and manipulating cinematographic cameras.

(H) **Mechanical remote control manipulators**, for radioactive products, fixed or mobile, consisting of an arm outside the shielded cell, which is guided manually, and an arm inside the cell, which reproduces the operator's movements. Transmission of the movements is by means of mechanical, hydraulic or pneumatic appliances or by electric pulses.

Manipulatorsused independently in the hand (like a hand tool) fall in **heading 82.03**, **82.04** or **82.05**.

(IJ) **Platforms**, **whether or not self-propelled**, for the handling of containers or palettes used in airports for loading or unloading of aircraft. This equipment consists principally of an elevated platform supported by two diagonal cross-members. It is provided with a moving belt to transport the cargo. This equipment is not intended to transport containers or palettes, even over short distances, but is positioned empty beside the aircraft and operates only from that position.

(K) **Palletisers**, electrically driven machines designed to align empty bottles automatically in regular rows (using powered or roller conveyors) and then to transfer them perfectly aligned onto a pallet for stacking layer upon layer. These palletisers, which do not fill, close, seal, label or band bottles, can stand alone or be incorporated in a processing line containing other machines which carry out such functions as filling or shrink-wrapping.

(L) **Patient lifts**. These are devices with a supporting structure and a seat for the raising and lowering of seated persons, e.g., in a bathroom or onto a bed. The mobile seat is fixed to the supporting structure by means of ropes or chains.

(M) **Stair lifts**. These are lifting devices, fitted with a load platform, which are fixed to banisters, stairway walls or the stairs and are used to move disabled persons or wheelchairs with their occupant up or down stairs.

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Lifting or handling devices are often used with furnaces, converters, rolling mills, etc., e.g., machines for inserting, handling or withdrawing the pieces being worked; for manipulating doors, covers, hearths, etc.; tipping or tilting machines. When these machines form independent units clearly distinct from the furnaces, etc., they are classified in this heading even if presented with the furnaces, etc. Examples include :

(1) **Coke oven discharging machines** running to and fro behind the row of ovens, and equipped with a mechanical piston which opens the doors and empties the retorts.

(2) **Ram or piston operated charging machines for Siemens Martin converters, etc**.

(3) **Special lifting machines** for raising the covers of metallurgical annealing or "soaking" pits, or for lifting out the ingots.

(4) **Ingot, forging, etc., manipulators, tilters, etc**.

(5) **Machines** used in certain types of furnaces for inserting or removing, by the action of cylinders fitted with rams or pistons, the objects being treated in the furnace.

It should, however, be noted that the heading **excludes** lifting or handling machines designed to be incorporated in furnaces, converters, etc., or to form a complete unit therewith, **provided** they are presented with the furnaces, etc. (see **headings 84.17**, **84.54**, **84.55**, etc.). When presented separately they remain in this heading.

It should be noted that mechanical stokers, mechanical grates and similar appliances are also **excluded** (**heading 84.16**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading are classified in **heading 84.31**.

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The heading also **excludes** :

(a) Liquid elevators of bucket, chain, screw, band or similar kinds (**heading 84.13**).

(b) Machinery for sorting, screening, separating or washing earth, stone, ores or other mineral substances in solid form (**heading 84.74**).

(c) Passenger boarding bridges (**heading 84.79**).

(d) Machines and apparatus solely or principally of a kind used for lifting, handling, loading or unloading of boules, wafers, semiconductor devices, electronic integrated circuits or flat panel displays (**heading 84.86**).

(e) Turntables of **heading 86.08**.

(f) Dumpers (**heading 87.04**).

8428.10

- Lifts and skip hoists

8428.20

- Pneumatic elevators and conveyors

8428.3

- Other continuous-action elevators and conveyors, for goods or materials :

8428.31

-- Specially designed for underground use

8428.32

-- Other, bucket type

8428.33

-- Other, belt type

8428.39

-- Other

8428.40

- Escalators and moving walkways

8428.60

- Teleferics, chair-lifts, ski-draglines; traction mechanisms for funiculars

8428.70

- Industrial robots

8428.90

- Other machinery

Heading 8429

Self-propelled bulldozers, angledozers, graders, levellers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers.

EXPLANATORY NOTES

84.29 - Self-propelled bulldozers, angledozers, graders, levellers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers.

- Bulldozers and angledozers :

8429.11 - - Track laying

8429.19 - - Other

8429.20 - Graders and levellers

8429.30 - Scrapers

8429.40 - Tamping machines and road rollers

- Mechanical shovels, excavators and shovel loaders :

8429.51 - - Front-end shovel loaders

8429.52 - - Machinery with a 360° revolving superstructure

8429.59 - - Other

The heading covers a number of earth digging, excavating or compacting machines which are explicitly cited in the heading and which have in common the fact that they are all self-propelled.

The provisions of Explanatory Note to heading 84.30 relating to self-propelled and multi-function machines apply, *mutatis mutandis*, to the self-propelled machinery of this heading, which includes the following :

(A) **Bulldozers and angledozers**. These consist of a propelling base, often track-laying, with a large blade mounted in front, and forming an integral mechanical unit. They are used, in particular, for removing debris and for rough levelling. Certain types are designed mainly for grubbing or for land clearing.

(B) **Graders and levellers**. These are machines designed for earth levelling or smoothing (on flat surfaces or banks) by means of an adjustable grading blade, usually mounted within the wheel base.

(C) **Scrapers**. These incorporate a sharp cutting edge designed to slice off a layer of top soil which is then passed into the scraper body or discharged by a conveyor.

It should be noted that this heading covers only those scrapers in which the motor propulsion unit and the scraper form an integral mechanical unit, for example, track-laying scrapers in which the scraper body incorporating the cutting edge is situated between the two tracks. This heading also includes articulated scrapers which consist of a motor propulsion unit (even with only a single axle) and a scraper proper equipped with a fixed blade or a mobile attachment with several blades.

(D) **Tamping machines** as used in road making, for packing rail-road ballast, etc. (but see paragraph (a) of the introduction to Explanatory Note to heading 84.30 regarding machines mounted on vehicles of Chapter 86).

(E) Self-propelled **road rollers** as used in road building or other public works (e.g., for levelling the ground or rolling the road surface).

These machines are fitted with heavy cast iron or steel cylinders of large diameter, smooth or studded with metal feet which press into the soil (“sheep’s-foot” rollers), or with wheels and heavy grade solid or pneumatic tyres.

(F) **Mechanical shovels (boom, jib or cable type)** which dig into the soil, above or below machine level, by means of an excavating bucket, grab, etc., operated either directly from the end of a boom or jib (shovel excavators, drag shovels, etc.) or, to increase the working range, on a cable or by means of a hydraulic jack suspended from the jib (draglines). In long range **excavators** (slackline draglines), the bucket is operated on a cable running between two movable structures set some distance apart.

(G) **Multi-bucket excavators** in which the digging buckets are fitted on endless chains or on rotating wheels. These machines often incorporate conveyors for discharging the excavated soil, and they are mounted on wheeled or track-laying chassis. Special models are designed for digging or cleaning out trenches, drainage channels, ditches for use in open-cast (open-pit) mines, etc.

(H) **Self-propelled shovel loaders**. These are wheeled or crawler machines with a front-mounted bucket which pick up material through motion of the machine, transport and discharge it.

Some “shovel-loaders” are able to dig into the soil. This is achieved as the bucket, when in the horizontal position, is capable of being lowered below the level of the wheels or tracks.

(IJ) **Loader-transporters** used in mines. These machines, the main function of which is handling and not transport, are equipped with a front-mounted bucket which picks up bulk materials and discharges them into the body of the machine.

This heading also covers self-propelled shovel loaders having an articulated arm with a bucket, mounted on the rear.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading, in particular, working tools (blades, buckets, etc.), whether or not fitted with booms and pneumatic or hydraulic cylinders, suitable for mounting directly onto the propelling base, are classified in **heading 84.31**.

8429.1

- Bulldozers and angledozers :
8429.11

-- Track laying
8429.19

-- Other
8429.20

- Graders and levellers
8429.30

- Scrapers
8429.40

- Tamping machines and road rollers
8429.5

- Mechanical shovels, excavators and shovel loaders :
8429.51

-- Front-end shovel loaders
CLASSIFICATION OPINIONS

1. Self-propelled loaders, front loading, with four-wheel drive and skid steer, fitted with a single-piece chassis, a driver's and control cab and a double lifting arm operated by hydraulic jacks, which is an integral part of the structure of the machine itself and is driven by the rear-mounted engine; the loader is presented with or without its bucket. The bucket is loaded through forward motion of the

machine, which lifts, transports and discharges material. These machines may be fitted with other interchangeable tools such as a hydraulic backhoe or breaker, earth auger, box scraper, scarifier, etc.
Adoption : 1992 + 1995

8429.52

-- Machinery with a 360° revolving superstructure
8429.59

-- Other
Heading 8430

Other moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores; pile-drivers and pile-extractors; snow-ploughs and snow-blowers.
EXPLANATORY NOTES

84.30 - Other moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores; pile-drivers and pile-extractors; snow-ploughs and snow-blowers (+).

8430.10 - Pile-drivers and pile-extractors

8430.20 - Snow-ploughs and snow-blowers

- Coal or rock cutters and tunnelling machinery :

8430.31 - - Self-propelled

8430.39 - - Other

- Other boring or sinking machinery :

8430.41 - - Self-propelled

8430.49 - - Other

8430.50 - Other machinery, self-propelled

- Other machinery, not self-propelled :

8430.61 - - Tamping or compacting machinery

8430.69 - - Other

This heading covers machinery, **other than** the self-propelled machines of **heading 84.29** and agricultural, horticultural or forestry machinery (**heading 84.32**), for “attacking” the earth’s crust (e.g., for cutting and breaking down rock, earth, coal, etc.; earth excavation, digging, drilling, etc.), or for preparing or compacting the terrain (e.g., scraping, levelling, grading, tamping or rolling). It also includes pile-drivers, pile-extractors, snow-ploughs, and snow-blowers.

SELF-PROPELLED AND OTHER "MOBILE" MACHINES

In general, the heading covers not only fixed or stationary machines, but (with certain **exceptions** referred to below concerning machines mounted on transport equipment of the type falling in Section XVII) also mobile machines, whether or not self-propelled.

The **exceptions** are :

(a) **Machines mounted on vehicles proper to Chapter 86**.

Excavating, etc., machines are classified in **heading 86.04** if they are mounted on wagons or trucks, of a kind suitable for coupling into a train running on a railway network of any gauge. Railroad ballast excavator-screening machines are often mounted on wagons or trucks complying with this condition. On the other hand, excavating, etc., machines mounted on trucks or platforms **not** meeting the specifications of true railway rolling stock remain classified in this heading. Self-propelled vehicles for the servicing and maintenance of railway tracks also fall in **heading 86.04**.

(b) **Machines mounted on tractors or motor vehicles proper to Chapter 87**.

(1) **Machines mounted on tractor type bases**.

Certain working parts (e.g., levelling blades) of the machines of this heading may be mounted on tractors which are constructed essentially for hauling or pushing another vehicle, appliance or load but, like agricultural tractors, are fitted with simple devices for operating the working tools. Such working tools are subsidiary equipment for occasional work. In general, they are **relatively light** and can be mounted or changed at the working site by the user himself. In such cases, the working tools remain in this heading **provided** they constitute machines of this heading, or in **heading 84.31** if they are parts of those machines, even if presented with the tractor (whether or not mounted thereon), while the tractor with its operating equipment is classified **separately** in **heading 87.01**.

On the other hand, this heading covers self-propelled machines in which the propelling base, the operating controls, the working tools and their actuating equipment are specially designed for fitting together to form an integral mechanical unit. This applies, for example, to a propelling base resembling a tractor, but specially designed, constructed or reinforced to form an integral part of a machine performing one or more of the functions mentioned in this heading (excavating, levelling, etc.). Presented separately, such propelling bases also fall in this heading, as incomplete machines having the essential features of complete machines of the same kind. Propelling bases potentially classifiable in several of the headings 84.25 to 84.30 because they can be equipped with several different working parts, are classified in accordance with Note 3 to Section XVI or by application of Interpretative Rule 3 (c).

For more detailed criteria for distinguishing between the tractors of heading 87.01 and the propelling bases of this Chapter see Explanatory Note to heading 87.01.

(2) **Machines mounted on automobile chassis or lorries.**

Certain machines of this heading (e.g., pile-drivers, oil well drilling machines) are often mounted on what is in fact an essentially complete automobile chassis or lorry in that it comprises at least the following mechanical features : propelling engine, gear-box and controls for gear-changing, and

steering and braking facilities. Such assemblies are classified in **heading 87.05** as special purpose motor vehicles.

On the other hand, this heading includes self-propelled machines in which one or more of the propelling or control elements referred to above are located in the cab of a machine mounted on a wheeled chassis, whether or not the whole can be driven on the road under its own power.

The heading further includes self-propelled wheeled machines in which the chassis and the working machine are specially designed for each other and form an integral mechanical unit. In this case, the machine is not simply mounted on an automobile chassis like the machines described in the first paragraph above, but is completely integrated with a chassis that cannot be used for other purposes and may incorporate the essential automobile features referred to above.

(c) **Machines on floating structures proper to Chapter 89**.

All machines (e.g., dredgers) mounted on pontoons or other floating structures, whether or not self-propelled, are classified in **Chapter 89**.

MULTI-FUNCTION MACHINES

Many machines, in addition to carrying out the functions described in heading 84.29 or 84.30 (excavating, levelling, boring, etc.), can also perform the functions described in heading 84.25, 84.26, 84.27 or 84.28 (lifting, loading, etc.). These machines are classified in accordance with Note 3 to Section XVI or by application of Interpretative Rule 3 (c). Examples are combined coal-cutting and loading machines, combined trenching and pipe lifting and lowering machines, etc.

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The heading includes :

(I) PILE-DRIVERS AND PILE-EXTRACTORS

Pile-drivers consist of a heavy hammer weight, usually operated in a tall vertical guiding framework. The weight is raised by mechanical power and then allowed to fall on to the head of the pile either under gravity (single-acting machines) or under power (double-acting hammers).

The heading also covers pile-extractors.

(II) SNOW-PLOUGHS AND SNOW-BLOWERS

Snow-ploughs and snow-blower vehicles of Section XVII with built-in equipment are **excluded**. The heading, however, covers snow-ploughs designed to be pushed or pulled (blade types), e.g., those designed to be attached to lorries or tractors.

(III) EXTRACTING, CUTTING OR DRILLING MACHINERY

This is mainly used in mining, well-drilling, tunnelling, quarrying, clay cutting, etc.

(A) **Coal or rock cutters** for cutting or breaking down coal, ores, etc. They consist of a bar or disc fitted with picks, or, more often, of an endless cutting chain running round a metal jib which may be adjustable for level and angle of cut (universal cutters). They may be mounted on self-propelled wheeled or tracklaying chassis, and some (cutter loaders) may be very large, incorporating a number of cutting chains and a built-in conveyor for loading the cut material on to the face conveyor, tubs, etc.

(B) **Tunnelling machinery**. Tunnelling shields have smooth outer surfaces and sharp front cutting edges which are pushed forward into the soil by a hydraulic jacking system.

(C) **Machines for boring drill holes in rock, coal, etc., and percussion type cutters** in which the drill can be swung to make linear cuts. But the heading **excludes** such tools for working in the hand, pneumatic, hydraulic or with self-contained motor (**heading 84.67**).

(D) **Well sinking or boring machines** for the extraction of petroleum, natural gases, sulphur (Frasch process), etc., for raising strata samples in mining and oil well prospecting, for the sinking of artesian wells, etc. These machines are of two main types :

(1) **Rotary well sinking machinery** consisting essentially of a derrick fitted with pulley tackle, a hoist drum with transmission and control gear (draw-work), a swivel and a rotary table or gear-wheel.

The power-driven draw-work imparts a rotary movement to the drill pipes by means of the rotary table or gear-wheel, the drill pipes being suspended from the rotary swivel. The draw-work also raises and lowers the drill pipes, when required, by means of the pulley tackle.

(2) **Percussion machines** consisting of an eccentric-driven rocker beam, the see-saw action of which causes the bit to strike continually into the well floor.

It should be noted that this heading covers **only** drilling machines as such. Other quite distinct machines normally used therewith are **excluded** even if presented with the drilling machines, e.g., pumps and compressors to force mud, stone, etc., out of the drilling (**heading 84.13** or **84.14**).

Fixed platforms used for the discovery or exploitation of off-shore deposits of oil or natural gas are also classified here. Floating or submersible platforms fall in **heading 89.05**.

(E) **Augering machines**, hand or power operated, for boring holes in the ground (e.g., for setting trees or fencing posts), but **not including** hand tools of **Chapter 82**.

(F) **Hydraulic wedges** consist of a long barrel with a number of pistons set laterally at intervals along the length. They are placed in a fissure or drill hole and the pistons are forced out by pumping water into the barrel, thus breaking down the rock or coal.

(G) **Ploughs, strippers, etc**., consist of cutter blades, ploughs, picks, wedges, etc., which are forced along the face, slicing off the coal, clay, etc., and loading it directly on to face conveyors, etc.

(IV) TAMPING OR COMPACTING MACHINES

This group includes :

(A) **Road rollers designed to be pushed or towed**. This group includes "sheep's-foot" tamping rollers studded with metal feet which press into the soil, and tamping rollers made up of a series of lorry type wheels with heavy grade pneumatic tyres mounted on a common axle.

However, the heading **excludes** self-propelled road rollers, whether or not fitted with "sheep's-feet" or with solid or pneumatic tyres (**heading 84.29**) and agricultural rollers (**heading 84.32**).

(B) **Tamping machines** as used in road making, for packing rail-road ballast, etc., not self-propelled. Tools for working in the hand, pneumatic, hydraulic or with self-contained motor, are, however, **excluded** (**heading 84.67**).

(C) **Machines, usually pneumatic, for compacting the sides of embankments, etc**.

(V) EARTH EXCAVATING, SCRAPING OR LEVELLING MACHINERY

This group includes :

(A) **Digging or excavating machines** described in Explanatory Note to heading 84.29, not self-propelled.

(B) **Dredgers** (bucket or shovel type), similar to the multibucket excavators of heading 84.29.

Floating dredgers are **excluded** (**heading 89.05**).

(C) **Railroad ballast excavator-screening machines**, consisting essentially of a continuous chain of buckets which dig the ballast from under the railway tracks. They also incorporate mechanisms for screening and discharging the ballast. But see paragraph (a) at the beginning of this Explanatory Note regarding machines mounted on vehicles of Chapter 86.

(D) **Rippers, rooters and scarifiers** fitted with cutting teeth which loosen the top soil, break up old road surfaces, etc., prior to re-laying.

(E) **Skimmers**, a type of excavating shovel similar to those of heading 84.29 with a horizontal boom; used for "skimming" off the top soil.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading are classified in **heading 84.31**.

*

* *

The heading also **excludes** :

(a) Hydraulic guns designed for dislodging minerals (e.g., gold bearing sands) from hill sides, etc., by projecting powerful water jets (**heading 84.24**).

(b) Agricultural rollers, consisting of a relatively long light land roller of small diameter, in some cases propelled by a small internal combustion engine (**heading 84.32**).

(c) Power tools (e.g., picks, tampers and drills) for working in the hand, of **heading 84.67**.

(d) Apparatus for cutting or piercing rock or concrete, using the high temperature produced by burning iron or steel in a jet of oxygen (**heading 84.79**).

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° °

Subheading Explanatory Note.

Subheadings 8430.31 and 8430.39

These subheadings cover the machines described in paragraphs (A), (B) and (G) of Part (III) of the Explanatory Note to heading 84.30.

8430.10

- Pile-drivers and pile-extractors

8430.20

- Snow-ploughs and snow-blowers

8430.3

- Coal or rock cutters and tunnelling machinery :

8430.31

-- Self-propelled

8430.39

-- Other

8430.4

- Other boring or sinking machinery :

8430.41

-- Self-propelled

8430.49

-- Other

8430.50

- Other machinery, self-propelled

8430.6

- Other machinery, not self-propelled :

8430.61

-- Tamping or compacting machinery

8430.69

-- Other

Heading 8431

Parts suitable for use solely or principally with the machinery of headings 84.25 to 84.30.

EXPLANATORY NOTES

84.31 - Parts suitable for use solely or principally with the machinery of headings 84.25 to 84.30.

8431.10 - Of machinery of heading 84.25

8431.20 - Of machinery of heading 84.27

- Of machinery of heading 84.28 :

8431.31 - - Of lifts, skip hoists or escalators

8431.39 - - Other

- Of machinery of heading 84.26, 84.29 or 84.30 :

8431.41 - - Buckets, shovels, grabs and grips

8431.42 - - Bulldozer or angledozer blades

8431.43 - - Parts for boring or sinking machinery of subheading 8430.41 or 8430.49

8431.49 - - Other

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), this heading covers parts for use **solely or principally** with the machinery of headings 84.25 to 84.30.

It should also be noted that many parts **do not fall** in this heading since they are :

(a) Specified elsewhere in the Nomenclature, e.g., suspension springs (**heading 73.20**), engines (**heading 84.07** or **84.08**, etc.) and electrical ignition or starting equipment (**heading 85.11**).

(b) Parts identical with those for motor vehicles and not suitable for use solely or principally with the machinery of headings 84.25 to 84.30, and therefore classified as parts of motor vehicles (**heading 87.08**); this applies in particular to wheels and steering and braking equipment.

or (c) Parts suitable for use solely or principally with the machinery for lifting, handling, loading or unloading boules, wafers, semiconductor devices, electronic integrated circuits or flat panel displays (**heading 84.86**).

The heading includes :

(1) Lifting grabs, buckets, grips, etc., i.e., simple lifting buckets fitted with attaching rings, hooks, etc.; hinge-bottomed buckets; grabs consisting of two jointed shells which fit together for lifting powdery materials; grips consisting of two or more jointed blades or claws for handling stone, rocks, etc.

Electro-magnetic lifting heads for handling scrap metal, etc., are also **excluded** (**heading 85.05**).

(2) Drums for winches or capstans; crane jibs; trolleys, crabs, buckets, skips, etc., for overhead transporters; cabins, cages and platforms for lifts, etc.; escalator steps; buckets and scraper chains for elevators and conveyors; supports, and drums or rollers (whether or not incorporating driving motors) for conveyors; driving and retarding heads for shaker conveyors and tables; safety stopping mechanisms for lifts, skip-hoists, etc.

(3) Cutter bars, chains and jibs for coal cutters; blades for scrapers, coal ploughs and strippers, etc.

This group also covers bulldozer or angledozer blades intended to be mounted as working tools on vehicles of Chapter 87.

(4) Rotary tables, swivels, kellies, kelly drive bushings, tool-joints, drill collars, subs, drill pipe guides, stop-collars, spider bowls, split bushing slips, beams, swivel sockets, and drilling jars, for well drilling machines (rotary or percussion).

(5) Digging buckets and grabs for excavators, bucket ladders for multi-bucket excavators; jibs for mechanical shovels; pile-driver hammers.

(6) Track-laying or wheeled chassis, not self-propelled, fitted with swivel gear or other rotating devices.

Cables and chains **equipped with their fittings** (e.g., cable clips, rings, hooks and spring hooks) are classified with the machinery for which they are intended, **provided** they are presented therewith. **When presented separately**, however, they are classified in **Section XV** (usually **heading 73.12** or **73.15**). Cables and chains **not equipped with such fittings** and presented in coils are also classified in that Section, even if cut to length and presented with the machines (winches, teleferics, cranes, cable operated hauling machines, draglines, excavators, etc.) for which they are intended.

*

* *

The heading also **excludes** :

(a) Transmission or conveyor belts or belting, of plastics (**Chapter 39**), of vulcanised rubber (**heading 40.10**), of leather (**heading 42.05**) or of textile materials (**heading 59.10**).

(b) Slings (**Section XI** or **XV**).

(c) Hollow drill bars and rods (**heading 72.28**).

(d) Casing, tubing and drill pipes (**headings 73.04 to 73.06**).

(e) Adjustable or telescopic pit props (**heading 73.08**).

(f) Lifting hooks (**heading 73.25** or **73.26**).

(g) Rock drilling bits and chisels, boring bits, auger bits and similar rock drilling or earth boring tools (**heading 82.07**).

(h) Locks for passenger and goods lifts, etc. (**heading 83.01**).

(ij) Pulleys, pulley blocks and bearing housings (**heading 84.83**).

8431.10

- Of machinery of heading 84.25

8431.20

- Of machinery of heading 84.27

8431.3

- Of machinery of heading 84.28 :

8431.31

-- Of lifts, skip hoists or escalators

8431.39

-- Other

8431.4

- Of machinery of heading 84.26, 84.29 or 84.30 :

8431.41

-- Buckets, shovels, grabs and grips

8431.42

-- Bulldozer or angledozer blades

8431.43

-- Parts for boring or sinking machinery of subheading 8430.41 or 8430.49

8431.49

-- Other

Heading 8432

Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers.

EXPLANATORY NOTES

84.32 - Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers.

8432.10 - Ploughs

- Harrows, scarifiers, cultivators, weeders and hoes :

8432.21 - - Disc harrows

8432.29 - - Other

- Seeders, planters and transplanters :

8432.31 - - No-till direct seeders, planters and transplanters

8432.39 - - Other

- Manure spreaders and fertiliser distributors :

8432.41 - - Manure spreaders

8432.42 - - Fertiliser distributors

8432.80 - Other machinery

8432.90 - Parts

This heading covers machines, whatever their mode of traction, used in place of hand tools, for one or more of the following classes of agricultural, horticultural or forestry work, viz. :

(I) Preparing the soil for cultivation (clearing, breaking, tilling, ploughing, loosening, etc.).

(II) Spreading or distributing fertilisers, including manure, or other products to improve the soil.

(III) Planting or sowing.

(IV) The working or maintenance of the soil during the growing period (hoeing, weeding, cleaning etc.).

*

* *

The machines of this heading may be hauled by an animal or by a vehicle (e.g., a tractor), or may be mounted on a vehicle (e.g., on a tractor or a horse-drawn chassis). (In this context, “tractor” includes “single axle tractor”.)

Machines designed to be hauled by, or mounted as interchangeable equipment on a tractor.

Some agricultural, horticultural or forestry machines (for example, ploughs and harrows) are designed solely to be hauled or pushed by a tractor, to which they are linked by a coupling device (whether or not with a lifting mechanism). Others (e.g., rotating hoes) are operated by a general-purpose power take-off on the tractor. Such machines are mounted and changed in the fields, the forest or the farm yard. All these machines remain in this heading even if they are presented with (and whether or not mounted on) the tractor. The tractor itself is classified separately in **heading 87.01**.

The same classification principle applies where another type of hauling device is substituted for the tractor (e.g., one classified in heading 87.04), or where a rotary hoe is mounted on the driving axle of

a single axle tractor in place of the wheels, so that it acts both as an implement and as driving wheels carrying the whole.

Self-propelled agricultural, horticultural or forestry machines

In these machines the tractive part and the machine make up one integral unit (e.g., motorised ploughs). Such machines are classified in this heading.

However, the heading **excludes** fertiliser, etc., spreading lorries which are classified with other special purpose motor vehicles in **heading 87.05**.

*

* *

The smaller types of agricultural machines designed to be drawn or rolled by manual power (e.g., ploughs, harrows, cultivators, hoes, rollers and seeders) also fall in this heading.

*

* *

The numerous machines of this heading include :

(1) **Ploughs** for all soil working purposes, e.g., mouldboard ploughs (single or multi share or reversible types), sub-soil ploughs (usually without mouldboards) and disc ploughs.

(2) **Harrows** which are mainly used for breaking up the soil after ploughing. In the **toothed harrow** the teeth are fitted to a rigid, articulated or chain-mesh framework, or sometimes to a drum or rollers. In **disc harrows** the teeth are replaced by one or more rows of concave discs with cutting edges.

(3) **Scarifiers, cultivators, weeders and hoes** which are used for working, weeding or smoothing the soil after ploughing, or during the growth of the crops. These machines usually consist of a horizontal frame fitted with several rows of various types of tools (shares, discs, teeth, etc.), which may be rigid or springy, fixed or movable, and are sometimes interchangeable.

(4) **Seeders, planters and transplanters**, for seed, bulbs, tubers, plants, etc., consisting of a box, hopper or other reservoir, sometimes mounted on wheels, and equipped with devices for distribution and for opening and usually re-covering the furrow.

This group includes no-till direct seeders, planters and transplanters for sowing crops without preparing the soil through tillage. They deliver seed in a measured quantity and deposit the seed into the unprepared soil by penetrating through surface mulch and plant residues, opening a narrow slot or punching a hole into soils and releasing the seed at a predetermined position and depth.

(5) **Fertiliser distributors and manure spreaders**. Distributors for spreading manure or solid fertilisers (chemicals, dung, etc.), sometimes mounted on wheels, usually consist of containers fitted with a distributing mechanism such as sliding floor plates, a worm feed, endless chains or

centrifugal discs; portable mechanical apparatus used for the same purposes are also included here.

Fertiliser distributors evenly spread synthetic fertilizer or other synthetic solid inputs over the soil. Manure spreaders distribute manure (dung) or a recycling of plant nutrients from “animal waste” over a field.

Moving-floor trailers with a chopper/distributor attachment enabling them to operate, while unloading, as muck spreaders, and slurry spreaders consisting of a wheeled container, usually equipped with spreading plates or troughs, fall in **heading 87.16**.

Portable injectors for forcing fertilising liquids into the soil, also fall in this heading. They consist of a long hollow rod, through which the fertiliser is pumped into the soil by a pump.

(6) **Machines for clearing** scrub, undergrowth, stalks of former crops, roots, etc. They generally consist of two large wheels and a drum fitted with cutting blades.

(7) **Stone-removing machines**, similar to a harrow but fitted with hooked teeth in two rows converging towards an openslatted container, to collect stones.

(8) **Rollers**, mainly used to pack the soil. These include smooth, corrugated, disc, packer wheel, etc., rollers. The heading also includes rollers for gardens, lawns, sports-grounds, grass tracks, etc.

(9) **Thinning-out machines** (e.g., beet separators) used for separating young plants. These may be very complex machines controlled by photo-electric devices.

(10) **Machines for cutting back the tops or stalks of plants** for pruning excess growth.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading covers parts for the above-mentioned machines. Such parts include, *inter alia :*

Plough beams, coulters, shares, mouldboards, plough discs (including diamond-edged shares, discs, etc.); tools and teeth (rigid or springy) for scarifying, cultivating or weeding machines; teeth, drums and discs for harrows; cylinders, segments and parts of rollers; distributing mechanisms for fertiliser distributors, seeding, planting or transplanting machines; shares, teeth, discs and other tools for hoeing machines.

*

* *

The heading **does not include :**

(a) Dibbers, planters, transplanters and similar hand tools (**heading 82.01**).

(b) Liquid elevators and pumps for liquids (including hub-pumps for mounting on the wheels of agricultural machines for spraying, etc.) (**heading 84.13**).

(c) Mechanical agricultural, horticultural or forestry appliances (whether or not hand-operated) for dispersing or spraying liquids or powders (**heading 84.24**).

(d) Manure lifters and other agricultural, horticultural or forestry lifting machinery of **heading 84.28**.

(e) Shovel loaders and road rollers, self-propelled (**heading 84.29**).

(f) Earth excavating, levelling, boring or extracting machinery and non self-propelled road rollers (**heading 84.30**).

(g) Stump removers and tree transplanters (**heading 84.36**).

(h) Agricultural carts and vehicles (**Chapter 87**).

8432.10

- Ploughs

8432.2

- Harrows, scarifiers, cultivators, weeders and hoes :

8432.21

-- Disc harrows

8432.29

-- Other

CLASSIFICATION OPINIONS

1. 4-4 blades (2+2) and disc dry land blade (soil cultivating implements), designed to be used for rotary tilling when installed on the driving axle of a propelling unit (pedestrian controlled tractor). The blades are presented in a single box together with, but not mounted on, the propelling unit. The propelling unit (pedestrian controlled tractor) presented together with the soil cultivating implements is classified separately. **Application of GIRs 1 and 6.** *See also Opinion 8701.10/1. Adoption : 2016*



8432.3

- Seeders, planters and transplanters :
8432.31

-- No-till direct seeders, planters and transplanters
8432.39

-- Other
8432.4

- Manure spreaders and fertiliser distributors :
8432.41

-- Manure spreaders
8432.42

-- Fertiliser distributors
8432.80

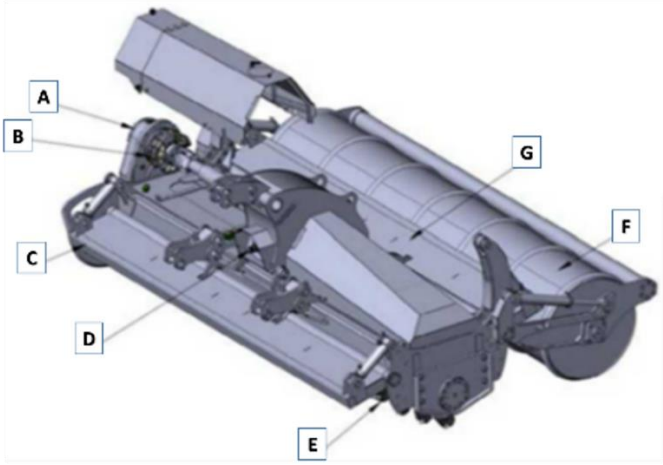
- Other machinery

CLASSIFICATION OPINIONS

1. Multi-terrain soil cutter/ripper, consisting of a rotor (diameter: 600 mm, width: 3150 mm) with 148 replaceable carbide cutters, a safety clutch and a rear drum which gives support whilst it levels and compacts the crushed material. It is designed to be hauled by a tractor, to which it is linked by a coupling device that provides the operating hydraulic and mechanical power, to work the soil to a maximum depth of 300 mm. Dimensions (L x W x H, in mm): 2385 x 3500 x 1400.

It is principally used for clearing farmland and forest, and soil preparation for planting. It can also be used for clearing building sites, maintenance of forest or farm roads, and crushing or clearing ice from the road.
Application of GIRs 1 (Note 8 to Chapter 84) and 6.
Adoption : 2022





A. Drive
B. Safety clutch
C. Front shield
D. Gearbox
E. Cutter
F. Compacting roller

G. Back shield

8432.90

- Parts

Heading 8433

Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 84.37.

EXPLANATORY NOTES

84.33 - Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 84.37.

- Mowers for lawns, parks or sports-grounds :

8433.11 - - Powered, with the cutting device rotating in a horizontal plane

8433.19 - - Other

8433.20 - Other mowers, including cutter bars for tractor mounting

8433.30 - Other haymaking machinery

8433.40 - Straw or fodder balers, including pick-up balers

- Other harvesting machinery; threshing machinery :

8433.51 - - Combine harvester-threshers

8433.52 - - Other threshing machinery

8433.53 - - Root or tuber harvesting machines

8433.59 - - Other

8433.60 - Machines for cleaning, sorting or grading eggs, fruit or other agricultural produce

8433.90 - Parts

This heading covers machines used in place of hand tools, for the mechanical performance of the following operations :

(A) Harvesting of agricultural crops (e.g., reaping, croplifting, gathering, picking, threshing, binding or bundling). Hay or grass mowers, and straw or fodder balers are also included in this heading.

(B) Machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, **other than** machinery of heading 84.37.

The provisions of Explanatory Note to heading 84.32 apply, *mutatis mutandis*, to this heading, e.g., in respect of tractors fitted with harvesting, threshing, mowing or other interchangeable attachments, and in respect of motor rakes.

(A) HARVESTING OR THRESHING MACHINERY,

INCLUDING STRAW OR FODDER BALERS;

GRASS OR HAY MOWERS

These include :

(1) **Lawn mowers**, whether worked by hand or motor driven. They may have a cutter bar like an agricultural mower, rotary blades which cut the grass against a fixed horizontal blade, or a rotating disc with knives on the outer edge.

(2) **Mowers (including motormowers)** for cutting hay, etc. They usually consist of a horizontal cutter bar and sections which cut by the oscillating action of teeth between the fingers of the cutter bar, or they may consist of rotating discs or drums with knives on the outer edge.

(3) **Mowers** equipped with a device for depositing the cut crop in rows across the field (mower-windrowers and mower-conditioners).

(4) **Hay tedders** (e.g., with lifting forks or drums).

(5) **Hay rakes**, usually consisting of a wheeled row of semi-circular teeth, which can be lifted automatically.

(6) **Tedder rakes**, **windrower rakes**, **bundling rakes**.

(7) **Pick-up balers and bale rollers**, for picking up and baling hay or straw left on the field.

(8) **Combine harvesters**, which successively reap, thresh, clean and discharge the grain.

(9) **Maize (corn) cutters, pickers, harvesters and shellers**.

(10) **Self-loading trailers permanently mounted with harvesting equipment**, for cutting, chopping and transporting grass, maize (corn), etc.

(11) **Cotton pickers**.

(12) **Flax pickers**.

(13) **Grape harvesters** (trailed or self-propelled).

(14) **Vegetable harvesters** (for beans, tomatoes, etc.).

(15) **Potato diggers** (ploughshare, fork and grill types).

(16) **Root topping machines, root lifters and root harvesters** for beet and similar root crops.

(17) **Forage harvesters**.

(18) **Tree shakers**.

(19) **Harvesting machines for other agricultural produce** (oil seeds, etc.).

(20) **Grain threshers**. This heading also includes **automatic threshing machine feeders**, whether or not separately presented (i.e., auxiliary machines designed to ensure regular feeding of the thresher by opening and spreading out the sheaves).

(21) **Machines for removing leaves from the maize (corn) cobs; maize (corn) threshers**.

This heading also covers lawn mowers, known as riding lawn mowers, consisting of three or four wheeled basic machines fitted with a driving seat and having a permanently attached cutter, i.e., one which is removed only for repair or maintenance. Since their principal function is the mowing of lawns, they remain in this heading even if they have a coupling device for hauling or pushing light attachments such as a trailer.

However, the heading **excludes** portable machines for trimming lawns, cutting grass along walls, borders or under bushes, for example. These machines, which are composed of a self-contained internal combustion engine in a light metal frame, or of an electric motor mounted on a metal handle, and a cutting device usually consisting of one or more thin nylon threads, are classified in **heading 84.67**.

(B) MACHINES FOR CLEANING, SORTING OR GRADING EGGS,

FRUIT OR OTHER AGRICULTURAL PRODUCE

The heading also covers machines, whether of horticultural, agricultural or industrial types, used for cleaning, sorting or grading produce, such as eggs, fruit, potatoes, onions, bulbs, carrots, asparagus and gherkins, according to size, shape, weight, etc. They remain classified in the heading whether or not they are electrically operated (e.g., photoelectric testers and graders), and they may be equipped with auxiliary devices (e.g., for testing eggs or for marking the produce).

Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables are **excluded** (**heading 84.37**).

*

* *

Certain machines of the type falling in this heading (e.g., harvesters, combines, threshers, pick-up balers, baling presses, grading machines) often incorporate subsidiary lifting, handling, conveying, etc., apparatus (e.g., conveyor belts, sheaf and straw hoists and bucket-chains); these are classified with the machine, **provided** they are presented therewith; when presented separately they fall in **heading 84.28**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading are also classified here, e.g., :

Cutter bars, implement lifting mechanisms and fingers for mowers or harvesters; oscillating connecting-rods for transmitting motion to cutter bars of lawn mowers or grass cutters; separators, dividers, rakes, platforms, and binding mechanisms for harvester-binders; windrow attachments; cutter boards; beaters, counter-beaters, shakers, straw ejectors, etc., for combine harvesters or threshing machines; shares, teeth, forks and other tools for potato or other root crop lifting machines; drums and forks for hay tedders; teeth, implement lifting mechanisms for rakes; pick-up rakes for gathering machines or balers.

*

* *

This heading **does not include** :

(a) Cutting blades and blade sections for mowers (**heading 82.08**).

(b) Sheaf, straw or bag hoists; “blower type” hay or straw elevators; bucket or pneumatic type grain elevators; agricultural cranes or other loading, lifting, handling or conveying machinery (**heading 84.26** or **84.28**).

(c) Tree-felling or uprooting machinery and farm type straw cutters, root slicers, grain mills and egg testers (**heading 84.36**).

(d) Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables and machinery used in the milling industry, of **heading 84.37**.

(e) Cotton gins (**heading 84.45**).

(f) Tobacco leaf stripping or cutting machines (**heading 84.78**).

8433.1

- Mowers for lawns, parks or sports-grounds :

8433.11

-- Powered, with the cutting device rotating in a horizontal plane

8433.19

-- Other

8433.20

- Other mowers, including cutter bars for tractor mounting

8433.30

- Other haymaking machinery

8433.40

- Straw or fodder balers, including pick-up balers

8433.5

- Other harvesting machinery; threshing machinery :

8433.51

-- Combine harvester-threshers

8433.52

-- Other threshing machinery

8433.53

-- Root or tuber harvesting machines

8433.59

-- Other

8433.60

- Machines for cleaning, sorting or grading eggs, fruit or other agricultural produce

8433.90

- Parts

CLASSIFICATION OPINIONS

1. Drum housing for a combine harvester-thresher consisting of a casing with three drums : a rotor feeder; a threshing drum; and a beater, enabling grain to be separated from the ears during the threshing process. The threshing unit compartment has no drive system of its own, but is driven by a system of pulleys and belts by the combine's single diesel engine. **Application of GIRs 1 (Note 2 (b) to Section XVI) and 6.** *Adoption : 2014*

1 Feed channel with cutting assembly**2** Operator's platform with cab**3** Grain storage tank**4** Separating out**5** Cleaning**6** Driving axle

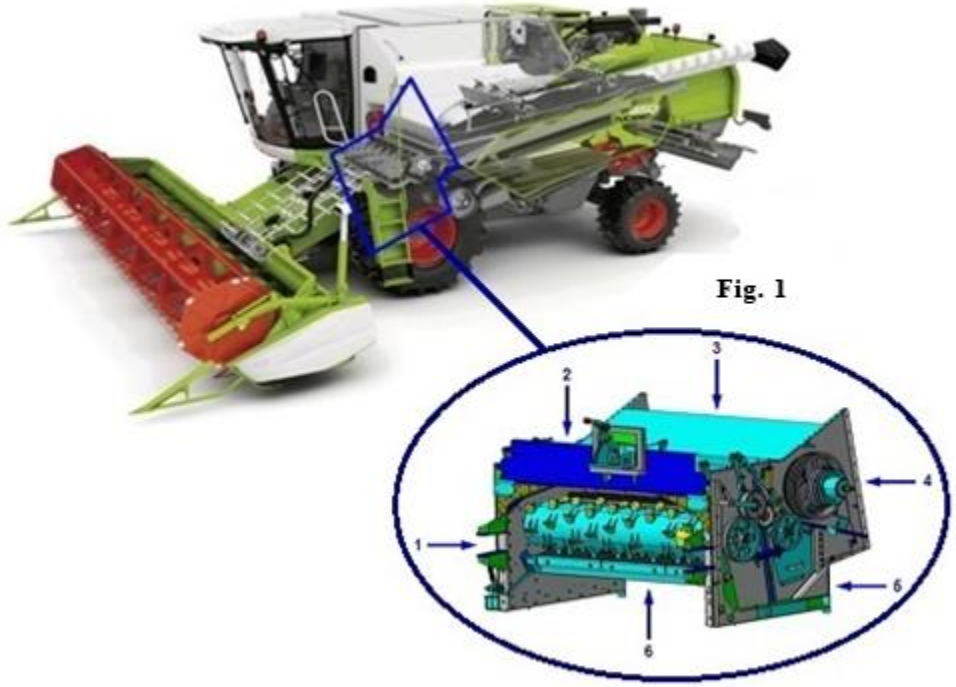


Fig. 1

Heading 8434

Milking machines and dairy machinery.
EXPLANATORY NOTES

84.34 - Milking machines and dairy machinery.

8434.10 - Milking machines

8434.20 - Dairy machinery

8434.90 - Parts

This heading covers mechanical milking machines, and other machinery, whether for farm or industrial purposes, used in the treatment of milk or for converting it into other dairy products.

(I) MILKING MACHINES

A milking machine comprises a cluster of teat-cups (each with a rubber liner) which are connected, by means of flexible tubing, on one side to a vacuum pump unit via a pulsator and on the other to a milk pail (usually of stainless metal). The pulsator, which is fixed to the lid of the milk pail, acts on the teat-cups by alternating atmospheric pressure with a comparative vacuum between the cups and the liners. The assembly formed by the teat-cup cluster, the pulsator and the milk pail is described as a “milking pail”.

In certain machines of smaller capacity, the milking pails and the vacuum pump unit may be on a common base (single or twin-pail machines).

In the machines of larger capacity, the various components are usually separate. A variable number of milking pails may be connected to the vacuum pump unit by piping. Certain types have no milk pails, the milk passing directly from the teat-cups to the cooling apparatus or storage tanks along a pipe-line, generally fixed. These types include milking robots, also known as voluntary milking systems. These systems, which incorporate all the equipment necessary for automatic milking, *inter alia*, a nimble robotic arm, electronic devices, a vacuum pump, a compressor, a washing machine, milk meters, etc., are designed for milking cows at their own initiative. Each cow wears a collar carrying a transponder that identifies it, so that the system can decide whether the animal is due to be milked. The milking is performed by a robotic arm fitted with a laser-assisted vision system that permits the milk extraction devices to be guided directly to the teats of the cow.

When presented together, the various components of such machines are classified in this heading as constituting a functional unit within the meaning of Note 4 to Section XVI (see the General Explanatory Note to that Section). **However,** apparatus and appliances which do not contribute directly to the milking function (filters, cooling devices, storage tanks, apparatus for cleaning the teat-cups and pipe-lines, etc.) are **not** classified in this heading but in their appropriate headings.

(II) MACHINES FOR PROCESSING MILK

This group includes **homogenisers**. These break up the fat into fine particles which are more readily digestible, and which also remain longer in a state of emulsion without the formation of cream.

The majority of machines for processing milk depend essentially on the principle of heat exchange and are therefore **excluded** (**heading 84.19**), e.g., apparatus for pasteurisation, stassanisation or sterilisation; apparatus for condensing or drying milk; milk coolers.

The heading further **excludes** :

(a) Refrigerating appliances (whether or not specially designed for cooling or keeping milk) and milk-cooling vats, incorporating an evaporator of a refrigerating unit (**heading 84.18**).

(b) Cream separators, filter-presses and other filtering or clarifying machinery or apparatus (**heading 84.21**). (Simple filter funnels and milk strainers are, however, classified according to the constituent material.)

(c) Machines for washing milk containers, and milk bottling or canning machines (**heading 84.22**).

(III) MACHINERY FOR CONVERTING MILK

INTO OTHER DAIRY PRODUCTS

It should be noted that cream separators are **excluded** (**heading 84.21**). The heading does, however, cover machines, used for the manufacture of butter or cheese. They include :

(A) **Butter-making machines**.

(1) **Churns** usually consist of a barrel of stainless steel, inside of which are a number of partitions or blades. The barrel or the blades are rotated by motor power and the resultant beating action hardens the cream to foam and gradually converts it into butter.

(2) **Combined churns and workers.** These machines, which are used for continuous production of butter, consist essentially of electric motors that drive cylinders with fast rotating elements which transform the cream into butter. The butter is pressed through the working elements of the machine as a continuous length.

(3) **Machines for moulding butter** into the required commercial shapes, but **not including** machines which also wrap or weigh the product (**headings 84.22** and **84.23**).

(B) **Cheese-making machines**.

(1) **Machines for breaking up and homogenising** the mixtures of curd and cream in the manufacture of soft or cream cheeses.

(2) **Machines for moulding** hard, semi-hard and soft or cream cheeses, but **not including** machines which also wrap or weigh the product (**headings 84.22** and **84.23**).

(3) **Cheese presses** (e.g., of the mechanical, pneumatic, etc., types) are used, especially in the manufacture of harder cheeses, both to shape the product and to eliminate the superfluous moisture.

*

* *

It should be noted that the heading **excludes** many machines and apparatus used in the dairy industry. For example, storage, maturing, processing, etc., vats and tanks whose operation depends primarily on fitted heating or cooling equipment fall in **heading 84.18** or **84.19**, whether or not they also incorporate mechanical equipment such as agitators. Vats, etc., not fitted with heating or cooling equipment, but incorporating mechanical features such as stirrers, agitators, tipping mechanisms, etc., are classified in this heading **provided** they are identifiable as specialized for dairy use. If they are not identifiable as for any one particular use, they are classified in **heading 84.79**. Vats, etc., not fitted with either thermal or mechanical equipment are classified as articles of the constituent material (e.g., **heading 73.09**, **73.10**, **74.19**, **76.11**, or **76.12**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading are also classified here, e.g. :

Pails, lids, pulsators, teat-cups and fittings (**other than** rubber liners, etc. - **heading 40.16**) for milking machines; butter churn barrels; rollers and tables for butter workers; moulds for butter and cheese moulding machines.

*

* *

The heading **excludes** domestic appliances falling in **heading 82.10** or **85.09**.

8434.10

- Milking machines

8434.20

- Dairy machinery

8434.90

- Parts

Heading 8435

Presses, crushers and similar machinery used in the manufacture of wine, cider, fruit juices or similar beverages.

EXPLANATORY NOTES

84.35 - Presses, crushers and similar machinery used in the manufacture of wine, cider, fruit juices or similar beverages.

8435.10 - Machinery

8435.90 - Parts

The heading covers both agricultural and industrial type machines used for making wine, cider, perry, fruit juices or similar beverages whether or not fermented. This heading also includes machines for commercial use, of a type used in restaurants or similar establishments.

The heading includes, *inter alia* :

(A) **Juice extracting machines**, hand or power operated, for juices not intended for fermentation (e.g., juices of citrus fruit, peaches, apricots, pineapples, berries or tomatoes).

(B) **Apple or pear crushers**, hand or power operated. They consist of a hopper which feeds fruit to the grating mechanism or crushing cylinders.

(C) **Mechanical or hydraulic cider presses**, including "mobile" presses mounted on wheeled trolleys.

(D) **Grape pressing or crushing machines**, e.g. :

(1) **Grape crushing machines**. **These** usually consist of two grooved cylinders, or of a single cylinder fitted with beaters, which extract the juice from the grapes without crushing the seeds or stems. The heading includes pulping machines incorporating a pump to feed the resultant juices into the fermenting vats.

(2) **Machines for separating the juice (must) from the stems of the freshly pressed grapes**. These generally consist of a perforated container fitted with revolving beaters. Some models combine the **operations** of pressing and stemming.

(3) **Presses** used to extract the juice remaining in the crushed and strained grape pulp, or from the fermenting vat residues. There are two main types :

(i) **Discontinuous mechanical or hydraulic presses** in which the press head crushes the pulp in an interchangeable lattice-work cage (the "claie") supported in a container to collect the juice. The heading includes hydraulic portal presses designed so that a succession of containers ("maies"), usually mounted on trolleys, can be filled with juice.

(ii) **Continuous presses** in which an endless screw mechanism feeds the grapes into the machine and presses them.

(E) **Crumbling or disintegrating machines** fitted with toothed cylinders or revolving blades which break up cakes of compressed marc before further pressing.

Machines used for the processing of juice, must, wine, cider and perry are **excluded**, for example :

(a) Coolers, sterilisers, pasteurisers and concentrating apparatus (**heading 84.19**).

(b) Centrifuges, filter presses and other filtering or clarifying machinery or plant (**heading 84.21**). (Simple filter funnels are, however, classified according to the constituent material.)

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here, e.g., :

Crushing cylinders for juice extractors; toothed cylinders and graters for apple crushers; cylinders for grape pressing or stemming machines; special pulp containers (“claies”) and press base plate juice collectors (“maies”) for wine presses; screw heads, pressing plates and frames for wine presses, etc.; toothed cylinders and blades for marc crumbling machines, etc.

*

* *

The heading also **excludes** :

(a) Fruit juice extractors of the types falling in **heading 44.19**, **82.10** or **85.09**.

(b) Wine, fruit juice, cider, etc., pumps, even if specialized (**heading 84.13**).

(c) Centrifuges for separating the wine from the marc (**heading 84.21**).

(d) Bottling, corking or other machinery falling in **heading 84.22**, including steam jet appliances for cleaning barrels, etc.

(e) Conveyors for fruit (**heading 84.26** or **84.28**).

(f) Fruit peeling, paring or stoning machines (**heading 84.38**).

8435.10

- Machinery

CLASSIFICATION OPINIONS

1. Centrifugal juicer with a self-contained, ventilated, single phase industrial synchronous electric motor, designed for commercial use (e.g., in bars, restaurants, canteens, day nurseries, clinics, institutional kitchens) with the following technical characteristics : motor speed : 3,000 rpm; motor power : 700 W; intensity : 7 A; electrical connection : 230 V/50 Hz; throughput : 100/120 kg fruit/vegetables per hour; waste container capacity : approximately 6 l; weight : approximately 11 kg; dimensions : 505 mm x 235 mm x 420 mm.
The appliance consists of a stainless steel motor unit with push-type "On-Off" buttons, a stainless steel bowl with a pouring spout, a flange of plastics, a stainless steel basket, a lid of plastics with a feed tube and an ejector spout, a stainless steel grater disc, and a waste container of plastics. It is used for extracting fruit/vegetable juices.
Application of GIRs 1 and 6.
Adoption : 2012



8435.90

- Parts

Heading 8436

Other agricultural, horticultural, forestry, poultry-keeping or bee-keeping machinery, including germination plant fitted with mechanical or thermal equipment; poultry incubators and brooders.

EXPLANATORY NOTES

84.36 - Other agricultural, horticultural, forestry, poultry-keeping or bee-keeping machinery, including germination plant fitted with mechanical or thermal equipment; poultry incubators and brooders.

8436.10 - Machinery for preparing animal feeding stuffs

- Poultry-keeping machinery; poultry incubators and brooders :

8436.21 - - Poultry incubators and brooders

8436.29 - - Other

8436.80 - Other machinery

- Parts :

8436.91 - - Of poultry-keeping machinery or poultry incubators and brooders

8436.99 - - Other

The heading covers machinery, **not falling in headings 84.32 to 84.35**, which is of the type used on farms (including agricultural schools, co-operatives or testing stations), in forestry, market gardens, or poultry-keeping or bee-keeping farms or the like. However, it **excludes** machines clearly of a kind designed for industrial use.

(I) OTHER AGRICULTURAL, HORTICULTURAL OR FORESTRY

MACHINERY; GERMINATION PLANT

These include :

(A) **Seed dusting machines** usually consisting of one or more hoppers feeding a revolving metal drum in which the seeds are coated with insecticidal or fungicidal powders.

However, the heading **excludes** powder spraying machines (**heading 84.24**).

(B) **Fertiliser crushing or mixing mills.**

(C) **Machines for cutting slips** from vines, fruit trees, etc.

(D) **Hedge cutting machines.**

(E) **Machines and appliances for preparing fodder**, etc., such as :

(1) **Oilcake breakers**.

(2) **Cabbage-cutters** and other machines for chopping green-leaf vegetables.

(3) **Root slicers or crushers** for beet, turnips, carrots, fodder, etc.

(4) **Straw, hay or silage cutters**, whether or not incorporating a conveyor for filling the silo.

(5) **Crushing machines** for preparing oats, barley, etc.

(6) **Farm type machines for grinding or milling** wheat, maize, barley and other feeding stuffs; **farm type flour-milling machines**.

(7) **Fodder mixers**.

(F) **Automatic watering-troughs** for cattle, horses, pigs, etc., e.g., those consisting of a metal basin fitted with a hinged plate which, when depressed by the animal's muzzle, permits an inflow of water.

(G) **Mechanical clippers** for animals.

Ordinary hand hair clippers are **excluded** (**heading 82.14** or **85.10**).

(H) **Forestry machines**, such as :

(1) **Tree uprooters**, equipped with jaws which grip the trunk and uproot it by the action of hydraulic jacks.

(2) **Tree-felling machines** with hydraulic shears or saws, whether or not equipped with delimbing and bucking devices or with grapples for handling and piling the trunks, and tree-fellers designed for mounting on tractors, operating by means of a plough which cuts the roots and a telescoping boom which amplifies the tractor power.

(3) **Tree transplanters**, equipped with root-balling blades and capable, if necessary, of transporting the trees over short distances.

(4) **Stump removers** which break up stumps to a certain depth below the surface by means of knived discs.

(5) **Machines for chipping branches, twigs, etc**., following pruning, delimbing, etc., using chipping blades. The chips are discharged by a blower unit.

(IJ) **Germination appliances** (**e.g. "germinators"**) **provided** they are fitted with mechanical features (e.g., pumps, motors or fans) or thermal equipment. Simple chests not so equipped are **excluded** (classified according to the constituent material).

The heading **does not cover** :

(a) Cutting blades and knives for root slicers, straw cutters, etc. (**heading 82.08**).

(b) Machinery and plant operating by processes involving a change of temperature (**heading 84.19**). For example, **heading 84.19** covers such hay driers, autoclaves for potatoes, fodder, etc., but germination plant, incubators and brooders with thermal equipment remain in this heading.

(c) Mechanical appliances for projecting, dispersing or spraying liquids or powders (**heading 84.24**).

(d) Pneumatic or "blower" type elevators; winches for uprooting, dragging or loading trees, logs, etc.; and other hoisting, handling or conveying equipment (**heading 84.25**, **84.26** or **84.28**).

(e) Machines for boring holes for planting trees; bulldozers and angledozers for felling or clearing (**heading 84.29** or **84.30**).

(f) Industrial type sugar beet slicing machines (**heading 84.38**).

(g) Wood chip cutting machines of **heading 84.39**.

(h) Water-jet bark strippers (**heading 84.24**) and wood de-barking machinery (**heading 84.65** or **84.79**).

(ij) Machine-tools for working wood (**heading 84.65** or **84.67**).

(k) Vacuum cleaner type grooming apparatus for horses or cattle (**heading 85.08**).

(l) Tractors specially designed for hauling logs (log skidders) (**heading 87.01**).

(m) Mechanical calfing aids (**heading 90.18**).

(n) Anti-hail guns (**heading 93.03**).

(II) POULTRY-KEEPING MACHINES, INCUBATORS AND BROODERS

These include :

(A) **Incubators.** These machines are fitted with devices permitting eggs, placed in trays, to be automatically turned in an atmosphere where temperature, air flow and air humidity conditions can be exactly controlled. They may work in conjunction with a control system which may be linked to a personal ADP machine in order to optimise the incubation result. Some incubators, known as combi-incubators, incorporate hatcher functions.

(B) **Hatchers**. In these machines, which incorporate devices for controlled heating and air circulation, the eggs are placed in baskets or special trays for hatching.

(C) **Brooders**, larger appliances with heating and cooling devices, used for rearing young chicks.

(D) **Rearing and laying units or "batteries"**, large installations equipped with automatic devices for filling the feeding troughs, cleaning the floors and collecting the eggs.

(E) **Egg candlers (or testers**) with mechanical features (including photo-electric testers), **other than** static testing lamps.

Those fitted with a sorting or grading mechanism are **excluded** (**heading 84.33**).

(F) **Sexing and vaccination equipment**, enabling hatcheries to separate chicks of different sex and to vaccinate them. These machines are not designed to be used by veterinary surgeons.

The heading **does not include** machines, known as chick counting and boxing systems, for automatically counting and placing chicks in boxes (**heading 84.22**); the handling of the chicks is the primary function, the counting being merely a secondary function permitting to place in a box a fixed number of chicks, predetermined in accordance with the size of the box.

(III) BEE-KEEPING MACHINES

These include :

(A) **Honey presses**.

(B) **Machines for forming wax into comb foundations**.

The heading **does not cover** :

(a) Beehives, classified according to the constituent material (usually **heading 44.21**).

(b) Hot water baths for re-melting honeycombs, including those with pressing screws (**heading 84.19**).

(c) Centrifugal type honey extractors (**heading 84.21**).

(d) Liquid or powder sprayers or smoking-out apparatus of **heading 84.24**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts for the above-mentioned machines.

8436.10

- Machinery for preparing animal feeding stuffs

8436.2

- Poultry-keeping machinery; poultry incubators and brooders :

8436.21

-- Poultry incubators and brooders

8436.29

-- Other

8436.80

- Other machinery

CLASSIFICATION OPINIONS

1. Machine for covering potato and other vegetable clamps with earth, consisting of a frame with a coupling device for an agricultural tractor, a soil-cutter and a bladed wheel driven from the tractor power take-off which throws the earth on the clamp.
Adoption : 1965

8436.9

- Parts :

8436.91

-- Of poultry-keeping machinery or poultry incubators and brooders

8436.99

-- Other

Heading 8437

Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables; machinery used in the milling industry or for the working of cereals or dried leguminous vegetables, other than farm-type machinery.

EXPLANATORY NOTES

84.37 - Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables; machinery used in the milling industry or for the working of cereals or dried leguminous vegetables, other than farm-type machinery.

8437.10 - Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables

8437.80 - Other machinery

8437.90 - Parts

(I) MACHINES FOR CLEANING, SORTING OR GRADING SEED,

GRAIN OR DRIED LEGUMINOUS VEGETABLES

This heading covers machines, whether of horticultural, agricultural or industrial types, of a kind used for cleaning, sorting or grading cereal grains, dried leguminous vegetables, seeds, etc., by winnowing, blowing, sieving, etc. Such machines include :

(1) **Fanning mills** consisting of a feeding hopper, a blower and sieves (usually vibrating).

(2) **Grading winnowers, rotating winnowers and seed or grain selectors**, more complex machines which clean by means of air currents, and grade the seed or grain according to weight, size or shape. Some seed selectors, etc., incorporate auxiliary devices for coating the seeds with insecticide powders, etc.

(3) **Sieving belts**, often used for cleaning beet seed. They consist of a series of rolls operating an endless inclined belt running under a feeding hopper. The seeds roll freely to the bottom of the belt but the light vegetable waste adheres to the plushy surface of the belt fabric.

(4) **Special machines for selecting and grading seed for planting**.

This heading also covers machinery used in the milling industry for cleaning, sorting or grading grain prior to milling. Some of these machines are based on the same principles as the winnowing, screening and grading machines described above, but are designed for larger output and are specialised for the milling industry, e.g. :

(1) **Cyclone separators** for cleaning the grain.

(2) **Machines for cleaning and grading** by the action of revolving pocketed or perforated drums.

(3) **Aspirator separators** with oscillating sieves.

(4) **Separators and graders** of the magnetic or electro-magnetic types.

(5) **Washing, stone-removing and "whizzing" machines**, with or without subsidiary drying columns.

(6) **Grain brushing machines**.

(7) **Grain dampening machines**, whether or not incorporating heating or weighing apparatus.

The heading also includes combined machines which clean, sort and grade simultaneously, including machines incorporating devices for electro-magnetic separation.

(II) MACHINERY USED IN THE MILLING INDUSTRY

In addition to machinery for cleaning, sorting or grading grain prior to milling (see Part (I) above), the following are included as machinery used in the milling industry :

(A) **Certain machines for mixing or preparing grain prior to milling, e.g**. :

(1) **Machines for mixing grain** in pre-determined quantities.

(2) **Grain scouring machines** consisting of spiked drums turning against rubber cylinders and thus eliminating the softer grains.

However, the heading **does not cover** :

(a) Plant operating by temperature change (**heading 84.19**). For example, **heading 84.19** covers such drying or cooling columns, but grain dampening machines with thermal equipment remain in this heading.

(b) Centrifugal dryers (**heading 84.21**).

(c) Conveyors and elevators (e.g., of the bucket, belt or pneumatic suction types) (**heading 84.28**).

(B) **Grinding or crushing machinery, e.g.** :

(1) **Grinding mills**.

(2) **"Breaking" rolls or mills** composed of several sets of grooved rollers, sometimes internally cooled, which crush the grain into middlings, semolina and flour.

(3) **Reduction rolls or mills** with smoother rollers, specially designed to convert middlings, semolina, etc., into flour.

(4) **Disintegrators or impact grinders** used to grind down into flour, the meal, etc., which adheres to the mill or converter rollers in the preceding processes.

(5) **Feeders**, machines designed to ensure a regular and even flow of grain to the crushing rollers.

The heading **does not include** small farm type grinding mills (**heading 84.36**).

(C) **Machinery for the sorting or separation of flour from sharps or middlings.**

This group includes machines for separating the flour, meal, middlings, sharps, etc., produced by milling.

This separation is effected by a series of operations carried out on the following types of machines which are often used in series :

(1) **Sifting machines ("bolters")** for separating flour from groats and meal. **Centrifugal sifters (or "reels")** consist of drums fitted internally with beater bars and covered externally with gauze of various mesh sizes. **Oscillating sifters or plansifters** consist of nests of free-swinging superimposed sieves and collecting trays.

(2) **Sieving machines or "purifiers"**. These grade the middlings, etc., and also blow off the bran by means of vibrating sieves through which a current of air is drawn.

(3) **Bran cleaners**.

(4) **Blending machines** for flour, bran, etc.; also **machines for adding vitamins to flour.**

However, the heading **does not cover** :

(a) Flour-drying machines (**heading 84.19**).

(b) Air filters and "cyclones" used to extract the dust from the exhaust air issuing from sorting or bolting machines (**heading 84.21**).

(c) "Extraction recorders" for recording the flour extraction rate, and other flour testing apparatus of **Chapter 90**.

(III) MACHINERY USED FOR THE WORKING OF CEREALS OR DRIED LEGUMINOUS VEGETABLES

The working referred to is generally preceded by preliminary cleaning, sorting or grading (see Part (I) above).

This group includes :

(1) **Machines for husking cereals or dried leguminous vegetables**.

(2) **Rice hulling or polishing machines**.

(3) **Machines for splitting dried peas, lentils or beans**.

(4) **Machines for preparing rolled or flaked oats, etc.**, whether or not incorporating auxiliary heating devices.

(5) **Special milling and grinding machines for milling cereals (other than bread grains, see Part (I) (B) above) or dried leguminous vegetables into flour**.

(6) **"Bearding" machines and "clipping" machines** designed to remove the "beards" or "points" from barley or oat grains.

This part of the heading **does not cover** :

(a) Machinery or plant operating by heat exchange (e.g., steamers, drying apparatus or roasting plant for the manufacture of puffed or toasted grain; plant for malting barley, for roasting flour, etc.) (**heading 84.19**).

(b) Machines for processes beyond the flour-making stage (e.g., bakery, preserving or macaroni-making) (**heading 84.38**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here, e.g., :

Sieves and sieve frames for the bread grain milling industry (**other than** bolting cloth, whether or not made up – **heading 59.11**); mixing or separating cylinders, rollers for bread grain mills, or converters, etc.

Millstones are, however, **excluded** (**heading 68.04**).

8437.10

- Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables

8437.80

- Other machinery

8437.90

- Parts

Heading 8438

Machinery, not specified or included elsewhere in this Chapter, for the industrial preparation or manufacture of food or drink, other than machinery for the extraction or preparation of animal or fixed vegetable or microbial fats or oils.

EXPLANATORY NOTES

84.38 - Machinery, not specified or included elsewhere in this Chapter, for the industrial preparation or manufacture of food or drink, other than machinery for the extraction or preparation of animal or fixed vegetable or microbial fats or oils.

8438.10 - Bakery machinery and machinery for the manufacture of macaroni, spaghetti or similar products

8438.20 - Machinery for the manufacture of confectionery, cocoa or chocolate

8438.30 - Machinery for sugar manufacture

8438.40 - Brewery machinery

8438.50 - Machinery for the preparation of meat or poultry

8438.60 - Machinery for the preparation of fruits, nuts or vegetables

8438.80 - Other machinery

8438.90 - Parts

This heading covers machinery, not specified or included elsewhere in this Chapter, for the industrial preparation or manufacture of food or drink (whether for immediate consumption or preserving, and whether for human or animal consumption), but **not including** machinery for the extraction or preparation of animal or fixed vegetable or microbial fats or oils (**heading 84.79**). This heading also includes machines for industrial or commercial use, of a type used in restaurants or similar establishments.

It should, however, be noted that in practice the heading **excludes** many machines used for these purposes, e.g., :

(a) Domestic appliances (e.g., meat mincing machines and bread cutting machines) falling in **heading 82.10** or **85.09**.

(b) Industrial or laboratory ovens (**heading 84.17** or **85.14**).

(c) Cooking, roasting, steaming, etc., machinery and plant (**heading 84.19**).

(d) Centrifuges and filters (**heading 84.21**).

(e) Bottling, canning, packing, etc., machinery (**heading 84.22**).

(f) Machinery for the milling industry (**heading 84.37**).

(I) BAKERY MACHINERY

Such machinery is used for the manufacture of bread, biscuits, pastries, cakes, etc. It includes :

(1) **Dough or pastry mixers**. These consist essentially of rotating or stationary receptacles equipped with fixed or moving arms or blades for kneading the dough. Certain high speed mixers are often fitted with water-cooled jackets.

(2) **Dough-dividing machines** consist of receptacles in which the dough, delivered through a hopper, is divided mechanically into portions of equal size. These machines sometimes incorporate devices for weighing or rolling the dough.

(3) **Moulding machines** for forming the portions of divided dough to the required shapes ready for baking.

(4) **Slicing machines** for bread, cake, etc.

(5) **Machines designed for "crumbing" dry bread**.

(6) **Cutting, shaping, sawing or filling machines** for biscuits, cakes, etc.

(7) **Cake depositing machines** designed to deliver given quantities of cake batter into cake shapes.

The heading **excludes** :

(a) Bakery ovens (**heading 84.17** or **85.14**).

(b) Pastry rolling machines of **heading 84.20**.

(II) MACHINERY FOR THE MANUFACTURE OF MACARONI,

SPAGHETTI, OR SIMILAR PRODUCTS

This group includes :

(1) **Mixing machines** for preparing macaroni paste.

(2) **Machines for cutting or stamping out** special shapes from the rolled pastry in sheet form. These machines often incorporate devices for rolling the pastry.

(3) **Continuous extruding presses** for macaroni, spaghetti, etc. Letters, figures and other special shapes can be produced with extruding machines equipped with suitably shaped dies; the dough is then cut off to the desired thickness by a revolving knife fitted on the outside of the dieplate.

(4) **Machines for filling ravioli, etc**.

(5) **Machines for twisting** macaroni, vermicelli, etc., in hanks, etc.

The heading **excludes** :

(a) Macaroni pre-drying or drying machines (**heading 84.19**).

(b) Machines for rolling macaroni dough, pastry, etc., into sheet form (**heading 84.20**).

(III) MACHINERY FOR THE MANUFACTURE OF CONFECTIONERY

This group includes :

(1) **Grinding or crushing machines** for the preparation of icing sugar.

(2) **Confectionery mixing machines**. These usually consist essentially of receptacles fitted with mechanical stirrers or grinders, and are often fitted with heating or cooling coils or jackets.

(3) **"Pulling" machines** used for kneading plastic sugar mixtures by means of crank-shaped revolving arms.

(4) **Dragee pans**. These consist of hemispherical pans, usually of copper or glass, which rotate on an inclined axis and thus coat hard centres (e.g., almonds) with sugar, chocolate, etc. The heading covers such dragee pans whether they are heated from an external source (hot air blast, independent gas burner, etc.), or whether the pans themselves incorporate heating elements.

(5) **Machines designed for moulding, cutting or shaping confectionery**.

This heading **does not include** sugar boilers or other heating plant (**heading 84.19**) or cooling plant (**heading 84.18** or **84.19**).

(IV) MACHINERY FOR THE MANUFACTURE OF COCOA

OR CHOCOLATE

This group includes :

(1) **Machines for husking, for removing the germ, or for crushing the roasted beans into "nibs"**.

(2) **Machines for mixing, kneading or grinding** the crushed beans and resultant paste to give the "cocoa mass".

(3) **Presses for extracting cocoa butter** from the "cocoa mass". These machines always incorporate provision for heating the paste to facilitate the butter extraction.

(4) **Machines for preparing cocoa powder** by grinding the cakes left after cocoa butter extraction. Normally these machines also sieve and grade the powder, and sometimes mix it with other products to improve the aroma or solubility.

(5) **Machines for mixing** cocoa butter, cocoa powder, sugar, etc. These machines often incorporate apparatus for measuring the quantities to be mixed.

(6) **Machines for rolling and refining** the mixture.

(7) **Conches**. These consist essentially of containers fitted with heating equipment and power driven rollers, grinders, etc., so that the constituents of the mixture are thoroughly intermingled and heat-treated.

(8) **Machines** which, **prior to moulding, homogenise the chocolate** and deliver it in regular portions by pressure and extrusion.

(9) **Tabletting and moulding machines**, usually incorporating vibrator devices. These machines also often contain heating elements in the pouring section, and provision for cooling the moulds.

(10) **Enrobing machines** consist essentially of a conveyor belt on which biscuits, sweets or other centres are coated by passing them through sprays or molten baths of chocolate or confectionery. These machines always incorporate heating elements.

(V) MACHINERY FOR SUGAR MANUFACTURE

The type of machinery used for extracting the sugar juices depends on whether sugar cane or sugar beet is employed. The machines used for extracting the sugar from the juice are, however, much the same in each case.

(A) **Machines for extracting the juice from sugar cane**, e.g. :

(1) **Cutters or defibrators**, consisting of a series of double-edged knives which revolve at high speed and thus reduce the cane to long fibres.

(2) **Shredders** in which the cane is passed between toothed rollers revolving at different speeds and is thereby torn to shreds.

(3) **Crushers**, which consist essentially of adjustable, corrugated metal rollers. Some machines combine the operations of shredding and crushing.

(4) **Roller mills**, which usually consist of trains of grooved rollers for extracting the juice from the crushed cane. They normally incorporate feeding and conveyor mechanisms, equipment for spraying water on to the cane during rolling, and maceration baths.

(B) **Machines for extracting the juice from sugar beet**, e.g. :

(1) **Washing machines** consisting of agitators or similar mechanisms operating in large channels, tanks, etc.

(2) **Slicing machines**. These may be large cylindrical vessels whose bases consist of rotating discs fitted with cutting blades, or of rotating drums whose inner surfaces are fitted with knives against which the beet is projected, by specially designed guide plates or by centrifugal force.

(3) **Diffusing apparatus** for extracting the juice from the sliced beet by osmosis. Each diffusor consists of a "calorisator" in which the water is heated by a steam coil, and a large diffusor vessel in which the sugar is extracted from the beet chips by the hot water. The heading also covers the diffusor vessel presented separately. The "calorisator" presented separately is, however, **excluded** (**heading 84.19**).

(4) **Pulp presses**.

(C) **Machines for extracting the sugar from the juice, or for refining the sugar**, e.g. :

(1) **Sulphiting vessels, provided** they incorporate mechanical agitators, but **not including** those with thermal equipment (**heading 84.19**)

(2) **Crystallising apparatus** fitted with slow stirring devices. The syrupy mass ("masse cuite") from the concentration plant is here cooled by the surrounding air, and the crystallisation begun in that plant is completed.

(3) **Machines for sawing or breaking sugar** into lumps, etc.

The heading **excludes** :

(a) Defecation vessels, juice concentration plant, vacuum boiling or crystallising pans and other plant of **heading 84.19**.

(b) Centrifugal separators and filter presses (**heading 84.21**).

(VI) BREWERY MACHINERY

This group includes :

(1) **Sprouting or germination machines** fitted with slow stirring devices, rotating drums or similar mechanical features.

(2) **Rotating cylinders** for removing the shoots from the malt after kilning and **screening machines**.

(3) **Malt crushing machines**.

(4) **Mashing vats provided** they contain mechanical agitators, etc., and no heating equipment. In these the crushed malt is mashed with water so that the starch content is converted into sugar (saccharification).

(5) **Straining vats**, large containers fitted with stirrers or agitators, and with a perforated double bottom to separate the brewers' grains from the wort.

The heading also includes, as functional units within the meaning of Note 4 to Section XVI, brewhouse machinery, comprising, *inter alia*, sprouting or germination machines, malt crushing machines, mashing vats, straining vats. Auxiliary appliances (e.g., bottling machines, label-printing machines) are, however, **not included** and should be classified in their own appropriate heading (see the General Explanatory Note to Section XVI).

The heading **excludes** :

(a) Fermenting vats without mechanical or cooling equipment; these are classified according to the constituent materials.

(b) Malt drying plant; macerating vessels and mashing vats with heating equipment; vessels for the decoction of the hops, or for boiling the hop decoction with the wort (**heading 84.19**); fermenting vats with cooling coils and beer coolers (**heading 84.18** or **84.19**).

(c) Filter presses (**heading 84.21**).

(VII) MACHINERY FOR THE PREPARATION OF MEAT OR POULTRY

This group includes :

(1) **Machinery for the slaughter and subsequent treatment of animals**.

(2) **Hog de-hairing machines**. These consist of a revolving cradle which holds the carcass, and of a number of belt scrapers turning in the opposite direction to the cradle.

(3) **Meat cutting or chopping machines** for cutting up carcasses, etc., by the action of circular saws, rotating knives, etc.

(4) **Machines for sawing or chopping bones**.

(5) **Meat beating machines** to make the flesh more tender by the action of pointed or bladed combs which sever the nerve fibres.

(6) **Meat mincing or dicing machines**.

(7) **Gut cleaning machines**.

(8) **Sausage stuffing machines**. These consist essentially of a cylindrical container from which the meat is forced by a piston into the sausage casing.

(9) **Meat or bacon slicing machines**.

(10) **Meat or fat moulding presses**.

(11) **Machines and appliances for killing, plucking or drawing poultry** (electric stunning and bleeding knife, high-output poultry pluckers, eviscerating apparatus, gizzard strippers and lung extractors).

(12) **Meat pickling machinery** comprising hand-operated brine injection guns connected to a pump, or a fully automatic conveyor device which feeds the meat to a grid consisting of brine injection needles.

The heading **excludes** boilers, autoclaves, heating cupboards and similar plant or machinery of **heading 84.19**.

(VIII) MACHINERY FOR THE PREPARATION OF FRUITS, NUTS OR VEGETABLES

This group includes :

(A) **Peeling machines**, e.g. :

(1) **Abrasive peelers (e.g. for potatoes)**, consisting of a rotating container with abrasive inner walls.

(2) **Peelers (e.g., for apples and pears)** in which adjustable knives remove the peel in spirals. These machines often also incorporate devices for coring, removing pips, etc.

(3) **Peelers for citrus fruit**. These usually remove the peel in quarters or scoop the fruit from the peel of fruit previously cut into halves.

(4) **Chemical peelers**. These usually consist of a conveyor band or rotating drum on which the fruit or vegetables are passed through sprays or baths of hot water, lye, etc. The fruit or vegetables are then vigorously tumbled in a washer vessel to remove the skins. These peelers are classified in this heading whether or not they incorporate provision for heating the water or lye.

(B) **Machines for shelling peas or similar vegetables**. These usually consist of a revolving perforated drum fitted with beaters.

(C) **Machines for cutting off the ends of green beans**.

(D) **Machines for removing the stalks, etc.**, from currants, gooseberries, cherries, grapes, etc.

(E) **Machines for removing the stones, pips, etc., from fruit**.

(F) **Machines for shelling nuts, etc**.

(G) **Machines for grating or cutting fresh or dried fruit, vegetables, manioc, etc**.

(H) **Machines for cutting or salting cabbage for sauerkraut.**

(IJ) **Machines for pulping fruit or vegetables** for the preparation of jams, sauces, tomato purée, etc., but **not including** presses for fruit juices (e.g., peaches, grapefruit and tomatoes) (**heading 84.35**).

The heading **excludes** :

(a) Flame or radiant heat peelers (**heading 84.17**).

(b) Fruit blanching plant, heating plant for the preparation of potato flakes and other plant of **heading 84.19**.

(c) Fruit or vegetable grading machines (**heading 84.33**).

(IX) MACHINES FOR PREPARING FISH, SHELL FISH, ETC.

This group includes :

(1) **Machines for scaling, skinning, gutting or for removing** heads, tails, bones, etc.

(2) **Machines for opening the fish, slicing or cutting it into fillets, etc**.

(3) **Machines for shelling or cutting up shell fish**.

(4) **Grinding machines** for preparing fish flour from dried fish.

The heading **does not cover** frying, smoking or curing plant, or other machinery or plant of **heading 84.19**.

(X) OTHER MACHINERY FOR THE INDUSTRIAL PREPARATION OR MANUFACTURE OF FOOD OR DRINK

This group includes :

(1) **Mechanical appliances for acetification** (used in vinegar-making).

(2) **Coffee bean husking or hulling machines** (cylinder, disc or blade types).

(3) **Extracting machines**, of the spiked roller type, for extracting the essential oil from oranges.

(4) **Tea-leaf cutting or rolling machines.**

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the parts of the machinery of this heading are also classified here (for example, moulds (pans) used in continuous process bread-making, moulds for confectionery moulding machines, moulds for chocolate moulding machines and extrusion dies, of bronze or brass, for use in extruding presses for the manufacture of macaroni, spaghetti, or similar products).

8438.10

- Bakery machinery and machinery for the manufacture of macaroni, spaghetti or similar products

8438.20

- Machinery for the manufacture of confectionery, cocoa or chocolate

8438.30

- Machinery for sugar manufacture

8438.40

- Brewery machinery

8438.50

- Machinery for the preparation of meat or poultry

8438.60

- Machinery for the preparation of fruits, nuts or vegetables

CLASSIFICATION OPINIONS

1. **Vegetable preparation machine** with a self-contained, three phase electric motor designed for commercial use with the following technical characteristics : motor speed : 375 rpm; motor power : 600 W; electrical connection : 400 V/50 Hz; prepare 1,200 servings in 3 hours or less; weight : approximately 15 kg; dimensions : 745 mm x 610 mm x 310 mm. The appliance consists of a motor unit, a feeding head with two openings and pushers, and a control panel with push-type "On-Off" buttons. It is presented with one 3 mm slicing disc and one 3 mm medium grating disc. It is used for continuous feed slicing, dicing, shredding, grating, and preparing potato chips (French fries) and julienne. **Application of GIRs 1 and 6.** *Adoption : 2012*



2. **Vegetable cutter** (H x W x D : 320 x 270 x 505 mm, weighing 7.5 kg) for industrial preparation of food, equipped with a 220 V electric motor, designed for cutting vegetables in different ways (cut, sliced, grated and shredded) by the use of interchangeable blades. The slicing capacity for cabbages is 90 kg per hour using a dual-blade disk slicer. **Application of GIRs 1 and 6.** *Adoption : 2018*



3. **Vegetable cutter** (H x W x D : 230 x 272 x 380 mm, weighing 5 kg) for industrial preparation of food, equipped with a 220 V electric motor, designed for slicing vegetables into coarse, medium and fine pieces. The machine is compact with a weight of 5 kg. This machine consists of a blade kit with coarseness adjusting plates and a motor. Its slicing capacity for cabbages is 120-200 kg per hour (2.0 - 3.6 kg per minute). **Application of GIRs 1 and 6.** *Adoption : 2018*



8438.80

- Other machinery

CLASSIFICATION OPINIONS

1. **Emulsifier-mixer** with a self-contained, three phase electric motor designed for commercial use (e.g., in hospitals, restaurants and pharmaceutical and chemical laboratories) with the following technical characteristics : motor speed : 1,500/3,000 rpm; motor power : 950/1,300 W; electrical

connection : 230/400 V/50 Hz; bowl capacity : approximately 6.6 l; weight : approximately 26 kg; dimensions : 520 mm x 280 mm x 340 mm.
The appliance consists of a stainless steel motor unit, a stainless steel stock-pot shaped bowl with a handle and a lid equipped with a bowl and lid scraper assembly, a stainless steel cutter blade, and a control panel with push-type "On-Off" buttons and a speed selector. It is used for preparing mixed liquid and semi-liquid foods.
Application of GIRs 1 and 6.
Adoption : 2012



8438.90

- Parts

Heading 8439

Machinery for making pulp of fibrous cellulosic material or for making or finishing paper or paperboard.

EXPLANATORY NOTES

84.39 - Machinery for making pulp of fibrous cellulosic material or for making or finishing paper or paperboard.

8439.10 - Machinery for making pulp of fibrous cellulosic material

8439.20 - Machinery for making paper or paperboard

8439.30 - Machinery for finishing paper or paperboard

- Parts :

8439.91 - - Of machinery for making pulp of fibrous cellulosic material

8439.99 - - Other

This heading covers machinery for making fibrous cellulosic pulp from various cellulosic materials (wood, straw, bagasse, waste paper, etc.) whether the pulp is for paper or paperboard making or for other purposes (e.g., for the manufacture of viscose rayon, certain building boards or explosives). It also covers machinery for making paper or paperboard whether from previously prepared pulp (e.g.,

mechanical or chemical wood pulp), or directly from the raw materials (wood, straw, bagasse, waste paper, etc.). The heading also covers machines for finishing the paper or paperboard ready for its various uses, **other than** the printing machines of **heading 84.43**.

(I) MACHINERY FOR MAKING PULP OF FIBROUS CELLULOSIC MATERIAL

This group includes :

(A) **Machines for the preliminary treatment of the raw materials in the process of pulp making**, e.g. :

(1) **Waste paper or paperboard pulping machines**.

(2) **Openers or dusters for straw and similar materials.**

(3) **Bamboo crushers and special straw cutters for the paper-making industry.**

(4) **Wood chip cutting machines and vibrating graders for grading the wood chips.**

(5) **Log grinding machines.**

(6) **"Masonite" defibrators** in which wood chips are reduced to fibres by subjection to high pressure followed by a sudden reduction of the pressure.

(B) **Strainers**. In these the dilute pulp passes through screens leaving behind any fibres insufficiently ground and any knots, lumps, dirt, etc. Those operated by centrifugal action, however, are **excluded** (**heading 84.21**).

(C) **Wet lappers (presse-pâte machines)**. In these the pulpy mass of wood fibres, whether from the mechanical grinders or from the chemical digesters, is concentrated and formed into sheets.

(D) **Refiners**. These usually comprise a cone shaped case with internal revolving bars which break up any large fibres or lumps and allow the stock that is already sufficiently beaten to pass straight through.

(E) **Crushers and grinders** which treat previously prepared paper pulp with a view to producing a cellulosic pulp specially constituted for a particular application (for example, preparation of nitrocellulose).

(II) MACHINERY FOR MAKING PAPER OR PAPERBOARD

This group includes :

(A) **Machines for forming the stock into continuous sheets of paper or paperboard (e.g., Fourdrinier machines or twin wire machines)**. These are very complex machines. They consist of regulators for feeding the stock to the head box, a slice at the output end of the head box for distributing the stock onto an endless band, usually a woven fabric of synthetic monofilaments, supported on a breast roll or a forming roll, foils, table rolls, shake mechanism, suction boxes, dandy rolls for watermarking, couch rolls for increasing the dry solids content and

consolidating the paper, press rolls forming at least one press nip, one press roll may include a press shoe and a surrounding, rotable belt loop, in which the paper is pressed against one or between two endless felt belts or other process belts, drying rolls, steam boxes, etc., and usually also calender rolls and reeling devices, etc.

(B) **Vat machines**. These are similar in principle to those at (A) but, instead of the pulp flowing out on to an endless band of wire cloth, it is picked up from a vat on a revolving cylinder of wire cloth from which it is transferred to a felt band and then on to press rolls (sometimes of the suction type) and finally to a series of drying cylinders. The paper or paperboard is produced either in the form of continuous web or in sheets. In certain of these machines, sheets of paperboard are formed by the layer of pulp winding round and round a cylinder. When a sufficient thickness is built up, it is cut off in the form of sheets, either by hand or mechanically along the length of the cylinder.

(C) **Machines for the manufacture of multi-layered paper, board or paperboard**. These machines consist of different combinations of Fourdrinier formers or twin wire formers. The different web layers are produced simultaneously and are joined in a humid state in the machine, as a rule without a binder.

(D) **Sample drawing apparatus for making paper samples intended for testing**. These machines are sometimes called “sample drawing machines” for controlling manufacture.

(III) MACHINERY FOR FINISHING PAPER OR PAPERBOARD

This group includes :

(A) **Reeling machines**. Some of these at the same time stretch and smooth the paper and discharge any static electricity.

(B) **Machines (other than calenders) for applying various kinds of surface coatings**, inorganic or organic pigment layers, size, gum, silicon, wax, etc.; for coating carbon papers or photographic papers; for coating paper with textile dust, cork or mica powder, etc., for wallpapers.

(C) **Machines for impregnating paper or paperboard** with oil, plastics, etc., and machines for making bituminised or tarred roofing papers.

(D) **Ruling machines** working by means of small discs or steel pens fed from an ink bath, but **not** printing machines of **heading 84.43**.

(E) **Creping machines**. These normally consist of a metal scraper or doctor which scrapes the paper from a **heated** cylinder, so that crinkling of the paper occurs. However, creping is usually carried out in the papermaking machine.

(F) **Machines for humidifying paper** (also called “paper conditioners”) in which the entire surface of the paper or paperboard is exposed to humid air.

(G) **Machines for graining and embossing** (however, calenders used for the same purpose fall in **heading 84.20**).

(H) **Corrugating machines**, may be combined with a laminating device.

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* *

Certain paper-finishing machines (e.g., for coating, laminating or reeling), may also be suitable for use in the working of metal foil, plastic sheets, woven fabric, etc., but they remain in this heading **provided** they are of a type mainly used for paper or paperboard.

Composite machines of this heading sometimes incorporate certain machines falling in other headings of the Chapter (e.g., filters for recovery of fibres and loading material from waste waters (**heading 84.21**), calenders of all kinds (for smoothing, glazing, embossing, etc.) (**heading 84.20**), paper cutting machines (**heading 84.41**)). **Provided** they are presented together, such component machines are classified with the composite machines in this heading, but if presented separately they are classified in their respective headings.

The heading also **excludes** :

(a) Boilers for rags, straw, etc.; boilers (digesters) for the preparation of chemical wood pulp; steam heated cylinder and other drying machines (**heading 84.19**).

(b) Water-jet bark strippers (**heading 84.24**) and wood de-barking machinery (**heading 84.65** or **84.79**).

(c) Printing machines (**heading 84.43**).

(d) Rag pickers, pulling or garnetting machines (**heading 84.45**).

(e) Machines for the manufacture of vulcanised fibre (**heading 84.77**).

(f) Machines for coating abrasives on to paper, cloth, wood, etc. (**heading 84.79**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machinery of this heading are also classified here, e.g. :

Backfalls; bedplates and beater bars for beaters; couch rolls; suction boxes; cylinders for vat machines; dandy rolls.

The following are **not**, however, regarded as parts of this heading :

(a) Endless belts of textile materials, for Fourdrinier machines and twin wire machines, and felt roller covers (**heading 59.11)**.

(b) Edge-runner stones, grinding stones, bedplates and backfalls and other parts of basalt, lava or natural stone (**heading 68.04** or **68.15**).

(c) Endless belts of woven copper or bronze wire (e.g., Fourdrinier wire) (**heading 74.19**).

(d) Machine knives and cutting blades (**heading 82.08**).

(e) Calender rolls (**heading 84.20**).

8439.10

- Machinery for making pulp of fibrous cellulosic material

8439.20

- Machinery for making paper or paperboard

8439.30

- Machinery for finishing paper or paperboard

CLASSIFICATION OPINIONS

1. One-time carbon-paper coating machine consisting essentially of several rollers and a stand, the ink from a trough being transferred by an ink-feed roller to a printing roller against which the paper is held by another roller; the thickness of the coating is measured by a metering roller. *Adoption : 1966*

8439.9

- Parts :

8439.91

-- Of machinery for making pulp of fibrous cellulosic material

8439.99

-- Other

Heading 8440

Book-binding machinery, including book-sewing machines

EXPLANATORY NOTES

84.40 - Book-binding machinery, including book-sewing machines.

8440.10 - Machinery

8440.90 - Parts

This heading covers machines used in the manufacture of books (including booklets, brochures, periodicals, writing-books and the like).

The heading includes :

(1) **Leaf-folding machines for book-binding**. These fold large sheets of paper a number of times to give a size suitable for pages. They remain here even if they can also be used for other folding operations.

(2) **Stapling machines and wire-stitching machines**, including those also usable in the manufacture of cardboard boxes or the like.

(3) **Gathering and stitching machines**. In these the sheets are laid by hand on a conveyor-chain, gathered in sections, headed up and then delivered to the stitching head.

(4) **Rolling or hammering machines**. These press the folded leaves of unbound volumes before sewing.

(5) **Machines used to "grecquer" the backs of unsewn books**, i.e., to make shallow cuts in the back of the volume for receiving the cross threads.

(6) **Book-sewing machines**, including both simple types for sewing only, and very complicated machines which consist of a feeder to place the folded sheets into the machine, a sewing device equipped to sew the sheets together and usually to place a textile reinforcement over the back.

(7) **Machines for flattening or rounding the backs before covering**.

(8) **Machines for gluing strips of paper or textile on to loose pages** which are to be incorporated into a book, or on to maps to be assembled into atlases, in order to make binding practicable.

(9) **Machines for gluing paper covers on to cheap books, brochures, etc**.

(10) **Machines for the manufacture of book covers**. These usually include feeders to bring in the necessary sheets of paper, cardboard, book cloth, etc., a gluing device and a press, and also sometimes provision for heating and drying.

(11) **Machines for flattening the finished book covers**. These consist of a roller system and tables.

(12) **Machines for fixing the stitched volumes of books, etc., into the covers by gluing and pressing**. Some machines are equipped with a device to insert loose pictures, designs, maps or the like.

(13) **Machines for gilding or colouring the edges of books**.

(14) **Machines for stamping or gilding letters or designs** on book covers and sometimes also on other goods (e.g., leather goods), but **excluding** general purpose presses (**heading 84.79**) and printing presses using **interchangeable** characters assembled in blocks (**heading 84.43**).

(15) **Page numbering machines** (e.g., for registers and ledgers).

(16) **Machines for assembling pages more or less permanently by means of metal or plastic spirals (or rings) passing through perforations in the pages**. They normally consist of a perforating appliance and a spiralling device.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading are also classified here.

*

* *

The heading **excludes** :

(a) Tables, usually of wood, with a screw device for holding the cross threads, used in the hand sewing of books (**heading 44.21**).

(b) Knives for cutting machines (**heading 82.08**).

(c) Machines for folding paper or cardboard (**other than** page-folding for books); machines for cutting or grooving paper or cardboard; machines for trimming bound or stitched books, periodicals, brochures, etc.; machines for trimming edges and corners of books or for making thumb-indexing insets; machines for stacking sheets of paper; stapling machines suitable **only** for cardboard box manufacture (**heading 84.41**).

(d) Margin setting, folding or page signature marking machines for use with printing machines (**heading 84.43**).

(e) Textile cutting machines (**heading 84.51**).

(f) Needles for sewing machines (**heading 84.52**).

(g) Machines for working leather used in book-binding (**heading 84.53**).

(h) Stapling machines of a kind used in offices to fix documents together (**heading 84.72**).

8440.10

- Machinery

8440.90

- Parts

Heading 8441

Other machinery for making up paper pulp, paper or paperboard, including cutting machines of all kinds.

EXPLANATORY NOTES

84.41 - Other machinery for making up paper pulp, paper or paperboard, including cutting machines of all kinds.

8441.10 - Cutting machines

8441.20 - Machines for making bags, sacks or envelopes

8441.30 - Machines for making cartons, boxes, cases, tubes, drums or similar containers, other than by moulding

8441.40 - Machines for moulding articles in paper pulp, paper or paperboard

8441.80 - Other machinery

8441.90 - Parts

This heading covers all machinery used for cutting, and (**apart from** the book-binding machinery) all machinery for making up paper pulp, paper or paperboard **after** it has been manufactured, ranging from machines for cutting into the widths required or into sheets of commercial sizes to those for the manufacture of various made up articles.

The heading includes :

(1) **Paper trimming and cutting machines (including multi-blade cutting machines) for cutting out sheets**. These include reel and square cutting machines used with the paper-making machines, trimming machines for books or brochures, machines for rounding the corners of books or making thumb-indexing insets, and paper shears, "guillotines", and apparatus for cutting photographic prints on paper or paperboard mounts for photographs, **but not** film cutting machines and apparatus, of a kind used in photographic or cinematographic laboratories (**heading 90.10**).

(2) **Machines for die-cutting** (confetti, labels, lace paper, index cards, window envelopes, box shapes, etc.).

(3) **Machines for cutting, outlining or grooving paperboard** for cartons, boxes, file covers, etc.

(4) **Machines for making paper bags**.

(5) **Machines for making envelopes** (cutting, folding, lining, etc.).

(6) **Machines for making folding cartons and boxes**.

(7) **Machines for stapling boxes and similar articles, other than** simple wire stapling machines which can be used equally for book-binding or for box-making (**heading 84.40**).

(8) **Other machines for making cartons and boxes**.

(9) **Winding machines** for manufacture of paper tubes, spools, sleeves, insulating tubing, cartridge cases, etc.

(10) **Machines for forming waxed paper cups, containers**, etc., usually with a seam-making and gluing device.

(11) **Machines for moulding articles in paper pulp, paper or paperboard** (packing for eggs; plates or dishes for confectionery or camping, toys, etc.); although usually fitted with a heating device these machines remain in this heading.

(12) **Winders** (slitter-winders), for unwinding reels of paper, slitting the paper into bands (slits) of the required width and rewinding it.

(13) **Stacking machines** for arranging sheets, cards, etc., in orderly piles.

(14) **Perforating machines, including those for perforating lines** (needle perforations, oblong (or slotted) perforations, etc.) for stamps, toilet paper, etc.

(15) **Machines for folding, other than** page folding machines of **heading 84.40**.

(16) **Composite machines which cut, fold, interleave and pack cigarette papers**.

The heading **does not**, however, **include** simple mechanical or hydraulic presses which are often used for this purpose (**heading 84.79**).

*

* *

Some of the machines of this heading, in particular the paper-bag or box-folding machines, may be equipped with a printing device. In accordance with Note 3 to Section XVI such machines remain classified in this heading **provided** the printing is not the principal function of the machine.

It should also be noted that some machines described above (such as cutting, folding or bag-making machines) may also be suitable for use in making up certain plastics or thin sheet metal. Such machines remain in this heading **provided** they are of a type normally used for making up paper or paperboard.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading are also classified here.

*

* *

The heading also **excludes** :

(a) Drying stoves for drying made up articles of cardboard (**heading 84.19**).

(b) Packing machines (e.g., for chocolate) that also make and print paperboard containers (cartons, etc.) (**heading 84.22**).

(c) Machines for twisting paper strips into yarn (**heading 84.45**).

(d) Sewing machines for the manufacture of paper bags (**heading 84.52**).

(e) Punching machines used for punching holes in paper cards or documents and paper shredders of a kind used in offices for destroying confidential documents (**heading 84.72**).

(f) Eyeletting machines and machines for waxing paper cups and containers, etc., by immersion (**heading 84.79**).

8441.10

- Cutting machines

8441.20

- Machines for making bags, sacks or envelopes
8441.30

- Machines for making cartons, boxes, cases, tubes, drums or similar containers, other than by moulding
8441.40

- Machines for moulding articles in paper pulp, paper or paperboard
8441.80

- Other machinery
8441.90

- Parts
Heading 8442

Machinery, apparatus and equipment (other than the machines of headings 84.56 to 84.65) for preparing or making plates, cylinders or other printing components; plates, cylinders and other printing components; plates, cylinders and lithographic stones, prepared for printing purposes (for example, planed, grained or polished).
EXPLANATORY NOTES

84.42 - Machinery, apparatus and equipment (other than the machines of headings 84.56 to 84.65) for preparing or making plates, cylinders or other printing components; plates, cylinders and other printing components; plates, cylinders and lithographic stones, prepared for printing purposes (for example, planed, grained or polished).

8442.30 - Machinery, apparatus and equipment

8442.40 - Parts of the foregoing machinery, apparatus or equipment

8442.50 - Plates, cylinders and other printing components; plates, cylinders and lithographic stones, prepared for printing purposes (for example, planed, grained or polished)

Apart from certain **exclusions** referred to later, this heading includes :

(1) The printing parts of printing machinery, for example, plates and cylinders, engraved or otherwise prepared for printing, used to print texts or illustrations (by hand or by the machines of heading 84.43); and prepared lithographic stones, cylinders and plates (i.e., those prepared so as to be suitable for engraving or otherwise receiving an image for subsequent use in printing).

(2) The machines, apparatus and accessories used to make the printing parts referred to above, or used to assemble (compose) it for use in printing, whether by hand or mechanically.

This heading covers equipment used in the printing of texts, illustrations or repetitive designs, etc., whether on paper, textiles, linoleum, leather or on other materials, by **printing processes**, viz. :

(I) **Relief printing :** by using relief photo-engraved plates. In this process, the relief parts of the character or image are inked.

(II) **Planographic printing :** by lithography, photo-lithography or by offset printing. The printing ink is applied only to certain specially prepared parts of the plane surface of the printing plate, etc. This category of printing also includes stencilling.

(III) **Intaglio printing :** by rotogravure, or by means of etched or engraved metal plates. The printing ink is accumulated in the engraved or etched parts.

(A) MACHINERY, APPARATUS AND EQUIPMENT (OTHER THAN THE MACHINES OF HEADINGS 84.56 TO 84.65) FOR PREPARING OR MAKING PLATES, CYLINDERS OR OTHER PRINTING COMPONENTS

This heading includes :

(1) **Machines for making printing plates by direct reproduction from a document**. In these machines, a photocell scans the document, and the impulses transmitted by an electronic device from that cell activate a tool which engraves a plate of plastics.

(2) **Machines for acid etching plates or cylinders**. These consist of special vats fitted with stirrers.

(3) **Machines for sensitising offset zinc plates (horizontal whirlers)**, generally fitted with an electric heating device.

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The heading covers only phototype-setting or composing machines which actually set type, even if the type is photographed after it has been set. However, the heading excludes photographic cameras, photographic enlargers or reducers, photographic contact printers and similar photographic apparatus for preparing printing plates or cylinders (**Chapter 90**), for example :

(a) vertical or horizontal process cameras mounted on a hanging frame (bed) or a sliding bed, cameras for three colour printing;

(b) photographic enlargers and reducers, reproduction apparatus and printing frames;

(c) light tables used for planning layouts or for contact printing.

Some of these apparatus use half-tone or similar finely cross-lined glass or plastics screens, glass or plastics colour filters for colour printing or screen or filter holders.

(B) PLATES, CYLINDERS AND OTHER PRINTING

COMPONENTS; PLATES, CYLINDERS AND

LITHOGRAPHIC STONES, PREPARED FOR PRINTING PURPOSES

(FOR EXAMPLE, PLANED, GRAINED OR POLISHED)

This heading includes :

(1) **Relief or intaglio plates engraved by hand, mechanically or by acid**. These may be of wood, linoleum, copper, steel, etc.

(2) **Lithographic stones**. The illustration is either hand-drawn or photographically transferred and prepared with acid.

(3) **Offset printing plates** of zinc or aluminium or similar flexible metal sheets on which the design is reproduced in the flat, i.e., neither in relief nor intaglio.

(4) **Engraved or etched cylinders**.

(5) **Plates and dies for relief stamping or printing**, e.g., for machines which emboss, with or without also inking, letter heads, visiting cards, etc.

Provided they have been treated so as to render them suitable for engraving or impressing, **lithographic stones**, **metal plates and cylinders**, even though not engraved or impressed, are also included in this heading, e.g., :

(6) **Planed or grained lithographic stones**.

(7) **Metal plates or sheets** prepared for engraving (by planing, graining or polishing).

(8) **Perfectly polished or grained surface metal cylinders**. These cylinders, usually of cast iron, are generally electroplated with copper, or else have a copper covering consisting of assembled removable sleeves.

(9) **Metal or plastic masters for use on office-type offset printing machines**. The top edge of the sheets has usually been processed to permit attachment to the drum of the machine.

Sensitised plates (e.g., consisting of metal or plastics, coated with a sensitised photographic emulsion, or of a sheet of photosensitive plastics, whether or not affixed to a support of metal or other material) are **excluded** (**heading 37.01**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of the machines of this heading.

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The heading also **excludes :**

(a) Stencils of zinc, plastics, cardboard, etc., for use in stencil printing machines (classified according to the constituent material).

(b) Copying or transfer papers, bearing texts or designs for reproduction (**heading 48.16**).

(c) Silk screens for silk screen printing, whether or not coated (**heading 59.11**); metal wire cloth, mounted on a frame, whether or not prepared, for use in screen printing (classified according to the constituent material).

(d) Marking irons for gilding machines (**heading 84.40**).

(e) Metal, stone or wood working machine-tools and water-jet cutting machines (for example, matrix planing and finishing machines; machines for planing and cutting rules; disc or ball graining machines; engraving machines; milling cutters; routing machines; trim saws) (**headings 84.56 to 84.65**).

(f) Type and other printing parts of typewriters, calculating or other machines of headings 84.70 to 84.72 (**heading 84.73**).

(g) Moulds (**heading 84.80**).

(h) Laser photoplotter for creating latent images, on photosensitive film, generally from digital formats, by means of a laser beam **(heading 90.06)**.

(ij) Measuring or checking instruments (**heading 90.17** or **90.31**).

8442.30

- Machinery, apparatus and equipment
CLASSIFICATION OPINIONS

1. Photocomposing machine for making up a complete form lay-out with lines (invoice, pay-slip, etc.) on sensitised film; comprises essentially a rule photosetter using a line matrix, two photomontage devices, each using a matrix of pre-set components (captions, screened areas, etc.), and a composition table to which the sensitised film is attached. *Adoption : 1969*

8442.40

- Parts of the foregoing machinery, apparatus or equipment
8442.50

- Plates, cylinders and other printing components; plates, cylinders and lithographic stones, prepared for printing purposes (for example, planed, grained or polished)
Heading 8443

Printing machinery used for printing by means of plates, cylinders and other printing components of heading 84.42; other printers, copying machines and facsimile machines, whether or not combined; parts and accessories thereof.

EXPLANATORY NOTES

84.43 - Printing machinery used for printing by means of plates, cylinders and other printing components of heading 84.42; other printers, copying machines and facsimile machines, whether or not combined; parts and accessories thereof (+).

- Printing machinery used for printing by means of plates, cylinders and other printing components of heading 84.42 :

8443.11 - - Offset printing machinery, reel-fed

8443.12 - - Offset printing machinery, sheet-fed, office type (using sheets with one side not exceeding 22 cm and the other side not exceeding 36 cm in the unfolded state)

8443.13 - - Other offset printing machinery

8443.14 - - Letterpress printing machinery, reel fed, excluding flexographic printing

8443.15 - - Letterpress printing machinery, other than reel fed, excluding flexographic printing

8443.16 - - Flexographic printing machinery

8443.17 - - Gravure printing machinery

8443.19 - - Other

- Other printers, copying machines and facsimile machines, whether or not combined :

8443.31 - - Machines which perform two or more of the functions of printing, copying or facsimile transmission, capable of connecting to an automatic data processing machine or to a network

8443.32 - - Other, capable of connecting to an automatic data processing machine or to a network

8443.39 - - Other

- Parts and accessories :

8443.91 - - Parts and accessories of printing machinery used for printing by means of plates, cylinders and other printing components of heading 84.42

8443.99 - - Other

This heading covers (1) all machines used for printing by means of the plates or cylinders of the previous heading, and (2) other printers, copying machines and facsimile machines, whether or not combined.

The heading includes machines for printing a repetitive design, repetitive wording or overall colour on textiles, wallpaper, wrapping paper, rubber, plastics sheeting, linoleum, leather, etc.

(I) PRINTING MACHINERY USED FOR PRINTING

BY MEANS OF PLATES, CYLINDERS AND OTHER

PRINTING COMPONENTS OF HEADING 84.42

The most common of these machines are rotary presses. In their simplest form, these presses usually consist of a cylinder with two semi-cylindrical plates (letter press), or of cylinders which may be either engraved (gravure printing) or impressed (offset printing); rotary presses for colour-printing are equipped with several printing cylinders, their inking rollers being placed side by side. Since all the printing, pressing and inking mechanisms are rotary, these presses can be used for both continuous printing and sheet by sheet printing, in black or in colour, on single sides or on both sides of the paper. Rotary presses can be divided into two sub-categories :

(1) **Reel-fed presses**, in which some large rotary presses combine several printing units on a single frame, and which enable all the pages of a newspaper or periodical to be printed in one sequence of operations, so that, in the final result, all the pages are delivered, cut, folded, assembled, stapled and stacked by various ancillary machines working in conjunction with the printing machine.

(2) **Sheet-fed presses**, in which the sheets are transported through the printing units by grippers. Sheet-fed presses have a feeder, one or more printing units, and a delivery mechanism. In the feeder the sheets are taken from a pile, aligned, and forwarded to the printing unit. In the delivery mechanism the printed sheets are collected in a pile.

This group also includes printing presses using a movable plate (or platen), and cylinder printing machines.

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* *

The above printing presses (particularly the small or medium-sized rotary presses) can be fitted with a series of making-up units arranged side by side with the printing units, so that, starting from a single reel of paper, complex products (e.g., box shapes, packagings, labels, railway tickets) can be completed in one single and continuous operation.

In addition to the typical types of printing machines, this heading also covers special machines such as :

(i) Machines for printing tin foil boxes or other containers.

(ii) Machines for printing clock or watch dials or other articles of special shapes.

(iii) Machines for printing on corks, tubes, candles, etc.

(iv) Machines for marking clothing.

(v) Machines for printing book page signatures.

(vi) Numbering, dating, etc., machines (**other than** hand-operated date and similar stamps of **heading 96.11**) operating with irons, bands of letters or figures, etc., whether or not inked.

(vii) Certain small office printing machines which operate by means of printing type or by the offset process, and which are improperly referred to as "duplicating machines" because their operating principles and appearance are similar to those of duplicating machines.

This group also includes **colour printing machines**, used to colour, after they have been first printed in black and white, special art editions, playing cards, children's illustrations, etc., by means of stencils or stencil-plates, the colour being applied by brushes, rollers or by spraying.

Machines for printing a repetitive design, repetitive words or overall colour on textiles, wallpaper, wrappingpaper, linoleum, leather, etc., include :

(1) **Block printing machines** in which blocks engraved with the design, generally in relief, are repeatedly pressed on the cloth, wallpaper, etc., as it passes through the machine, thus producing a continuous design; the same machines are also used for printing separate designs (e.g., on scarves or handkerchiefs).

(2) **Roller printing machines**, usually consisting of a large central cylinder (pressure bowl) around the periphery of which is placed a series of engraved colour rollers, each with its colour trough, furnisher roller, doctor blades, etc.

(3) **Screen printing machines**. The material to be printed passes through the machine together with a stencil-screen band, the colour being applied through the stencil.

(4) **Warp printing machines** which, before weaving, print a design on the sheet of parallel warp yarns unrolled from the warp beam.

(5) **Yarn printing machines**. These produce colour effects on the yarn (or sometimes on the roving before it is spun into yarn).

(II) OTHER PRINTERS, COPYING MACHINES

AND FACSIMILE MACHINES,

WHETHER OR NOT COMBINED

This group covers :

(A) **Printers**.

This group includes apparatus for the printing of text, characters or images on print media, other than those that are described in Part (I) above.

These apparatus accept data from various sources (e.g., automatic data processing machines, flatbed desktop scanners, networks). Most incorporate memory to store that data.

The products of this heading may create the characters or images by means such as laser, ink-jet, dot matrix or thermal print processes. The two most common types of printers are :

(1) **Electrostatic printers**, which employ a process that involves electrostatic charges, toner and light. A light source (e.g., a laser, a light-emitting diode (LED)) is used to cancel the charge at specific points on a positively charged photoconductive surface (usually a drum) leaving a positively charged replica of the image. The negatively charged toner is electrostatically attracted to the photoconductive surface, reproducing the original image. The toner is electrostatically transferred to the print medium, which has a stronger positive charge than the photoconductive surface, and the image is then fused to the print medium by applying pressure and heat.

(2) **Inkjet printers**. These machines place drops of ink onto a print medium to create an image.

This heading includes printers presented separately for incorporation in or connection to other products of the nomenclature (e.g., receipt printers of cash registers of heading 84.70).

(B) **Copying machines**.

This group includes apparatus for the production of copies from original documents, such as :

(1) **Digital copiers** in which the original document is scanned and a photosensitive surface (e.g., a charge-coupled device (CCD) or photo-diode sensing array) converts the optical image into digitally coded electrical signals that are stored in memory. The print engine, which operates in the same manner as the printers described in Part (II) (A) of this Explanatory Note, then uses that data to produce the required number of copies. Original documents need only be scanned once to produce multiple copies, as the digital representation of the image is stored in memory. Part (D) below describes such apparatus when capable of connecting to an automatic data processing machine or to a network.

(2) **Photocopiers** in which the optical image of the original document must be projected onto the photosensitive surface for each copy. The most common types are :

(a) Electrostatic photocopying apparatus which operates either by reproducing the original image directly onto the copy (direct process) or by reproducing the original image via an intermediate onto the copy (indirect process).

In the direct process the optical image is projected onto a substrate (usually of paper) coated with, for example, zinc oxide or anthracene, charged with static electricity. After the latent image has been developed by means of a powdered dye, it is fixed to the substrate by heat treatment.

In the indirect process, the optical image is projected onto a drum (or plate) coated with selenium or other semiconducting substance charged with static electricity. After the latent image has been developed by means of a powdered dye, it is transferred onto ordinary paper by applying an electrostatic field and fixed to the paper by heat treatment.

(b) Apparatus using chemical emulsion coatings in which the photosensitive surface consists of an emulsion usually containing silver salts or diazo compounds (the latter being designed for exposure to light with a high ultraviolet content). The developing and printing processes vary

according to the nature of the emulsion and the type of apparatus (wet or dry developers, heat treatment, ammonia vapour, transfer techniques, etc.).

This group also includes contact type photocopying apparatus and thermo-copying apparatus.

(C) **Facsimile machines**.

Facsimile (or fax) machines are for the transmission and reception of text or graphics over a network and for the printing of a reproduction of the original text or graphics. Part (D) below describes such apparatus when capable of performing a copying function.

(D) **Combinations of printers, copying machines or facsimile machines**.

Machines which perform two or more of the functions of printing, copying or facsimile transmission are generally referred to as multi-functional machines. These machines are capable of connecting to an automatic data processing machine or to a network.

The criterion “capable of connecting to an automatic data processing machine or to a network” is described in the Subheading Explanatory Note below.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts and accessories of the machines of this heading.

This would include, for example, machines (whether or not presented separately) for uses ancillary to printing exclusively designed to operate with printing machines and used during or after the printing operation for feeding, handling or further working the sheets or rolls of paper. Such machines, which are usually separate from the printing machine itself, include :

(1) **Stock or pile elevators and paper trays or drawers**, which hold the blank sheets ready to be printed.

(2) **Automatic feeders**, used for sheet by sheet printing. Their function is to feed sheets one by one, perfectly centred, into the machine.

(3) **Sheet delivery mechanisms**, similar in design to feeders, but carrying out the reverse process (i.e., they deliver and pile the printed sheets).

(4) **Sorters**, which stack and collate printed sheets of multi-page documents.

(5) **Folders, gummers, perforators and staplers**. These are often used, at the delivery end of the printing machine, to fold and staple or stitch printed pages (of newspapers, folders, periodicals, etc.).

If, however, they are not designed **exclusively** for use in conjunction with a printing machine, they are **excluded** (**heading 84.40** or **84.41**, as the case may be).

(6) **Serial numbering machines**, small accessory machines operating with rolls of figures.

(7) **Bronzing machines for the printing industry**. These deposit metal powder on sheets as they emerge from the printing machine in which they have just been mordant-printed.

This heading also includes drums and plates used in electrostatic photocopying apparatus, guide rollers and mounted oil supply pads.

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The heading also **excludes** :

(a) Cylinder blankets and covers of textile fabric, rubberised textile fabric, felt, rubber, etc. (classified according to the constituent material).

(b) Machinery for labelling bottles, cans, boxes, bags or other containers, and wrapping machinery (**heading 84.22**).

(c) Machines with an ancillary printing device, e.g., certain bag filling or packing machines (**heading 84.22**); certain machines for making up paper or paperboard (**heading 84.41**). If presented separately, the printing device remains classified in this heading **provided** it prints by one of the processes of the machines of this heading.

(d) Anti-smudging sprayingmachines (**heading 84.24**).

(e) Hectographic and stencilduplicating machines, and addressing machines (**heading 84.72**).

(f) Pattern generating apparatus (**heading 84.86**).

(g) Cameras for recording documents on microfilm, microfiche or other microforms (**heading 90.06**).

(h) Ordinary photographic printing frames (**heading 90.10**).

(ij) Drawing instrumentsof **heading 90.17**.

(k) Hand-operated label embossers of **heading 96.11**.

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Subheading Explanatory Notes.

Subheadings 8443.11, 8443.12 and 8443.13

These subheadings cover printing machinery in which the impression is obtained by means of a printing plate on which the design is reproduced in the flat, i.e., in neither intaglio nor relief (offset printing process). The formation of the image to be printed is based on the principle of the mutual repulsion of water and fatty substances. The printing, always performed on a rotary machine, is not

obtained by direct contact of the printing medium on the material to be printed, but by intermediate transfer onto a rubber cylinder called a blanket which, in turn, transfers the image onto the matter to be printed. The machinery of these subheadings is characterised by the presence of the blanket and of a device used to continuously dampen the non-printing parts of the printing plate which is fixed to a metal cylinder. Offset printing machines can be fed by rolls or sheets.

Subheadings 8443.14 and 8443.15

Letterpress printing is a process whereby the ink is transferred under pressure to the printing surface from the raised parts of the type. The type consists of individual characters, lines or image-bearing plates, all of the same height.

These subheadings **do not**, however, **cover** flexographic printing machinery.

Subheading 8443.16

Flexographic printing is a process employing the letterpress principle for simple work (printing of packaging, forms, leaflets, etc.), and in which the printing plate is of rubber or thermoplastic material bonded directly to the impression cylinder. These machines are simpler and lighter than other printing presses; they print continuous webs of paper in one or more colours, using an ink based on alcohol or other volatile solvents.

Subheading 8443.17

In gravure printing, the ink accumulated in different volumes in engraved or etched parts of the printing plate is transferred by pressure onto the surface to be printed. This form of printing has its origins in line engraving and etching, where a graver or an acid is used to incise lines of different depths in a polished copper plate. The surface of the plate remains free of ink, which collects in the lines in sufficient quantity to yield an impression.

The principle of gravure printing is similar to that of line engraving and etching. A rotary cylinder is used instead of the plate. The image or signs are transferred onto a cylindrical plate electroplated with copper by mechanical or photochemical means.

Subheadings 8443.31 and 8443.32

The criterion “capable of connecting to an automatic data processing machine or to a network” denotes that the apparatus comprises all the components necessary for its connection to a network or an automatic data processing machine to be effected simply by attaching a cable. The capability to accept the addition of a component (e.g., a “card”) that would then allow the connection of a cable is not sufficient to meet the terms of these subheadings. Conversely, that the component to which a cable would be connected is present but inaccessible or otherwise unable to effect a connection (e.g., switches must first be set) is not sufficient to exclude goods from these subheadings.

8443.1

- Printing machinery used for printing by means of plates, cylinders and other printing components of heading 84.42 :

8443.11

-- Offset printing machinery, reel-fed
8443.12

-- Offset printing machinery, sheet-fed, office type (using sheets with one side not exceeding 22 cm and the other side not exceeding 36 cm in the unfolded state)
8443.13

-- Other offset printing machinery
8443.14

-- Letterpress printing machinery, reel fed, excluding flexographic printing
8443.15

-- Letterpress printing machinery, other than reel fed, excluding flexographic printing
8443.16

-- Flexographic printing machinery
8443.17

-- Gravure printing machinery
8443.19

-- Other
8443.3

- Other printers, copying machines and facsimile machines, whether or not combined :
8443.31

-- Machines which perform two or more of the functions of printing, copying or facsimile transmission, capable of connecting to an automatic data processing machine or to a network
8443.32

-- Other, capable of connecting to an automatic data processing machine or to a network
CLASSIFICATION OPINIONS

1. Digital ink-jet printer which reproduces continuous-tone colour images (formats up to A0 - 864 x 1.189 mm), using variable-sized dots, on a wide range of media (e.g., newsprint, mat or glossy stocks, transparent materials, etc.). It is used in the printing industry principally as a colour proofer and for industrial applications such as printing reflective or back-lit signage, exhibit displays, packaging, etc. The printing is effected on the basis of data provided by an external automatic data processing machine, to which the printer is connected by a parallel interface. **Application of GIRs 1 (Notes 6 (B), 6 (C), 6 (D) (i) and 6 (E) to Chapter 84) and 6** *Adoption : 2000*

8443.39

-- Other
8443.9

- Parts and accessories :
8443.91

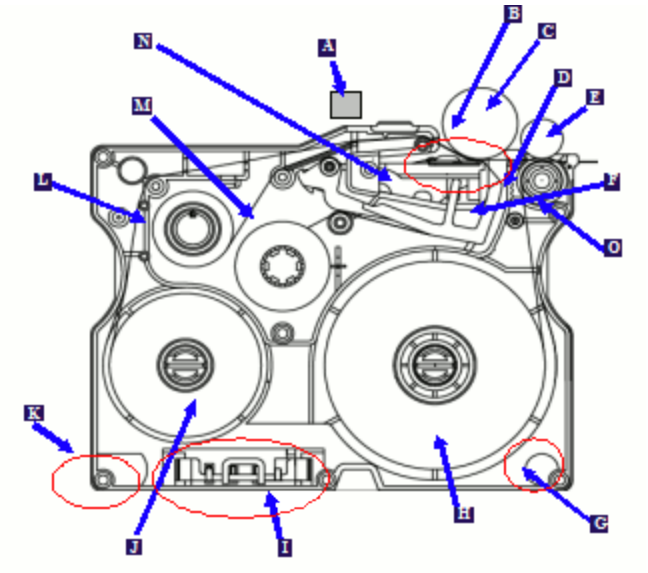
-- Parts and accessories of printing machinery used for printing by means of plates, cylinders and other printing components of heading 84.42
8443.99

-- Other
CLASSIFICATION OPINIONS

1. **Tape cassette for use with label printers** comprising a plastic cartridge (115 mm x 88 mm x 33 mm) containing four spools. The largest spool contains self-adhesive white plastic tape with a paper release liner on one side. The second largest spool contains plastic tape and the smallest spool contains a red plastic tape. The fourth spool is empty. All three tape reels have a width of 24 mm. The red plastic tape is comparable to a ribbon that is inked or otherwise prepared for giving impressions. The printer uses the cartridge to create text labels from the three different materials in the cartridge. The cartridge is put up in a retail paperboard carton with appropriate text indications identifying the cartridge, stating in which printer models it is designed to be used, etc.
Application of GIRs 1 and 6.
Adoption : 2006

Tape cassette

A Tape end sensor (main unit)
B Cassette opening
C Platen (main unit)
D Separating panel
E Sub roller (main unit)
F Ribbon guide lever
G Cassette positioning section
H Double-sided tape
I Sensor section
J Film tape
K Cassette positioning section
L Ink ribbon
M Ribbon take-up spool
N Thermal head (main unit)
O Tape feed rolle



2. Cartridges, with or without toner, consisting of a paperboard cylinder with a plastic cap at each end and with, at one end, a spindle for rotating a specially formed base metal wire and, at the other end, cogs for reversing its rotation. The wire, three sections of which are enclosed in a plastic tube, pivots inside the cartridge to prevent the powdered toner from agglomerating. The cartridges also have a lengthwise slit through which the powdered toner can pass by electrostatic attraction. They are designed to be fitted into photo-copying apparatus and are replaced when empty.
Adoption : 1996

3. Cartridges, with or without toner, consisting of a paperboard cylinder with a plastic cap at each end; one cap supports a specially formed base-metal wire, and the other serves to rotate that wire. The wire, two sections of which are enclosed in a plastic tube, pivots inside the cartridge to prevent the powdered toner from agglomerating. The cartridges also have a lengthwise slit through which the powdered toner can pass by electrostatic attraction. They are designed to be fitted into photocopying apparatus and are replaced when empty.
Adoption : 1996

Heading 8444

Machines for extruding, drawing, texturing or cutting man-made textile materials.

EXPLANATORY NOTES

84.44 - Machines for extruding, drawing, texturing or cutting man-made textile materials.

This heading covers machines for the manufacture of man-made textile fibres, including machines for cutting the fibres.

These include :

(1) **Machines for extruding man-made textiles** in the form of monofilaments or of several filaments. These machines are, in practice, made up of a long series of separate identical spinning units placed side by side. Each unit consists essentially of a metering pump and a filter which feed the spinnerets or spinning nozzles. Depending on the process employed, the one or more filaments leaving the nozzles pass either through a bath containing a chemical coagulating agent (e.g.,

viscose process), or through an airtight chamber fitted with a water spray (e.g., cuprammonium process) or a hot air current (e.g., cellulose acetate process), or through a cooling chamber. The nozzles may be single or contain a great number of holes (sometimes many thousands) according to whether it is desired to obtain a monofil, or a multi-filament yarn, or tow for cutting into staple fibre. In some machines the fibres emerging from the nozzle are brought together and assembled by a slight twist given by a special device, thus forming a yarn. In others, the fibres leaving the various spinning units are combined in a thick rope (tow), sometimes of many hundreds of thousands of fibres, for subsequent cutting into staple fibre.

(2) **Drawing machines** which stretch the filaments to three or four times their original length, a process which orientates the molecules in the direction of the filaments thus considerably increasing its strength.

(3) **Machines for texturing synthetic textile yarn**. Most texturing processes (traditional discontinuous method, false-twisting, edge crimping, gear-crimping, hot air or steam jets, knit-deknit) modify the physical properties of the yarn to produce crimped yarn, elastic "foam" yarn, etc.

(4) **Staple fibre cutters** for cutting tow into short lengths.

(5) **"Tow-to-top" machines**. These also cut the tow into staple fibre lengths, but they do not disturb the parallel arrangements of the fibres in the tow. These machines therefore produce tops which are ready for spinning (requiring neither carding nor combing), and not a loose mass of staple fibres like the cutters of paragraph (4). They sometimes incorporate a spinning machine and are then called "tow-to-yarn" machines (see Explanatory Note to heading 84.45).

(6) **Rupturing machines** for producing ruptured filament tow. The greater part (but not all) of the filaments are broken at intervals so that, although some filaments remain continuous, the yarn obtained from the tow has the characteristics of a staple fibre yarn.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories of the machines of this heading are classified in **heading 84.48**.

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The heading **excludes** :

(a) Machines for preparing the raw materials intended for later extrusion into man-made textile fibres (generally **heading 84.19** or **84.77**).

(b) Draw boxes and gill boxes of **heading 84.45**.

(c) Machines for spinning continuous or discontinuous glass fibres or yarns (**heading 84.75**).

8444.00

Machines for extruding, drawing, texturing or cutting man-made textile materials.

Heading 8445

Machines for preparing textile fibres; spinning, doubling or twisting machines and other machinery for producing textile yarns; textile reeling or winding (including weft-winding) machines and machines for preparing textile yarns for use on the machines of heading 84.46 or 84.47.

EXPLANATORY NOTES

84.45 - Machines for preparing textile fibres; spinning, doubling or twisting machines and other machinery for producing textile yarns; textile reeling or winding (including weft-winding) machines and machines for preparing textile yarns for use on the machines of heading 84.46 or 84.47.

- Machines for preparing textile fibres :

8445.11 - - Carding machines

8445.12 - - Combing machines

8445.13 - - Drawing or roving machines

8445.19 - - Other

8445.20 - Textile spinning machines

8445.30 - Textile doubling or twisting machines

8445.40 - Textile winding (including weft-winding) or reeling machines

8445.90 - Other

Subject to the exclusions mentioned later, this heading covers machines used in the textile industry for the following processes :

(I) The preparation or preliminary treatment of textile fibres to make them suitable for :

(i) Spinning into yarns, twine, etc.

or (ii) Manufacturing into wadding, felt, stuffing material, etc.

(II) The working up of various textile fibres into yarns by spinning, twisting, doubling, throwing, etc. (including the preparation of paper yarn from strips of paper) but **excluding** specialised processes of rope making (**heading 84.79**).

(III) Reeling, whether of slivers or rovings, yarns, twine, etc. and preparing textile yarns for use on the machines of **heading 84.46** or **84.47.**

(A) MACHINERY FOR PREPARING NATURAL TEXTILE FIBRES OR SHORT MAN-MADE FIBRES UP TO THE SPINNING STAGE, AND SIMILAR MACHINES WHICH PREPARE THE FIBRES FOR USE AS STUFFING OR FOR THE MANUFACTURE OF FELT OR WADDING

This group includes :

(1) **Blower-grader machines** for sorting animal hair according to length. These consist of a long box divided across its width into compartments into which the hairs are blown by a current of air. The hairs are distributed into the various compartments according to their size.

(2) **Machines for separating cotton fibres from the seeds, hulls and other impurities (e.g., cotton gins), and similar machines for separating linters from the seed**.

(3) **Scutching or similar machines** for separating the fibres from vegetable stalks (flax, hemp, etc.) after retting.

(4) **Machines for tearing rags, old cordage or similar scrap textiles** to reduce them to a fibrous condition suitable for carding (e.g., garnetting machines and rag pickers), but **excluding** rag cutters used in paper-making (**heading 84.39**).

(5) **Bale breakers**, used for opening out into lumps the cotton from compressed bales.

(6) **Automatic feeders**, fitted with a spreading device to secure an even flow to the openers.

(7) **Beaters and spreaders** for further cleaning and opening out the web of cotton fibres; **preparing machines for opening wool**.

(8) **Wool scouring machines with mechanical arrangements** for feeding in the wool and pumping in hot water; and **raw wool washing machines** (**e.g., Leviathans**) **equipped with stirring mechanism** and sometimes means for drying.

(9) **Raw stock dyeing machines** for dyeing unspun wool fibres in the mass.

(10) **Machines for impregnating wool, ramie, etc., with oil or chemical products** to facilitate carding and combing.

(11) **Wool carbonising machines**, equipped with a vat for acid, arrangements for removing excess liquor, for drying and for dusting out the charred impurities.

(12) **Carding machines** of various types for cotton, wool, short man-made fibres, bast fibres (flax, hemp, etc.), etc. These continue the cleaning begun by the openers and beaters, and separate and straighten the fibres. In principle they consist of large rollers covered with saw-toothed steel wire or with fabric fitted with wire teeth (card clothing); these work against fixed plates or other rollers which are also covered with card clothing. A cleaning device keeps the teeth free from clogging with fibres, and in wool carding machines there is a device for eliminating burrs. Different carding machines are used at different stages for different materials (e.g., breaker cards, intermediate cards, finisher cards, condenser cards). The fibres leave the carding machines in the form of a wide web or lap, or may be condensed into a sliver, and are then wound on spools or bobbins or coiled into rotating bins.

This group also covers carding machines for preparing fibres for felting or for use as wadding or stuffing; these are usually a simpler type consisting of a cylindrical segment covered with card clothing, which oscillates over a flat table also covered with card clothing.

(13) **Draw boxes, gill boxes, etc**. These draw out the slivers to a smaller cross-section, combine them and re-draw them to produce an even product; these machines are used after carding and, in the case of wool, sometimes also after combing.

(14) **Combing machines**. The principal function of these machines is to comb out short fibres; the sliver is held between nippers while being acted on by an arrangement of combs or pins. They are used at various stages of manufacture : to treat the material in the raw state (e.g., hackling flax), or after carding or drawing out. The most common types are combing machines for flax, hemp or similar fibres, intermittent (French or rectilinear) combs for cotton, and circular combs for wool.

(15) **Flax, jute, etc., spreaders**. These combine the bundles of flax or other fibres, and draw them out into a continuous sliver.

(16) **Backwashing machines** for removing the oil and other impurities from wool after carding or combing. They consist of a number of vats for warm soapy water, equipped with guide and squeeze rollers, drying cylinders and a gill box to open out the wool again.

(17) **Drawing or roving machines** for finally drawing and slightly twisting the slivers or rovings to make them ready for spinning.

(18) **Coilers**. These consist of a turntable designed to rotate a can in which the slivers or rovings are collected as they leave the various machines; they usually have a coiling device at the top.

(B) MACHINES FOR PREPARING SILK PRIOR TO THROWING

This group includes :

(1) **Machines for removing the outer parts of cocoons, and machines for removing, by beating the cocoons, the outer filaments which cannot be reeled**.

(2) **Vessels for unreeling by hand the silk threads from cocoons**, equipped with a device for assembling and slightly twisting together several filaments and sometimes with the reel on which the raw silk obtained is wound; the reel is sometimes separate from the vessel but **provided** the reel and vessel are presented together the whole unit remains classified here.

(3) **Machines for removing lumps, thicker parts, etc.,** from the raw silk yarn.

(C) SPINNING MACHINES FOR CONVERTING ROVINGS INTO YARN; TWISTING MACHINES AND MACHINES FOR DOUBLING YARNS TO FORM MULTIPLE OR CABLED YARNS

This group includes :

(1) **Spinning frames** which by a further drawing out and twisting convert the roving into a yarn. The essential feature of a spinning frame is the spinning mechanism (flyer ring and traveller, etc.) associated with a revolving vertical or oblique spindle; a complete spinning frame consists of a

number of these elements mounted side by side. The heading includes flax, hemp, jute, etc., spinning machines, intermittent spinning frames (mules, etc.) and continuous spinning frames (flyer spinning, ring spinning, cap spinning, etc.). It also covers hand spinning wheels.

(2) **"Tow-to-yarn" machines**. These complete the whole process of breaking the filaments of the tow, drawing out into a roving and spinning into yarn.

(3) **Twisting or doubling machines** for giving a supplementary torsion to yarns, or for twisting together two or more yarns to form a multiple or cabled yarn or to form twine; special machines for rope-making are, however, **excluded** (**heading 84.79**). Certain machines of this group may include devices for producing fancy yarns (e.g., looped yarns).

This group also includes **throwing machines** for twisting together continuous filaments of silk or of man-made textiles.

(4) **Machines for knotting together, end to end, lengths of horsehair.**

(D) WINDING OR REELING MACHINES

These are used for putting up yarns (or rovings), twine or string, on bobbins, spools, cops, cones, cheeses, cards, etc., or in balls, hanks or skeins, etc., whether for manufacturing or trade purposes, or for retail sale. For the classification of warping machines, see Part (E) below. Machines for coiling ropes or cables are classified in **heading 84.79**.

The heading also includes machines for recovering and re-reeling yarn from faulty knitted or crocheted goods. It also covers **weft winders** specially designed to wind the weft yarns on to bobbins ready for use in weaving.

(E) MACHINES FOR PREPARING TEXTILE YARNS FOR USE ON THE MACHINES OF HEADING 84.46 OR 84.47

This group includes :

(1) **Warpers** for preparing a series of yarns parallel, under the same tension, and in the right order (as regards colour and type of yarn) for weaving. The complete number of yarns required for the warp may be prepared as a whole, or they may be prepared in sections (sectional warping); they may be wound directly on the warp beam ready for use on the loom, or provisionally on the roller of the warping machine or on other supports (e.g., bobbins).

The machine consists of a creel for holding a large number of bobbins of yarn, a series of combs and thread guides and a powerful drum winding mechanism; the various parts of this machine are usually quite separate, but when presented together they remain classified here.

(2) **Warp sizing machines** (e.g., slashing machines). In these the warp yarns, either in sections or as a sheet of parallel yarns, are given a temporary dressing to protect them from fraying on the loom and to make them smooth, thus facilitating weaving. These machines consist generally of a size bath, a system of roller guides, a heated cylinder or hot air dryer and a reeling device, and sometimes also a device for cut-marking (i.e., the application of dye marks at regular intervals on the selvedge yarns).

The heading **does not cover** other sizing machines, e.g., for sizing other yarns (including weft yarns) in hanks or as separate yarns (**heading 84.51**).

(3) **Drawing-in and reeding machines** for drawing the warp yarns through the respective healds (heddles) of the loom, and through the reed or comb.

(4) **Warp tying-in or twisting-in machines** for uniting the threads of a new warp with those remaining from the former warp.

This heading **does not cover** warp tyers used to join warp threads which have broken during weaving (**heading 84.48**).

(5) **Machines for assembling warp yarn** on the beam from warper drums.

(6) **Machines for interlacing and supplying the thread during weaving**.

(7) **Threading machines** for embroidery.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories of the machines of this heading are classified in **heading 84.48**.

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The heading **excludes** :

(a) Machines for the heat-treatment of cocoons to kill the silkworms (**heading 84.19**).

(b) Machines for the drying of textile materials (**heading 84.19** or **84.51**, as the case may be).

(c) Centrifugal hydro-extractors (**heading 84.21**).

(d) Machines of **heading 84.44**.

(e) Machinery for the manufacture or finishing of felts or nonwovens (**heading 84.49**).

(f) Polishing, glazing, gassing or other finishing machines, and fabric winding machines (**heading 84.51**).

(g) Hair cutting machines for cutting animal hair from hides (**heading 84.53**).

(h) Card grinding and comb teeth sharpening machines (**heading 84.60**).

(ij) Machines for setting the teeth in card clothing (**heading 84.63**).

(k) Machines for mounting card clothing on card cylinders, etc. (**heading 84.79**).

8445.1

- Machines for preparing textile fibres :
8445.11

-- Carding machines
8445.12

-- Combing machines
8445.13

-- Drawing or roving machines
8445.19

-- Other
8445.20

- Textile spinning machines
8445.30

- Textile doubling or twisting machines
8445.40

- Textile winding (including weft-winding) or reeling machines
8445.90

- Other
Heading 8446

Weaving machines (looms).
EXPLANATORY NOTES

84.46 - Weaving machines (looms).

8446.10 - For weaving fabrics of a width not exceeding 30 cm

- For weaving fabrics of a width exceeding 30 cm, shuttle type :

8446.21 - - Power looms

8446.29 - - Other

8446.30 - For weaving fabrics of a width exceeding 30 cm, shuttleless type

This heading covers weaving machines for the production of fabrics by weaving, using textile (including peat fibre) yarns or other yarns (e.g., of metal, glass or asbestos).

In these machines the warp and weft yarns are interlaced at right angles to form a fabric.

In the simplest weave, the sheet of warp yarns from the warp beam divides into two groups of alternate yarns, each group being controlled by a harness; these harnesses alternately raise and lower their warp yarns to form an angle (known as the shed) between the two groups of yarns through which passes the weft yarn (in conventional looms carried by a shuttle) which is immediately beaten up against the preceding weft by the reed; the raising or lowering of the groups of warp yarn is then reversed by the harnesses, entrapping the weft and forming a new shed for the next line of weft. On ordinary looms up to eight harnesses can be used to vary the order in which the warp yarns are raised and so produce a certain variation in the weave.

More complex looms can execute more complicated weaves. For example, some looms have a special system for controlling the raising of the warp (dobbies, Jacquards, etc.) so as to control a greater number of groups of warp threads or even single warp threads; or special devices can be used to produce certain special fabrics (leno mechanisms, warp pile (or Terry) attachments, swivel shuttle attachments for broché work). Other looms have devices for changing the shuttles (or the bobbins in the shuttles), thus introducing wefts of different colours or different yarns; Looms often include certain other mechanical or electrical devices (e.g., for replenishing the bobbins in the shuttles when necessary, or for stopping the loom if a warp or weft thread breaks).

Most of these special devices may either form an integral part of the loom, or be mounted on an ordinary loom as auxiliary **removable** attachments; the latter type of attachment is classified here **provided** it is presented with the loom for which it is intended, but if presented separately it is **excluded** (generally **heading 84.48**).

Looms usually produce a flat fabric but there are circular looms which produce a tubular fabric; in these one or more shuttles, moved either mechanically or by electro-magnets, interlace a weft with a vertical series of warp threads arranged in a circle.

Different types of looms may be named according to their type of mechanism or according to the type of fabric they produce, for example, dobby looms, Jacquard looms, automatic box motion looms, shuttleless looms in which the weft is inserted either by compressed air or a water jet or by a long needle, or drawn across from a fixed bobbin by a series of projectiles, ribbon looms (e.g., bar looms, Zurich looms and drum looms), pile fabric looms, carpet looms including knotted pile carpet looms.

The heading also includes :

(1) Hand looms.

(2) Looms for weaving cloth of wire or metallised yarn **provided** they are of the same type as textile weaving looms. Such looms must have all the essential mechanical parts characteristic of textile weaving looms, i.e., a warp beam, frame harnesses for forming the shed, the mechanism which passes the weft wire or yarn through the shed at right angles and entraps it in the warp yarns and a cloth beam for winding the cloth as it is produced.

However, the heading **excludes** machines designed for interlacing wire, by various processes, to form heavy wire grill or netting (see Explanatory Note to **heading 84.63**).

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories of weaving machines of this heading are classified in **heading 84.48**.

8446.10

- For weaving fabrics of a width not exceeding 30 cm
8446.2

- For weaving fabrics of a width exceeding 30 cm, shuttle type :
8446.21

-- Power looms
8446.29

-- Other
8446.30

- For weaving fabrics of a width exceeding 30 cm, shuttleless type
Heading 8447

Knitting machines, stitch-bonding machines and machines for making gimped yarn, tulle, lace, embroidery, trimmings, braid or net and machines for tufting.
EXPLANATORY NOTES

84.47 - Knitting machines, stitch-bonding machines and machines for making gimped yarn, tulle, lace, embroidery, trimmings, braid or net and machines for tufting.

- Circular knitting machines :

8447.11 - - With cylinder diameter not exceeding 165 mm

8447.12 - - With cylinder diameter exceeding 165 mm

8447.20 - Flat knitting machines; stitch-bonding machines

8447.90 - Other

This heading covers all machinery for the production of fabrics or trimmings by knitting, stitch-bonding, gimping, braiding, netting, tufting, etc., or for embroidery work on any ground, whether using unspun rovings, textile (including peat fibre) yarns, other yarns (e.g., of metal, glass or asbestos) or wire.

(A) KNITTING MACHINES

These consist of two main groups :

(1) **Circular machines** which produce either a straight tubular fabric or, by varying the size of the stitches in the rows, a shaped tubular piece (for stockings, socks, sleeves of garments, berets, fezes or similar knitted headgear, etc.).

(2) **Flat machines** for producing flat fabric of even width or, by increasing or decreasing the number of stitches in the rows, flat but shaped pieces of fabric to be subsequently made up by sewing (e.g., into stockings or socks). Flat machines include machines for ordinary knitting (e.g., Cotton's frames) and warp knitting (Raschel, milanese, locknit, etc., looms). These machines range from the very simple type to large machines with many rows of needles, in some cases equipped with Jacquard or similar mechanisms to produce various designs.

This heading also covers small domestic knitting machines, and machines designed to knit just the few stitches necessary for repairing stockings. Machines for joining two pieces of knitted fabric by simply **sewing together** the loops forming the knitted edges are classified in **heading 84.52**.

(B) STITCH-BONDING MACHINES

This group includes all kinds of stitch-bonding machines which produce fabrics by a chain-stitching process. The following are included :

(1) **Machines** incorporating a needle mechanism for attaching the "warp" yarns and the "weft" yarns by chain-stitching.

(2) **Machines** for inserting loops of yarn in a fabric backing previously produced on a conventional weaving loom, and attaching them to the backing with knitting stitches.

(3) **Knitting-sewing machines** operate by stitching seams in loose-fibre fabric already made by other machines (for example, cards and garnetting machines) and so produce a consolidated sheet of textile material used as filtering material, carpet underlay, insulating material, etc.

(C) MACHINES FOR MAKING KNOTTED NET, TULLE,

LACE, BRAID, OR TRIMMINGS, FOR GIMPING YARNS, FOR EMBROIDERY, FOR TUFTING, ETC.

These include :

(1) **Machines for making nets or netting** for any purpose, either in the piece or to the shape of finished articles (e.g., fishing nets).

(2) **Machines for making plain tulle**.

(3) **Machines for making figured tulle, lace, etc**.

(4) **Machines for making bobinot tulle, bobinot curtains and bobinot mechanical lace**, which manufacture flat netting or flat net curtains, as well as mechanical (woven) lace from warp and weft strands. However, the warp and weft strands are not interlaced at right angles as in weaving, but are surrounded and tied, by the to and fro movement of a shuttle, by a large number of warp strands (bobbin threads) arranged on small bobbins.

(5) **Embroidery machines,** including hand embroidery machines (embroidery machines with pantograph shuttles), which, by means of needles, embroider various designs with one or more threads on an existing ground of woven fabric or other material. Embroidery machines, other than manually operated, may be equipped with Jacquard or similar mechanisms. The heading also

covers thread drawing machines which withdraw, and bind the remaining threads into open-work embroidery.

The heading **does not cover** chain or blanket stitch machines (mainly used to edge certain textile articles, but which can also do simple embroidery), nor sewing machines which can do simple embroidery work in addition to ordinary sewing (**heading 84.52**).

(6) **Gimping machines**. These wrap one yarn in close spirals round a generally thicker core (e.g., of metal wire, rubber thread, unspun fibres, or of one or more coarser yarns). These machines can also be used to gimp fine electrical wiring.

(7) **Machines for making various trimmings by interlacing**, in various complex ways, yarns or unspun rovings (sometimes gimped) of various textiles (braiding looms, hook looms, etc.).

The heading also covers machines for braiding a wire sheath on hose of rubber, plastics, etc., or for braiding tubular plaits from wire, **provided** they have the essential mechanical parts characteristic of the textile machines referred to in the preceding paragraph.

(8) **Machines for covering buttons, tassel cores, etc., with textile threads.**

(9) **Tufting machines**, for inserting loops or tufts of textile yarn in a fabric backing in order to produce carpets, mats or lightweight articles (bedspreads, bath robes, etc.).

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories of the machines of this heading are classified in **heading 84.48**.

8447.1

- Circular knitting machines :
8447.11

-- With cylinder diameter not exceeding 165 mm
8447.12

-- With cylinder diameter exceeding 165 mm
8447.20

- Flat knitting machines; stitch-bonding machines
8447.90

- Other
Heading 8448

Auxiliary machinery for use with machines of heading 84.44, 84.45, 84.46 or 84.47 (for example, dobbies, Jacquards, automatic stop motions, shuttle changing mechanisms); parts and accessories suitable for use solely or principally with the machines of this heading or of heading 84.44, 84.45,

84.46 or 84.47 (for example, spindles and spindle flyers, card clothing, combs, extruding nipples, shuttles, healds and heald-frames, hosiery needles).

EXPLANATORY NOTES

84.48 - Auxiliary machinery for use with machines of heading 84.44, 84.45, 84.46 or 84.47 (for example, dobbies, jacquards, automatic stop motions, shuttle changing mechanisms); parts and accessories suitable for use solely or principally with the machines of this heading or of heading 84.44, 84.45, 84.46 or 84.47 (for example, spindles and spindle flyers, card clothing, combs, extruding nipples, shuttles, healds and heald-frames, hosiery needles).

- Auxiliary machinery for machines of heading 84.44, 84.45, 84.46 or 84.47 :

8448.11 - - Dobbies and Jacquards; card reducing, copying, punching or assembling machines for use therewith

8448.19 - - Other

8448.20 - Parts and accessories of machines of heading 84.44 or of their auxiliary machinery

- Parts and accessories of machines of heading 84.45 or of their auxiliary machinery :

8448.31 - - Card clothing

8448.32 - - Of machines for preparing textile fibres, other than card clothing

8448.33 - - Spindles, spindle flyers, spinning rings and ring travellers

8448.39 - - Other

- Parts and accessories of weaving machines (looms) or of their auxiliary machinery :

8448.42 - - Reeds for looms, healds and heald-frames

8448.49 - - Other

- Parts and accessories of machines of heading 84.47 or of their auxiliary machinery :

8448.51 - - Sinkers, needles and other articles used in forming stitches

8448.59 - - Other

This heading covers :

(I) All auxiliary machines and apparatus which exercise, either separately or concurrently, a function complementary to those of the machines of heading 84.44, 84.45, 84.46 or 84.47 (in particular spinning, weaving, knitting or embroidery machines). These auxiliary machines may either extend the possibilities of the main machines (as in the case of dobbies and Jacquards), or may perform

mechanically a particular job necessary for the proper working of the main machine (as is the case with warp stop motions, weft stop motions, warp knotting machines).

(II) Parts of the machines of this heading and also parts of the machines of heading 84.44, 84.45, 84.46 or 84.47 (see the General Explanatory Note to Section XVI).

(III) Various accessories used with the machines of heading 84.44, 84.45, 84.46 or 84.47 or of this heading; in general, the term “accessories” refers to articles of equipment, not forming an integral part of the machines, which are interchangeable and must be frequently replaced (for example, because they are rapidly worn out, or because different types are necessary for different types of work).

(A) AUXILIARY MACHINERY

This group includes :

(1) **Auxiliary machines for use with textile spinning machines**, for example, automatic devices which remove fully wound reels and replace them with empty ones, and mobile appliances for setting up rows of empty reels.

(2) **Warp beam stands or creels**. These hold the warp beams during the sizing process, or during the winding of the warp beam; in certain cases, they hold the warp beam, in the course of weaving.

(3) **Dobbies and Jacquards**, used to adapt a loom for producing weaves more complicated than it could otherwise execute. Dobbies control the separate lifting of a large number of harnesses, and Jacquards the lifting of individual warp threads. They operate by a number of lags with projecting pegs which form a chain, or in many cases (particularly Jacquards) by a series of suitably perforated cards loosely laced together edge to edge to form a continuous chain. These pegs or a number of needles, certain of which come into play according to the different perforations of the cards, actuate the mechanisms for lifting the warp threads. Similar mechanisms (Verdol machines) are operated with continuous strips of perforated paper.

(4) **Machines for mounting on Jacquards** to enable certain of the cards to remain in position while more than one weft is inserted. This reduces the number of cards required and increases the speed of weaving.

(5) **Card lacing machines** for assembling the cards in a loose chain ready for use on the Jacquard machines.

(6) **Warp stop motions and weft stop motions**. These cause the immediate stopping of the loom in the event of a warp or weft thread breaking; also **bobbin control mechanisms** for ensuring a continuous supply of weft yarn by replenishing the bobbin when necessary. The heading includes apparatus of this kind whether or not operated electrically.

(7) **Warp tyers**; small machines placed on a loom above the sheet of warp yarns, and used to join them if they break during weaving.

This heading **does not cover** warp tying-in or twisting-in machines of **heading 84.45**.

(8) **Leno attachments** which, during weaving, cross over certain of the warp threads to form loops through which weft threads pass. They are used in the manufacture of gauze and other leno fabrics.

(9) **Swivel shuttle attachments**; these enable a swivel shuttle to be passed between certain warps to produce broché designs.

(10) **Warp pile motions** which, by a variable motion of the comb, form loops on one or both surfaces of the fabric (Terry fabrics, etc.).

(11) **Split selvedge machines**. When a wide loom is used to produce simultaneously a number of narrow fabrics, these machines produce a leno weave or insert a form of oversewing where the weft threads are to be cut to separate the narrow fabrics.

(12) **Apparatus incorporating photoelectric cells, which detect faults in fabrics being knitted, yarns being wound on a warping frame, etc**., and stop the motion of the machine with which they are used as soon as they detect a fault.

(13) **Automatic spool changers for weaving machines**.

(14) **Machines for placing thin plates in automatic stop motions**.

(15) **Warp-protectors** for warpers, warp sizing machines and knitting machines.

(16) **Bobbin holders**.

(17) **Screens and beaters (beating wings) for openers and beaters for mechanical stitchers**.

(18) **Cylinders and drums for mechanical stitchers, cards or combing machines**.

(19) **Agitators, drums and cylinders for wool degreasing machines or for greasing machines**.

(20) **Stretching devices** for drawing bench, roving benches or continuous ring threading machines, and cylinders thereof.

(21) **Mechanical yarn separators** of simple design, for bobbin machines, intended to remove knots and other faults from the yarns.

Certain of the items listed above may be designed to form integral parts of particular looms (Jacquard looms, automatic looms, etc.). When presented separately these are classified in this heading, not as auxiliary machinery, but as parts of the machines of **heading 84.44, 84.45, 84.46** or **84.47.**

(B) PARTS AND ACCESSORIES

This group includes :

(1) **Creels** for holding bobbins during warping.

(2) **Spindles and spindle flyers** for spinning frames.

(3) **Centrifugal pots** (Topham boxes) (often of plastics) inside which man-made textile yarns are coiled in the form of cakes as they are produced.

(4) **Combs** for combing machines; **fallers or gills**, i.e., toothed bars used in gill boxes.

(5) **Card clothing** (including narrow strips known as card fillets), set with their wire teeth, and all-steel card clothing in the form of saw-toothed wire.

(6) **Ring travellers**, open rings placed on the spinning ring of a spinning frame to provide the twist necessary in forming the yarn.

(7) **Extruding nipples**, spinnerets, etc., used in extruding man-made filaments, including those of precious metal but **excluding** those of ceramics (**heading 69.09**) or of glass (**heading 70.20**).

(8) **Thread guides** (but not those of glass or ceramics, see **headings 70.20 and 69.09**, nor those wholly of agate or other precious or semi-precious stones, see **heading 71.16**).

(9) **Warp beams**, from which the warp yarns are unrolled during weaving.

(10) **Reeds for looms** (including adjustable expansion combs). These beat up each line of weft against the preceding one as the weaving proceeds.

(11) **Frames** in which the healds for looms are mounted.

(12) **Shuttles**, but **excluding** the bobbins on which the yarn is wound.

(13) **Metallic healds**, either flat or as lengths of two twisted wires, with a control eye through which the warp yarn passes, and **metallic harness cords** which connect heald frames to the lifting mechanism.

The heading **excludes** healds and harness cords of textile yarn or textile cord (**heading 59.11**).

(14) **Lingoes**, thin metal weights with eyes at their upper ends to be attached to each cord of a loom harness.

(15) **Needle boards and bottom boards**, i.e., perforated boards (usually of wood or vulcanised fibre) used with Jacquard or similar machines.

(16) **Jacquard hooks**. Large numbers of these specialised latched hooks are used on Jacquard machines to attach the neck cords of the Jacquard to the harness cords.

(17) **Needles for knitting machines**, for example, **bearded needles, including stilettos and needles for remeshing machines, hinged needles** (also called valve or blade needles), equipped with one or more tongues, **grooved needles** the tongue of which is replaced by a mobile slot, **tubular needles**, **crochet needles** for crochet machines.

(18) **Slides, combs, slide bars**, **etc.**, for tulle, lace-making and embroidery machines.

(19) **Sliders** for knitting machines.

(20) **Drawing sleeves** of plastics.

(21) **Shuttles for weaving machines (weaving shuttles), embroidery machines and net-making machines.**

(22) **Plates for knitting machines**, for example, braking plates, forming, lowering, chasing plates, double-edge plates, thread guiding plates, transfer plates, plates for Jacquard stitches. These are articles made of thin plates of steel about 0.1 to 2 mm in thickness with very variable profiles, which assist the needles (generally bearded or hinged needles) to form stitches.

(23) **Accessories to form stitches**, for example, waves, wave guides, design griffs, stretchers, grooves, pins and push rods.

(24) **Warping beams, divided beams and beam trays, brakes and regulators of automatic roll beams**.

(25) **Plates and suspension hooks of blades and teeth for combs**.

(26) **Tamplets for weaving machines**.

(27) **Shuttle boxes**.

(28) **Iron parts used in weaving machines**, for forming a loop, including those with a cutting section.

(29) **Hooks for crochet machines** (without shuttle).

(30) **Needle bars for hosiery machines, sliding plates, cams and plates for needles for rectilinear knitting machines, needle cams and needle cylinders for circular knitting machines**.

(31) **Needles for bobinot tulle machines and hooks for net-making machines**.

(32) **Embroidery needles and frames for embroidery machines**.

(33) **Spindles for braiding machines and bobbin machines**.

(34) **Thread brakes (tensioners) and combs for warpers and mechanical warp sizing machines**.

(35) **Needles, plates, "knives" and griffs for dobbies or Jacquards**.

(36) **Magazines (lifting, turning boxes, etc.) for automatic shuttle changers**.

(37) **Magazines for automatic changers of woof bobbins**.

(38) **Lamellae (thin plates) for automatic warp-protectors.**

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The heading also **excludes**, *inter alia* :

(a) Pumps used in the extrusion of man-made fibres (**heading 84.13**).

(b) Filters used in the extrusion of man-made fibres (**heading 84.21**).

(c) Needles of a type used on sewing machines (**heading 84.52**).

(d) Recorded media for controlling Jacquard or similar machines (**heading 85.23**).

(e) Roving or sliver cans (classified according to their constituent materials).

(f) Lease rods (simple lengths of wood or metal, used on the loom to limit the beginning of the shed) (classified according to their constituent materials).

(g) Bobbins, pirns, cops, cones, spools and similar supports (classified according to their constituent materials).

8448.1

- Auxiliary machinery for machines of heading 84.44, 84.45, 84.46 or 84.47 :
8448.11

-- Dobbies and Jacquards; card reducing, copying, punching or assembling machines for use therewith
8448.19

-- Other
8448.20

- Parts and accessories of machines of heading 84.44 or of their auxiliary machinery
8448.3

- Parts and accessories of machines of heading 84.45 or of their auxiliary machinery :
8448.31

-- Card clothing
8448.32

-- Of machines for preparing textile fibres, other than card clothing
8448.33

-- Spindles, spindle flyers, spinning rings and ring travellers
8448.39

-- Other

8448.4

- Parts and accessories of weaving machines (looms) or of their auxiliary machinery :
8448.42

-- Reeds for looms, healds and heald-frames
8448.49

-- Other
8448.5

- Parts and accessories of machines of heading 84.47 or of their auxiliary machinery :
8448.51

-- Sinkers, needles and other articles used in forming stitches
8448.59

-- Other
Heading 8449

Machinery for the manufacture or finishing of felt or nonwovens in the piece or in shapes, including machinery for making felt hats; blocks for making hats.
EXPLANATORY NOTES

84.49 - Machinery for the manufacture or finishing of felt or nonwovens in the piece or in shapes, including machinery for making felt hats; blocks for making hats.

The heading covers machinery for the manufacture or finishing of all kinds of felt or nonwovens or of articles of felt or nonwovens, but **excluding** those for the manufacture of felted woven fabrics. The heading also covers blocks for making hats.

Machines used in the preliminary operations before felting (e.g., blower grading machines for sorting hair, textile openers, beaters and cards) are the same as those used in the preliminary operations for preparing fibres for spinning, and remain classified in **heading 84.45**.

(A) MACHINES FOR THE MANUFACTURE OR FINISHING OF FELT OR NONWOVENS IN GENERAL

This group includes :

(1) **Felters**, generally composed of two heavy grooved plates, one fixed and the other capable of reciprocating movement, between which the web of carded fibres is submitted to friction and high pressure and becomes felted. These machines also include devices for moistening the web and heating the plates.

In certain types of these machines the plates are replaced by fluted rollers.

(2) **Soaping machines** to soap the partially formed felt.

(3) **Fulling mills**. In these the felt pieces, previously soaped, are pounded with hammers to complete the felting. Such mills remain here even though, exceptionally, they can be used for fulling small woven or knitted textile articles; on the other hand, rotary milling machines which are mainly used for fulling or felting woven fabrics are **excluded** (**heading 84.51**).

(4) **Machines for the manufacture of reinforced felts**. The felt and a support of woollen fabric may be felted together by the action of a heated roller; or a series of barbed needles may be used to punch some of the fibres into a non-woollen base fabric prior to felting.

(5) **Finishing machines for felts**, such as smoothing and polishing, shaving, etc.

(6) **Machines for the manufacture of nonwovens** (such as those employing the dry process, wet process or direct spinning).

(B) MACHINERY FOR MAKING FELT HATS

This group includes :

(1) **Machines for felting animal hair into hat-shapes**. They consist of a roller system feeding the hair to rotating brushes or revolving belts of card clothing, and these throw the hair on to revolving perforated metal cones (or gauze cones). A strong current of air sucks the hair to the surface of the cone forming a layer on its surface.

(2) **Felting presses**, with grooved faces usually of wood, one or both of which are capable of reciprocating motion, between which the pre-formed hat-shape is felted.

(3) **Roller presses** to complete the felting of the hat-shapes.

(4) **Stretching machines** on which the conical hat-shape is further formed and the conical end rounded.

(5) **Machines in which the brim is formed** by passing the edges through conical rollers.

(6) **Polishing machines**, which remove outstanding hairs from the surface by means of pumice stone or abrasive cloth.

(7) **Singeing machines** for burning off hairs from the surface of the hat-shape.

(8) **Proofing machines** in which certain hat-shapes are soaked or sprayed with shellac or gelatin, and pressed between rollers.

(9) **Blocking machines** in which the turning of the brim is completed, and the hat-shape is given its final form.

(10) **Sand presses**; these press bags of hot sand against the inside of the hat-shape placed on a hollow former, thus restoring the surface of the felt disturbed by previous operations.

(11) **Machines with revolving pads to give the felt a smooth shiny surface**.

Machines for making woollen felt hats are the same as those described above for making hats from other animal hair felts, except for the first hat-shape forming operation. In the case of wool, the layer of fibres from the carding machine is formed into a hat-shape by a device consisting of a revolving double conical block.

(C) BLOCKS FOR MAKING HATS

These may be of wood or metal (usually aluminium), and are used with certain of the above machines.

Hat-stretchingblocks used in hat fitting are also classified here. Machines for tracing head contours used in hat fitting are **excluded** (**heading 90.31**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of the machines of this heading.

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The heading **does not cover** :

(a) Calenders for compressing the bats of fibre before felting (**heading 84.20**).

(b) Knitting machines used in the production of knitted headgear (berets, fezes, etc.) (**heading 84.47**).

8449.00

Machinery for the manufacture or finishing of felt or nonwovens in the piece or in shapes, including machinery for making felt hats; blocks for making hats.

Heading 8450

Household or laundry-type washing machines, including machines which both wash and dry.

EXPLANATORY NOTES

84.50 - Household or laundry-type washing machines, including machines which both wash and dry (+).

- Machines, each of a dry linen capacity not exceeding 10 kg :

8450.11 - - Fully-automatic machines

8450.12 - - Other machines, with built-in centrifugal drier

8450.19 - - Other

8450.20 - Machines, each of a dry linen capacity exceeding 10 kg

8450.90 - Parts

The heading covers **household or laundry-type washing machines** (whether or not electric and whatever the weight), which are normally used in the household, commercial laundries, hospitals, etc., to clean linens, finished goods, etc. They usually include paddles or rotating cylinders for keeping the liquid circulating through the contents, or sometimes a device to give high frequency vibrations to the liquid.

The heading also covers machines which both wash and dry.

However, dry-cleaning machinery falls in **heading 84.51**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of the machines of this heading.

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° °

Subheading Explanatory Note.

Subheading 8450.11

This subheading covers washing machines which, once the programme has been selected, wash, rinse and spin without the intervention of the user.

8450.1

- Machines, each of a dry linen capacity not exceeding 10 kg :
8450.11

-- Fully-automatic machines
8450.12

-- Other machines, with built-in centrifugal drier
8450.19

-- Other
8450.20

- Machines, each of a dry linen capacity exceeding 10 kg
8450.90

- Parts
Heading 8451

Machinery (other than machines of heading 84.50) for washing, cleaning, wringing, drying, ironing, pressing (including fusing presses), bleaching, dyeing, dressing, finishing, coating or impregnating textile yarns, fabrics or made up textile articles and machines for applying the paste to the base fabric or other support used in the manufacture of floor coverings such as linoleum; machines for reeling, unreeling, folding, cutting or pinking textile fabrics.

EXPLANATORY NOTES

84.51 - Machinery (other than machines of heading 84.50) for washing, cleaning, wringing, drying, ironing, pressing (including fusing presses), bleaching, dyeing, dressing, finishing, coating or impregnating textile yarns, fabrics or made up textile articles and machines for applying the paste to the base fabric or other support used in the manufacture of floor coverings such as linoleum; machines for reeling, unreeling, folding, cutting or pinking textile fabrics.

8451.10 - Dry cleaning machines

- Drying machines :

8451.21 - - Each of a dry linen capacity not exceeding 10 kg

8451.29 - - Other

8451.30 - Ironing machines and presses (including fusing presses)

8451.40 - Washing, bleaching or dyeing machines

8451.50 - Machines for reeling, unreeling, folding, cutting or pinking textile fabrics

8451.80 - Other machinery

8451.90 - Parts

This heading covers a wide variety of machines which are used :

(I) For the washing, bleaching, wringing, cleaning, ironing, dyeing, drying or the like of textile yarns, fabrics or made up textile articles, but **excluding** household or laundry-type washing machines (**heading 84.50**).

(II) For the dressing or finishing of yarns or fabrics, after spinning or weaving respectively, to bring out certain qualities or improve their appearance (e.g., shearing, fulling, lustring), or to give them special new qualities (e.g., by impregnating or coating), but **excluding** machines for the finishing of felt (**heading 84.49**).

(III) For the reeling, unreeling, folding, cutting or pinking of textile fabrics.

Many of the machines of this heading are nothing more than vats, tanks, troughs or other containers, fitted with simple mechanical features such as rollers for leading in the yarn or fabric or for squeezing

out excess liquid, stirring paddles, etc. Such machines are used for a variety of washing, bleaching, dyeing, cleaning, etc., operations, or for finishing operations involving coating or impregnating (e.g., with size or with waterproofing, crease-resisting, fireproofing, moth-proofing, rot-proofing, etc., compounds). To fall in the heading, the apparatus **must have such mechanical features and must be clearly intended for treating textiles**.

(A) MACHINERY FOR WASHING, WRINGING, IRONING OR PRESSING WHETHER OR NOT FITTED WITH HEATING DEVICES

This group includes :

(1) **Industrial washing machines, excluding** washing machines of **heading 84.50**, for yarns or woven fabrics or textile articles. This heading includes, for example, tunnel washers through which hanks of yarn are drawn, successively sprayed to wash them and dried, as well as festoon loop washers for piece goods.

This heading covers industrial washing machines used during the manufacturing process of fabrics and textiles, in which the equipment is used in finishing or to remove sizing from the manufactured goods.

(2) **Wringers and mangles**.

(3) **Shaker-tumblers** used in laundries to untangle the damp pieces and open them out ready for ironing.

(4) **Ironing machines** and **steam presses** for pressing garments (including fusing presses) but **excluding** smoothing or ironing machines of the calender type, whether or not for domestic use, of **heading 84.20**.

(B) BLEACHING OR DYEING MACHINERY

These include **J-boxes** used in bleaching or other wet finishing operations; they consist essentially of a vertical two-armed container, shaped like a letter J, fitted with internal steam jets and with rollers to guide the cloth. The fabric, previously impregnated by passing through a bath of bleaching liquor, enters the longer arm where it remains for the time required for the bleaching to take effect, and in due course emerges from the smaller arm.

Other machines of this group are mainly vat-type machines already referred to, adapted for dealing with particular types of textile goods (e.g., yarns in hanks or skeins or in balls, on bobbins, etc., piece goods or made up articles). The group also includes machines for dyeing or dressing textile piece goods in open width; the essential feature of these machines is that they incorporate a set of rollers for squeezing out excess liquid.

(C) DRY CLEANING MACHINERY

These clean with liquids such as petrol, carbon tetrachloride, etc., instead of water. They are usually complex machines incorporating, for example, washers for circulating the liquid through the goods being cleaned, centrifugal extractors, filters, clarifiers and storage tanks. In view of the inflammable nature of many of the liquids used, they usually have an explosion-proof motor drive for the washer and circulating pump.

(D) DRYING MACHINES

These machines are classified here **only** if they are clearly designed and specialised for the drying of textile yarns, fabrics or made up articles. They are of two main types : those consisting essentially of a closed chamber in which the goods to be dried are subjected to the action of hot air, and those in which fabrics are passed over heated rollers.

The heading **excludes** dryers not specialised for the treatment of textile goods (**heading 84.19**), and centrifugal dryers (**heading 84.21**).

(E) DRESSING OR FINISHING MACHINES

This group includes :

(1) **Mercerising machines** in which yarns or fabric are treated with caustic soda.

(2) **Beetling machines** in which rows of wooden headed or cast-steel hammers, mounted spirally on a roller, consolidate the cloth by beating; they close up the interstices of the weave and improve the lustre of the fabric.

(3) **Rotary milling machines**. These machines close up the warp and weft threads and effect a partial felting on the surface.

Stock or hammer mills, mainly used in the manufacture of felt, are **excluded** (**heading 84.49**).

(4) **Picking or burling machines**, used in the removal of imperfections or pieces of burr still remaining in the fabrics.

(5) **Raising machines**, used to raise the surface fibres of a cloth. They consist essentially of a large cylinder, mounted either with slats or frames into which teasels can be set, or with smaller cylinders fitted with fine wire points.

(6) **Machines for beating the backs of fabrics** to make the surface hairs stand up.

(7) **Cropping machines** to shear the surface of the fabric level after teaseling; similar machines are used in the finishing of velvets. By using indented bed-plates or rollers, patterned effects can be obtained.

(8) **Ratine or rippling machines** used to form wave or bead effects on raised fabrics, by rolling and curling together bunches of fibres. They consist of a plush covered table over which another table (covered with rubber, felt or emery) swings with a short oscillating and circular motion.

(9) **Brushing machines**; these comprise revolving cylindrical brushes for brushing the fabric after raising or cropping.

(10) **Singeing machines** for removing the hairiness of yarn or cloth. These work by rapidly passing the cloth over heated cylinders or curved plates, or over gas flames.

(11) **Machines for polishing or glazing string, for polishing silk yarn in hanks, or for polishing silk fabrics.**

(12) **Emery machines** for producing a smooth, even surface on fabrics.

(13) **Cylindrical presses** operating on a flat or semi-circular bed-plate to produce a surface lustre. Calendering machines (**heading 84.20**) and general purpose hydraulic presses (**heading 84.79**) are also used for this purpose.

(14) **Decatising machines** in which the fabric is steam-treated to fix the final finish and set of the cloth; also similar machines for conditioning yarns or fabrics by steam-treatment.

(15) **Stentering (tentering) machines** for restoring the fabric to its proper width.

(16) **Shrinking machines**, which close up the weft threads to produce a close fabric less likely to shrink subsequently.

(17) **Coating or impregnating machines** for applying special surface coatings to yarns or fabrics, or for impregnating them with special preparations (e.g., gum, starch, size, wax, plastics, rubber or water-proofing compounds). The heading includes machines for coating fabric, paperboard, etc., in the manufacture of floor coverings such as linoleum, and also the dressing machines described in the last sentence of Part (B) above.

(18) **Fancy yarn manufacturing machines** in which the special effect is produced after the spinning and doubling of the yarn (e.g., machines for ornamenting yarn with small drops of gelatin or wax).

(F) MACHINES FOR REELING, UNREELING, FOLDING, CUTTING OR PINKING TEXTILE FABRICS

This group includes :

(1) **Cloth folding or reeling machines**, which fold the cloth lengthwise or across the width, or roll it on to a support; also **inspection machines incorporating folding or reeling devices**, for inspecting fabrics for defects. Any of these machines may be combined with measuring apparatus.

(2) **Cloth cutting or pinking machines**, including machines for cutting out patterns or parts of garments, etc.

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The following are also classified here :

(1) **Steaming apparatus** (steam dummies, busts for steam ironing) **for outer garments**.

(2) **Machinery and apparatus (tables, etc.) for folding linen already ironed** (for example, handkerchiefs, sheets, tablecloths).

(3) **Machinery and apparatus for boiling and washing wool fabric** in order to scour it before bleaching or dyeing.

(4) **Machines for removing gum from fabrics** before bleaching or dyeing.

(5) **Machines for treating fabrics** with a lye of soda or potassium before bleaching or dyeing.

(6) **Steam machines for humidifying** yarns, fabrics and other textile products.

(7) **Form setting and fixing machines** (thermosetting), including **machines for preforming or forming stockings or socks**.

(8) **Machines for the impregnation and drawing of fabrics for pneumatic tyres**.

(9) **Machines for inking textile ribbons for typewriters and the like**.

(10) **Machines for breaking up the finish of fabrics**.

(11) **Machines for flocking fabrics**, for example, electrostatic flocking machines.

(12) **Fabric-pleating machines**.

(13) **Appliances for cleaning carpets in situ** by injecting a liquid cleaning solution into the carpet, the solution then being extracted by suction, designed for use in establishments (other than domestic premises) such as hotels, motels, hospitals, offices, restaurants and schools.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of the machines of this heading.

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The heading also **excludes** :

(a) Autoclaves, steam-jacketed vats and other heating apparatus not identifiable as being for the heat-treatment of textiles (**heading 84.19**).

(b) Calendering machines (for glossing, glazing, smoothing, embossing, moireing, etc.) and their cylinders (**heading 84.20**).

(c) Centrifugal dryers and other centrifuges of **heading 84.21**.

8451.10

- Dry-cleaning machines

8451.2

- Drying machines :
8451.21

-- Each of a dry linen capacity not exceeding 10 kg
8451.29

-- Other
8451.30

- Ironing machines and presses (including fusing presses)
CLASSIFICATION OPINIONS

1. Ironing machine designed for professional ironing operations, which consists of :

(i) an electrically heated rectangular ironing table (dimensions : 125 cm (L) x 75 cm (W) x 87 cm (H); weight : 58 kg) with sleeve ironing board and built-in aspirator;

(ii) a steam generator (weight : 15.5 kg) equipped with a silicon iron rest, a steam pressure gauge, a visible light-up water level gauge, a heating element with safety thermostat, a vessel for distilled water and a pump;

(iii) an electrical steam iron (800 W).

The ironing table is linked to the steam generator by a hose, and the steam is suctioned into the table by means of a foot pedal attached to the table. The steam iron is designed to be connected to the steam generator by a steam hose and an electrical cable.

Application of GIRs 1 (Note 4 to Section XVI) and 6. *See also Opinion 8451.90/1.* Adoption : 2009

2. Electric steam iron and semi-automatic steam generator, connected by means of a pipe and electric cable. The steam generator consists of a stainless steel boiler, water feed pump with automatic water level control, external water level control, safety valve, double thermostat and thermofuse, steam pressure manometer, water discharge tap, and 11 litre water tank. **Application of GIRs 1 (Note 4 to Section XVI) and 6.** *Adoption : 2018*



8451.40

- Washing, bleaching or dyeing machines
8451.50

- Machines for reeling, unreeling, folding, cutting or pinking textile fabrics
8451.80

- Other machinery
CLASSIFICATION OPINIONS

1. **Appliances for cleaning carpets in situ,** equipped with a built-in 0.75 kW electric motor and a pump for injecting a liquid cleaning solution into the carpet, the solution then being extracted by suction. The appliances weigh 18.1 kg and have a solution tank capacity of 41.6 l; they are designed and marketed for use in establishments (other than domestic premises) such as hotels, motels, hospitals, offices, restaurants and schools. *Adoption : 1994*

2. **Appliances for cleaning carpets in situ,** equipped with a built-in 0.75 kW electric motor and a pump for injecting a liquid cleaning solution into the carpet, the solution then being extracted by suction. The appliances weigh 21.8 kg and have a solution tank capacity of 56.8 l; they are designed and marketed for use in establishments (other than domestic premises) such as hotels, motels, hospitals, offices, restaurants and schools. *Adoption : 1994*

8451.90

- Parts

CLASSIFICATION OPINIONS

1. Rectangular ironing table with sleeve ironing board and built-in aspirator. The surface of the table is electrically heated with a top heating element and the temperature of the surface is regulated by means of a thermostat. The table is designed to be connected to a steam generator. The steam is suctioned into the table by means of a foot pedal attached to the table. The table is intended to be used together with a steam generator and an electrical steam iron for professional ironing operations; the generator and the iron are not presented with the table. **Application of GIRs 1 (Note 2 (b) to Section XVI) and 6.** *See also Opinion 8451.30/1. Adoption : 2009*



Heading 8452

Sewing machines, other than book-sewing machines of heading 84.40; furniture, bases and covers specially designed for sewing machines; sewing machine needles.

EXPLANATORY NOTES

84.52 - Sewing machines, other than book-sewing machines of heading 84.40; furniture, bases and covers specially designed for sewing machines; sewing machine needles (+).

8452.10 - Sewing machines of the household type

- Other sewing machines :

8452.21 - - Automatic units

8452.29 - - Other

8452.30 - Sewing machine needles

8452.90 - Furniture, bases and covers for sewing machines and parts thereof; other parts of sewing machines

(A) SEWING MACHINES

The **sewing machines** and **sewing machine heads** of this heading are intended for sewing together two or more pieces of textile material, leather, etc. The heading includes sewing machines which, in addition to ordinary sewing, can produce purely decorative work (e.g., embroidery effects); however, machines designed to do embroidery work **only** (including drawn thread machines) fall in **heading 84.47**. Book-sewing machines are classified in **heading 84.40** and knitting-sewing machines and other stitch-bonding machines in **heading 84.47**.

Except when performing certain embroidery work, these machines generally operate with two threads, one inserted by the needle and one carried underneath by a shuttle. They generally have one needle and one shuttle, but may be fitted with several needles and shuttles (e.g., to produce a double or triple seam).

Electric sewing machines with a built-in electric motor, whether domestic or otherwise, remain classified in this heading.

In addition to the ordinary sewing machines used in the home or by tailors, dress-makers, etc., the heading also covers special machines which can be used only for certain other kinds of sewing, such as :

(1) Sewing machines used in the manufacture or mending of boots or shoes or for other leather sewing.

(2) Machines for button-hole sewing; these may include a device for cutting the button-hole.

(3) Machines for sewing on buttons.

(4) Machines for sewing up straw hats.

(5) Machines for sewing furs.

(6) Machines for sewing up sacks after filling (flour or cement sacks, etc.); these machines may be suspended and generally have no shuttles.

(7) Machines for sewing up tears in sacks.

(8) Over-sewing machines for the manufacture of sacks, for working the edges of blankets, carpets, etc.

(9) Hem-stitching or blanket-stitching machines.

(10) Machines for sewing together, edge to edge, parts of knitted garments.

In addition to sewing, certain of the machines of this heading may also perform other operations, e.g., cutting, pinking, perforating or pleating fabrics, leather, paper, etc.

(B) FURNITURE, BASES AND COVERS SPECIALLY DESIGNED FOR SEWING MACHINES

For example, stands which can be used as tables or cabinets, and parts of such furniture (drawers, extension boards, etc.), bases and covers are classified in this heading, even if presented separately. Separate cases mainly for protection or carrying purposes, if presented separately, are classified in their respective headings.

(C) SEWING MACHINE NEEDLES

The heading covers not only the needles for the types of sewing machines described above, but also, **provided** they are of the sewing machine type (usually with an eye near the point), those for the book-sewing machines of heading 84.40 or for the embroidery machines of heading 84.47.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts (e.g., stands and shuttles) for machines of this heading. Bobbins are, however, classified according to their constituent material.

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The heading **excludes** toy sewing machines (**heading 95.03**).

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Subheading Explanatory Note.

Subheading 8452.10

Subheading 8452.10 applies to the following sewing machines and sewing machine heads, all of which are capable of at least lock stitch operation :

(a) foot or hand powered machines;

(b) machines incorporating an electric motor of an output not exceeding 120 watts;

(c) machines for powered operation, presented without a motor, the weight of the machine head not exceeding 16 kg.

This subheading also applies to the sewing machines called “overlock” or “serger” with built-in electric motor of an output not exceeding 120 watts, which operate with three, four or five thread leads, and sewing machine heads similar to those mentioned above, by virtue of their construction and perfor-mance, which operate with stitches other than lock stitches but are nevertheless designed for household use in that their operating speed generally does not exceed 1,500 stitches per minute.

This subheading also covers hand-held, battery-operated sewing machines which sew by means of chain stitch with a single thread.

The subheading **does not**, however, **include** sewing machines dedicated to a specific function such as button holing or filled bag closing.

8452.10

- Sewing machines of the household type

8452.2

- Other sewing machines :

8452.21

-- Automatic units

8452.29

-- Other

8452.30

- Sewing machine needles

8452.90

- Furniture, bases and covers for sewing machines and parts thereof; other parts of sewing machines

Heading 8453

Machinery for preparing, tanning or working hides, skins or leather or for making or repairing footwear or other articles of hides, skins or leather, other than sewing machines.

EXPLANATORY NOTES

84.53 - Machinery for preparing, tanning or working hides, skins or leather or for making or repairing footwear or other articles of hides, skins or leather, other than sewing machines.

8453.10 - Machinery for preparing, tanning or working hides, skins or leather

8453.20 - Machinery for making or repairing footwear

8453.80 - Other machinery

8453.90 - Parts

This heading covers machinery for preparing hides or skins (including furskins) ready for tanning, machinery for effecting the tanning (including parchmenting) processes, and machinery for the subsequent finishing operations. It also covers machinery used for making or repairing articles of hide, skins or leather (e.g., for making leather footwear, gloves or travel goods). But the heading **excludes** sewing machines (**heading 84.52**).

(I) MACHINERY FOR PREPARING, TANNING OR WORKING HIDES, SKINS OR LEATHER

Many machines of this group are, in practice, used at several stages in the processing of hides or skins (e.g., in the washing, pre-tanning, dyeing or other finishing processes). Such machines include

special vats, drums, washers, etc., incorporating mechanical features such as stirrers, rotating mechanisms or devices for manipulating the skins.

This group also includes, *inter alia* :

(1) **De-hairing machines**, which remove from the raw skins the hairs previously loosened by chemical action.

(2) **Fleshing machines**, for removing flesh, fat, etc., from the raw skin.

(3) **Hammer mills (faller stocks) and cylinder beater mills**. The hammers or the grooved rotating cylinder of these machines work the skins or leather during the washing, tanning, oiling or impregnation processes.

(4) **Machines for stretching skins or leather** to open the pores, eliminate creases or other surface flaws; **scraping machines**, used to smooth out the flesh side and to remove foreign matter; **softening machines**, in which the leather is treated by the action of cylinders covered with cork or rubber.

(5) **Hammering machines** which beat the surface of the leather with small hammers to remove dirt and excess moisture, and to restore the grain.

(6) **Hammer machines used for compacting**, hardening or smoothing leather (e.g., for shoe soles or machinery belting).

(7) **Shaving or splitting machines** which, by means of knives, equalise the thickness over the whole skin, or split skins into layers.

(8) **Emery machines**, e.g., for roughening the surface of the skin to produce a velvety effect.

(9) **Brushing machines**, e.g., to clean the skin and increase the velvety effect after roughening.

(10) **Machines for glazing leather** by working it with agate polishing stones, or with small rollers of agate or glass.

(11) **Graining machines**.

This group further includes **machines for processing furskins**. In general these skins receive pre-tanning and tanning treatment on similar machines to those described above, but the heading also includes those for treating the fur itself (e.g., for trimming the hair to an even length, for removing long hairs, for curling, combing, brushing or dyeing the fur).

The heading also **excludes :**

(a) Drying machines of **heading 84.19**.

(b) Calenders (e.g., for smoothing, glazing or graining leather) (**heading 84.20**).

(c) Centrifugal dryers (**heading 84.21**).

(d) Machines for spraying dyes, varnish, etc. (**heading 84.24**).

(e) Hog de-hairing machines of the type used in butchery (**heading 84.38**).

(f) General purpose presses (**heading 84.79**).

(g) Machines for measuring hides or skins (**heading 90.31**).

(II) MACHINERY FOR MAKING OR REPAIRING FOOTWEAR OR OTHER ARTICLES OF HIDES, SKINS OR LEATHER

This group covers machinery for making or repairing articles made from hides, skins (including furskins) or leather (e.g., footwear, gloves, jackets and other articles of apparel, saddlery, book-covers, handbags, travel goods).

The group includes, *inter alia* :

(A) **Skiving or paring machines** for thinning the edges or certain other parts of pieces of leather before sewing or gluing them together.

(B) **Machines for cutting out leather in particular shapes** (e.g., shoe uppers, glove blanks, straps, etc.). The two most common types are the band-knife machine and the clicking press (which cuts out by the use of dies).

(C) **Perforating machines**, for ornamenting toe caps, glove backs, etc.

(D) **Boot or shoe machinery**, e.g., :

(1) **Channel cutting machines**, used to cut grooves or channels into which the stitches can be inserted (e.g., round the edge of the sole); and **machines for opening or closing the channels** before or after sewing.

(2) **"Pulling-over" or lasting machines**, for drawing the upper on to the last, and tacking or sticking it onto the in-sole.

(3) **Machines for pounding and hammering** the edges of the uppers and the bottoms of the in-soles after they have been put together on the last.

(4) **Machines for glueing** the outer sole onto the in-sole and upper, e.g., glueing machines, sole laying machines.

(5) **Machines for fastening** the heel onto the sole.

(6) **Machines for trimming, smoothing or finishing** the edges of the sole or heel.

(7) **Roughening machines** which by means of a wire brush or an abrasive belt remove the finish from the upper in order to make it adhere better when being glued to the sole.

(8) **Polishing and finishing machines**, consisting of a series of grinding stones, polishing brushes and felts used to give a good surface to the uppers; the heading includes similar machines used by boot or shoe repairers.

(9) **Boot or shoe stretching machines**.

It should be noted that some of the machines of this heading such as graining, cutting out, perforating, pricking, and even certain boot or shoe making machines, can be used for materials other than leather (e.g., cardboard, imitation leather or plastics); they remain, however, in this heading **provided** they are clearly designed to be used mainly for hides, skins or leather.

The heading **does not**, however, **include** :

(a) Boot or shoe lasts (classified according to the constituent material, generally **heading 44.17**).

(b) Wood-working machines for making clogs, wooden soles, heels, etc. (**heading 84.65**).

(c) Automatic shoe brushing machines and eyeletting machines (**heading 84.79**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading, and dies and other interchangeable tools for these machines are also classified here.

8453.10

- Machinery for preparing, tanning or working hides, skins or leather

8453.20

- Machinery for making or repairing footwear

8453.80

- Other machinery

8453.90

- Parts

Heading 8454

Converters, ladles, ingot moulds and casting machines, of a kind used in metallurgy or in metal foundries.

EXPLANATORY NOTES

84.54 - Converters, ladles, ingot moulds and casting machines, of a kind used in metallurgy or in metal foundries.

8454.10 - Converters

8454.20 - Ingot moulds and ladles

8454.30 - Casting machines

8454.90 - Parts

(A) CONVERTERS

These are used for converting or refining metals (e.g., for converting iron into steel, or smelting copper or nickel mattes, galena, etc.) by subjecting the materials, previously melted or brought to a high temperature in a furnace, to a strong current of oxygen; by this action most of the carbon and dissolved elements such as manganese, silicon and phosphorus are oxidised and eliminated in the form of gas or molten slag. The oxidation increases the temperature of the metal further.

The most common types of converters are pear-shaped or cylindrical vessels consisting of an outer shell of heavy steel plates with an internal lining of refractory material. The oxygen is brought in either by a lance from above (LD-converters (Linz-Donawitz)) or through nozzles in the converter bottom (OBM-converters (Oxygen Bodenblasende Maximilianhütte)). Combinations of the two exist.

Other types include converters with the tuyères incorporated in the sides, rotating cylindrical converters, conical converters (for treating copper matte) with an internal metal grille for supporting the charge.

(B) LADLES

These are used to receive the molten metal from a furnace and pour it into converters or moulds; they are simple open containers generally lined with refractory material, usually fitted with devices to facilitate tipping or pouring and in some cases fitted with wheels. They are usually handled mechanically (e.g., by cranes), but the heading also covers foundry-type casting ladles manipulated by hand. Small hand ladles of the type used by tinsmiths, goldsmiths, etc., are **excluded** (**heading 73.25** or **73.26**).

(C) INGOT MOULDS

These may be of various shapes, in one piece or two halves, in which the molten metal is provisionally cast into, e.g., ingots, pigs, slabs.

Other moulds (e.g., for casting articles) are generally classified in **heading 84.80**.

The moulds of this group are of metal, usually iron or steel. Ingot moulds of graphite or other carbon or of ceramic material are, however, **excluded** (**headings 68.15** and **69.03**, respectively).

(D) CASTING MACHINES OF A KIND USED IN METALLURGY

OR IN METAL FOUNDRIES

This group includes :

(1) **Machines (generally incorporating a conveyor belt or chain) for the successive filling, cooling and emptying of the moulds**. These sometimes incorporate devices for shaking or tapping the moulds to facilitate the even setting of the molten metal.

(2) **Machines for casting under pressure**. These consist essentially of two adjustable plates to which are fixed the two halves of the mould. The liquid metal from a reservoir is forced into the

mould, either by the direct action of compressed air on the free surface of liquid metal in the reservoir, or by the insertion of a piston into a closed reservoir full of the liquid metal. In some cases these machines incorporate cooling devices, to accelerate solidification of the metal, and arrangements for separating the cast article from the mould. They are mainly used for casting small non-ferrous metal articles.

However, the heading **does not cover** machines for moulding metal powders under pressure, by sintering, (**heading 84.62**).

(3) **Centrifugal casting machines** in which the molten metal is led into a cylindrical mould rotating at high speed; the metal is thrown on to the sides of the mould and solidifies in the form of a pipe.

(4) **Continuous casting machines**. In these, steel is conveyed from the ladle in a distributor which feeds the different casting flow lines. These flow lines include :

(a) an ingot mould, without bottom, with its cooling devices;

(b) outside the ingot mould a system for atomising water in order to cool the cast metal;

(c) a group of conveyor rollers allowing the regular extraction of the solidified metal; and

(d) a system of cutting-off machines, followed by an evacuation device.

The moulds to be used with the machines of this group fall usually in **heading 68.15**, **69.03** or **84.80**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of the machines of this heading.

8454.10

- Converters

8454.20

- Ingot moulds and ladles

8454.30

- Casting machines

8454.90

- Parts

Heading 8455

Metal-rolling mills and rolls therefor.

EXPLANATORY NOTES

84.55 - Metal-rolling mills and rolls therefor.

8455.10 - Tube mills

- Other rolling mills :

8455.21 - - Hot or combination hot and cold

8455.22 - - Cold

8455.30 - Rolls for rolling mills

8455.90 - Other parts

(I) ROLLING MILLS

Rolling mills are metal working machines consisting essentially of a system of rollers between which the metal is passed; the metal is rolled out or shaped by the pressure exerted by the rollers, and at the same time the rolling modifies the structure of the metal and improves its quality. In some cases, in addition to their normal functions, rolling mills may be used to produce a pattern on the metal surface, or to roll together two or more sheets of different metals to produce a laminated product.

Similar machines for rolling materials **other than** metal, e.g., calenders, are **excluded** (**heading 84.20**). Other roller machines (e.g., for gumming metal foil on to a paper support) (**heading 84.20**), bending, folding, straightening or flattening machines (**heading 84.62**) are not regarded as rolling mills in the sense described above and are therefore also **excluded** from this heading.

Rolling mills are of various types according to the particular rolling operations for which they are designed, viz. :

(A) Rolling out to reduce the thickness with a corresponding increase in length (e.g., in the rolling of ingots into blooms, billets or slabs; rolling of slabs into sheet, strip, etc.).

(B) Rolling of blooms, billets, etc., to form a particular cross-section (e.g., in the production of bars, rods, angles, shapes, sections, girders, railway rails).

(C) Rolling tubes.

(D) Rolling of wheel blanks or wheel rim blanks (e.g., to shape the flanges of railway wheels).

Most rolling mills are designed for the operations indicated at (A) or (B) above. The essential element of these is known as a “stand”, and consists of two, three or four rolls mounted horizontally one above the other in heavy metal housings, the metal being passed through an adjustable gap between the rollers. In three high and double two high stands, the metal, after being passed between two of the rollers, is then passed through two others; some stands have two or more additional rolls which act as support to give additional power and steadiness to the working rollers.

Most mills consist of a number of such stands arranged either side by side, or slightly staggered, or tandem fashion (for example, continuous rolling mills for sheets); the speeds and gaps of the rollers are adjusted to produce a progressive and gradual rolling down of the metal.

Certain rolling mills may have side rollers for working on the edges of the material, or for producing particular sections (e.g., girders).

For flat products (slabs, sheet, strip, etc.) the rollers are plain (except that certain finishing rollers may produce a simple ridged pattern). In many cases (e.g., for the operations under (B) above) the rolling

is not done over the full width of the rolls, but the working rollers have channels cut in their surface so that a gap (or pass) of a particular shape is formed between the two rollers. The metal as it passes through is formed to the shape of the gap, and passing through a succession of such gaps, gradually varying in shape, the metal is thus worked to the desired cross-section.

Rolling mills of the kinds referred to above vary considerably in size, from small machines for rolling precious metals up to very heavy rolling mills for steel.

Most of the rolling mills referred to above are for hot rolling, but certain finishing mills (particularly for sheet or strip) roll the metal cold.

Among the rolling mills of the type referred to at (C) and (D) above are :

(1) Mannesmann or similar machines for piercing billets; these have large inclined rollers which rotate the heated billet and force it over a piercing mandrel, thus forming the rough tube.

(2) Mills for rolling out the pierced billets to reduce the thickness of the walls, increase the length and produce a satisfactory surface to the walls. The walls of the tube are worked between a mandrel or plug on the inside, and either rollers with a circular pass or conical rollers on the outside. In certain cases rollers with eccentrically cut channels to give a variable pass are used (step rolling).

(3) Finishing mills for tubes, to finish or reduce the thickness of the walls, or to reduce the diameter, or produce a perfect circular cross-section. These may operate with or without an internal mandrel.

(4) Radial mills for rolling the walls of large diameter cast steel tubes. The tube rotates between a number of rollers operating on the outside and corresponding rollers on the inside.

(5) Wheel or disc rolling mills. These usually consist of sets of conical or cylindrical rollers variouslyarranged, between which the roughly formed wheel revolves; the various parts of the wheel (e.g., flanges of railway wheels) are worked to the required shape by the pressure of the rollers. Similar machines are used for shaping flanged tyres for railway wheels, and for certain railway rails.

In general, the operation of rolling mills requires a large amount of **auxiliary equipment** such as guides, roller tables, handling equipment, re-heating furnaces, pickling tanks, strip coilers, shears and saws, cooling beds, weighing or marking machines, straightening or flattening machines, control apparatus (mechanical, electric or electronic), etc.

(II) ROLLS AND OTHER PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading covers parts of rolling mills. Among the parts covered by this heading are the **rolls of rolling mills**. These vary considerably in length and diameter, those for steel ranging approximately from 30 to 520 cm in length and from 18 to 137 cm in diameter. They are made of cast iron, or of cast or forged steel, usually specially hardened on the surface and carefully machined to exact dimensions; they may be plain, or with grooves of various shapes to form the necessary passes. Each roll ends in necks, often specially shaped for mounting in the housings of the rolling mill. Outside the roll necks, wobbler-ends are cut to which the driving force is applied.

8455.10

- Tube mills

8455.2

- Other rolling mills :

8455.21

-- Hot or combination hot and cold

8455.22

-- Cold

8455.30

- Rolls for rolling mills

8455.90

- Other parts

Heading 8456

Machine-tools for working any material by removal of material, by laser or other light or photon beam, ultrasonic, electro-discharge, electro-chemical, electron beam, ionic-beam or plasma arc processes; water-jet cutting machines.

EXPLANATORY NOTES

84.56 - Machine-tools for working any material by removal of material, by laser or other light or photon beam, ultrasonic, electro-discharge, electro-chemical, electron beam, ionic-beam or plasma arc processes; water-jet cutting machines.

- Operated by laser or other light or photon beam processes :

8456.11 - - Operated by laser

8456.12 - - Operated by other light or photon beam processes

8456.20 - Operated by ultrasonic processes

8456.30 - Operated by electro-discharge processes

8456.40 - Operated by plasma arc processes

8456.50 - Water-jet cutting machines

8456.90 - Other

The machine-tools of this heading are machines used for the shaping or surface-working of any material. They must meet three essential requirements :

(i) They must work by removing material;

(ii) They must carry out operations of the kind performed by machine-tools equipped with conventional tools;

(iii) They must use one of the following seven processes : laser or other light or photon beam, ultrasonic, electro-discharge, electro-chemical, electron beam, ionic-beam or plasma arc.

This heading also covers water-jet cutting machines described in Part (H) below.

This heading, however, **excludes** the following kinds of machines, which are provided for in **heading 84.86 :**

(i) Machines for working any material by removal of material, of a kind used solely or principally for the manufacture of semiconductor boules or wafers, semiconductor devices, electronic integrated circuits or flat panel displays.

(ii) Machines for working any material by removal of material, of a kind used solely or principally for the manufacture or repair of masks and reticles.

(iii) Machines for dry-etching patterns on semiconductor materials.

Examples of the foregoing products are (1) laser-beam machine tools which drill semiconductor crystals and (2) ultrasonic process machine-tools which cut semiconductor chips or which cut or drill ceramic substrates for integrated circuits.

(A) MACHINE-TOOLS FOR WORKING BY LASER OR OTHER LIGHT OR PHOTON BEAM PROCESSES

Laser-beam machining (photonic machining) consists of bombarding a target with photons. This group covers, in particular, machines for drilling (metals, rubies for watches, etc.), machines for cutting metals or other hard materials and machines for engraving (figures, letters, lines, etc.) on various highly resistant materials.

The principle of the machine-tools operated by laser processes is the removal of material by melting, burning or vaporization (also referred to as “ablation”), which are caused by a focused intense laser beam directed at the workpiece. In certain machine-tools of this type, the laser beam may be coupled into a low-pressure water jet, which is used to guide the laser beam, and to remove debris and cool the material.

The other machine-tools of this group differ from the machine-tools operated by laser beam processes by the type of beam used for the removal of material.

(B) MACHINE-TOOLS FOR WORKING BY ULTRASONIC PROCESSES

Ultrasonic machine-tools consist of a punch subjected to ultrasonic vibrations and an abrasive in suspension in a liquid. These machines may incorporate an abrasive recycling system.

This group includes machine-tools which are used, in particular :

(1) For working diamond or metal carbide dies;

(2) For drilling or shaping minerals;

(3) For engraving glass;

(4) For milling, broaching or polishing.

(C) MACHINE-TOOLS FOR WORKING

BY ELECTRO-DISCHARGE PROCESSES

The principle of this type of machining is the removal of metal between two metallic electrodes (the workpiece and the tool) by sudden electrical discharges of very short duration at the rate of several hundred thousand cycles per second. This group covers, for example, **high-frequency electric-spark cutting machines**.

(D) MACHINE-TOOLS FOR WORKING

BY ELECTRO-CHEMICAL PROCESSES

The principle of this type of machining is the removal of metal by electrolysis. The workpiece (anode) is a conductor of electricity as is the tool (cathode). Both are submerged in a selected electrolyte which makes cathodic deposition impossible, and all that occurs is anodic dissolution.

This group includes :

(1) **Electrolytic polishing apparatus**, used for polishing specimens for microscopic or metallurgical examination.

(2) **Electrolytic sharpeners** for sharpening cutting tools, cutting chip-breaker grooves or cutting metal carbide plates; these machines utilise a diamond wheel.

(3) **Machines for deburring** various kinds of gear-wheel by anodic dissolution.

(4) **Machines for precision** finishing flat surfaces, etc.

(E) MACHINE TOOLS FOR WORKING

BY ELECTRON BEAM PROCESSES

Electron beam machining consists of bombarding the workpiece on a very small surface with electrons emitted by a cathode, accelerated by an intense electrical field, and focussed by a system of magnetic or electrostatic lenses.

(F) MACHINE-TOOLS FOR WORKING

BY IONIC-BEAM PROCESSES

The beam of these machine-tools works by continuous action, not by impulses as in the case of the laser beam.

(G) MACHINE-TOOLS FOR WORKING

BY PLASMA ARC PROCESSES

Plasma arc machining involves intense ionisation of a gas by means of an electric current produced by a magnetic impulse generator under high tension. It permits cutting plates at a very high speed and rough-cutting and machining coarse-feeding threads.

(H) WATER-JET CUTTING MACHINES

This group includes water-jet and water-abrasive jet cutting machines. These are machines designed to cut materials by a process using streams of water or of water mixed with very fine abrasives, typically at a velocity of 2 to 3 times the speed of sound. They operate under pressures of 3,000 to 4,000 bars and are capable of making multiple types of precision cuts in a variety of materials. Water-jet cutting machines are typically used for softer materials (foam, soft rubber, gasket material, foils, etc.). Water-abrasive jet cutting machines are typically used for harder materials (tool steel, hard rubber, composites, stone, glass, aluminium, stainless steel, etc.).

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories of the machines of this heading are classified in **heading 84.66**.

*

* *

The heading also **excludes :**

(a) Ultrasonic apparatus for cleaning (**heading 84.79**).

(b) Soldering, brazing or welding machines and apparatus, whether or not capable of cutting (**heading 85.15**).

(c) Testing machines (**heading 90.24**).

8456.1

- Operated by laser or other light or photon beam processes :

8456.11

-- Operated by laser

8456.12

-- Operated by other light or photon beam processes

8456.20

- Operated by ultrasonic processes

8456.30

- Operated by electro-discharge processes

8456.40

- Operated by plasma arc processes
8456.50

- Water-jet cutting machines
8456.90

- Other
Heading 8457

Machining centres, unit construction machines (single station) and multi-station transfer machines, for working metal.

EXPLANATORY NOTES

84.57 - Machining centres, unit construction machines (single station) and multi-station transfer machines, for working metal.

8457.10 - Machining centres

8457.20 - Unit construction machines (single station)

8457.30 - Multi-station transfer machines

This heading applies (see Note 4 to this Chapter) only to machine-tools for working metal (other than lathes (including turning centres)) which can carry out different types of machining operations on a single workpiece either :

(a) by automatic tool change from a magazine or the like in conformity with a machining programme (machining centres);

(b) by the automatic use, simultaneously or sequentially, of different unit heads working on a fixed position workpiece (unit construction machines, single station); or

(c) by the automatic transfer of the workpiece to different unit heads (multi-station transfer machines).

(A) MACHINING CENTRES

Machining centres are individual machines, i.e., all the machining operations are performed on a single (multi-function) machine. These centres must satisfy two conditions : they must carry out several machining operations and they must have automatic tool change, from a magazine or the like in conformity with a machining programme.

Consequently, this group covers machine-tools which carry out **two** or more machining operations by automatic tool change from a magazine or the like, whereas machine-tools which carry out **one** machining operation using a single tool or several tools working simultaneously or sequentially (for example, multiple-spindle drills or multiple-cutter milling machines) are classified in **headings 84.59 to 84.61**.

The automatic tool change requirement excludes from the heading multi-function machines (for example, machines which drill, bore, tap and mill) in which the various tools are not changed automatically. Such machines are to be classified in **headings 84.59 to 84.61** in accordance with Note 3 to Section XVI or by application of Interpretative Rule 3 (c) unless, of course, they can be regarded

as **multi-station transfer machines**, in which the workpiece is automatically transferred to the different unit heads (see Part (C) below).

Machining centres may also include auxiliary devices such as pallet changers, systems of pallet magazines or tool magazine changers.

(B) UNIT CONSTRUCTION MACHINES (SINGLE STATION)

Unit construction (single station) machines are multi-function machines in which the workpiece is held in a fixed position while the unit heads move relative to the workpiece to carry out the operation or the machine operations.

The unit heads are parts of the machines on which they are mounted and are used to hold, guide and actuate (rotate, advance, retract) the interchangeable tool. Rotating heads usually incorporate an electric motor, while translation heads usually incorporate a hydraulic cylinder : these two types of head may be combined.

This group covers unit construction machines (single station) carrying out two or more machining operations with the use of two or more unit heads.

However, machines carrying out one machining operation with the use of several unit heads or those carrying out several machining operations with the use of a single unit head are **excluded**.

(C) MULTI-STATION TRANSFER MACHINES

The machines of this group must satisfy three conditions : they must carry out several machining operations, they must work by the automatic transfer of the workpiece to the tool and they must be equipped with various unit heads.

A distinction is generally made between rotary transfer machines and linear transfer machines. In the former, the unit heads which perform the various operations are arranged in a circle on a common base. The workpiece travels around the circle in such a way that, at each stop (station), it is worked on by the tools of the corresponding unit head (for example, drilling, boring, tapping). In linear transfer machines, the unit heads are arranged in a line on a common base and work successively on the workpiece as it travels from one head to another, along the line.

In accordance with Chapter Note 4 (c) this heading **does not cover** transfer lines consisting of various machines linked by a conveyor carrying the workpieces.

Under the terms of the above-mentioned Chapter Note, this heading **also excludes** “flexible manufacturing systems” (FMS) which consist of several machines, generally numerically controlled, or several groups of machines, together with automatic handling facilities such as lifting frames, conveyors, unmanned trolleys, manipulators and industrial robots, for conveying the workpieces to the machines or removing them after machining. The various groups of machines and the handling facilities which constitute the flexible manufacturing system are controlled by automatic data processing machines.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories (**other than** the tools of **Chapter 82**) of the machine-tools of this heading are classified in **heading 84.66**.

*

* *

The heading also **excludes** :

(a) Machine-tools for working any material, by removal of material, by laser or other light or photon beam, ultrasonic, electro-discharge, electro-chemical, electron beam, ionic beam or plasma arc processes; water-jet cutting machines (**heading 84.56**).

(b) Lathes (including turning centres) for removing metal (**heading 84.58**).

(c) Way-type unit head machines (**heading 84.59**).

(d) Soldering, brazing or welding machines and apparatus of **headings 84.68** and **85.15**.

8457.10

- Machining centres

8457.20

- Unit construction machines (single station)

8457.30

- Multi-station transfer machines

Heading 8458

Lathes (including turning centres) for removing metal.

EXPLANATORY NOTES

84.58 - Lathes (including turning centres) for removing metal (+).

- Horizontal lathes :

8458.11 - - Numerically controlled

8458.19 - - Other

- Other lathes :

8458.91 - - Numerically controlled

8458.99 - - Other

The lathes (including turning centres) of this heading are machines used for surface-working metal by cutting away or otherwise removing metal.

These machines can be distinguished from tools (pneumatic, hydraulic or with motor) for working in the hand of **heading 84.67**, by the fact that they are usually designed to be mounted on the floor, or on a bench, or on a wall or on another machine, and are thus usually provided with a base plate, mounting frame, stand, etc.

The heading includes :

(1) **Lathes**, whether or not automatic, including slide lathes, vertical lathes, capstan or turret lathes, production (or copying) lathes. However, spinning lathes which function by deforming the metal are classified in **heading 84.63**.

(2) **Spindle or axle turning machines**, for turning simultaneously and symmetrically the two ends of the spindles or axles of large wheels, etc.

(3) **Turning centres**, for removing metal.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories (**other than** the tools of **Chapter 82**) of the lathes of this heading are classified in **heading 84.66**.

*

* *

The heading also **excludes** :

(a) Machine-tools for working any material by removal of material, by laser or other light or photon beam, ultrasonic, electro-discharge, electro-chemical, electron beam, ionic-beam or plasma arc processes; water-jet cutting machines (**heading 84.56**).

(b) Machining centres, unit construction machines (single station) and multi-station transfer machines, for working metal (**heading 84.57**).

(c) Cutting-off machines (**heading 84.61**).

(d) Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor (**heading 84.67**).

(e) Machines and appliances for testing, of **heading 90.24**.

°

° °

Subheading Explanatory Note.

Subheadings 8458.11 and 8458.91

Numerically controlled machine-tools are, as a group, know by their abbreviations CNC (Computer Numerical Control) or NC (Numerical Control). The terms “Computer Numerical Control” and “Numerical Control” can be regarded as synonymous. To qualify as a numerically controlled machine-tool, the functions and movements of the machine-tool, tool or workpiece must be performed according to pre-programmed instructions. The programming is normally executed in an NC-specific language, for example, ISO-code. Programs and other data are stored in order to be accessible directly or subsequently. Numerically controlled machine-tools always integrate a control unit (separate “stand alone” unit or built in), incorporating an automatic data processing machine or a microprocessor, as well as servo systems, in order to achieve the desired motions of the machine-tool, tool or workpiece. CNC-machines, CNC-lathes and NC-milling machines are examples of numerically controlled machine-tools.

If the control unit is not presented with the machine-tool, the latter is nevertheless to be considered as a numerically controlled machine-tool **provided** it has the specific characteristics of this type of machine.

8458.1

- Horizontal lathes :
8458.11

-- Numerically controlled
8458.19

-- Other
8458.9

- Other lathes :
8458.91

-- Numerically controlled
8458.99

-- Other
Heading 8459

Machine-tools (including way-type unit head machines) for drilling, boring, milling, threading or tapping by removing metal, other than lathes (including turning centres) of heading 84.58.
EXPLANATORY NOTES

84.59 - Machine-tools (including way-type unit head machines) for drilling, boring, milling, threading or tapping by removing metal, other than lathes (including turning centres) of heading 84.58 (+).

8459.10 - Way-type unit head machines

- Other drilling machines :

8459.21 - - Numerically controlled

8459.29 - - Other

- Other boring-milling machines :

8459.31 - - Numerically controlled

8459.39 - - Other

- Other boring machines :

8459.41 - - Numerically controlled

8459.49 - - Other

- Milling machines, knee-type :

8459.51 - - Numerically controlled

8459.59 - - Other

- Other milling machines :

8459.61 - - Numerically controlled

8459.69 - - Other

8459.70 - Other threading or tapping machines

This heading covers machine-tools for drilling, boring, milling, threading or tapping by removing metal, **other than** lathes (including turning centres) of **heading 84.58**.

In general machine-tools are power-driven but similar machines, worked by hand or pedal, are also covered by this heading. These latter types can be distinguished from the hand tools of **heading 82.05** and from the tools for working in the hand of **heading 84.67**, by the fact that they are usually designed to be mounted on the floor, on a bench, on a wall or on another machine, and are thus usually provided with a base plate, mounting frame, stand, etc.

This heading covers :

(1) **Way-type unit head machines**. These machines, which are designed to perform drilling, boring, milling, threading or tapping operations, have no attached base. They consist only of a “frame” holding a motor and a tool holder and are equipped with guides (ways) and can therefore move back and forth repetitively when placed on a suitable base. The workpiece is inserted in a work holder independent of the way-type unit head machine which moves back and forth horizontally for drilling, boring, etc.

(2) **Drilling machines**. These are used for cutting cylindrical holes, including recessed holes, in articles by means of a rotating tool called a drill or bit. The article remains immobile during the working of the tool which is rotated (cutting action) or fed into the work (feed action). This heading also covers drilling machines which employ a fixed tool to work a rotating article, or like machines using both processes.

Drilling machines include single spindle machines, radial or otherwise, and machines with several spindles (multi-spindle drilling machines).

(3) **Boring machines**. These further work the internal surface of an existing hole to exact dimensions. Boring may be cylindrical, conical or spherical. Boring machines are used, for example, for working to exact dimensions the cylinder bores of piston engines or pumps.

The operation of boring involves the use of free standing facing tools with fixed dimensions (borer drills, straight or helically-fluted finishing borers) or variable dimensions (expanding-end borers, inset-strip borers, micrometrically adjustable boring heads, boring heads with inset cutters) or with tools working on a guideway (adjustable, expanding or non-adjustable cutters and hollow one-piece sleeves or sleeves with inset parts).

This heading includes, *inter alia*, vertical boring machines, horizontal boring machines (with fixed or moveable mounting), multiple boring machines, boring machines for duplicating the interiors of hollow-bored shafts as well as machines commonly called miller-borers fitted with a composite spindle made up of two concentric spindles which may function independently; the interior spindle consists of a long sleeve allowing the attachment of a boring bar (spindle borer), while the external spindle, generally coupled to a plate in a rigid manner, is adapted for fitting with a milling cutter (milling spindle).

This heading also covers those machines designed and built essentially for boring, even if they are adapted for carrying out other additional operations (for example, drilling, surfacing, milling, turning and sometimes even screw cutting). On the other hand, lathes (including turning centres) which carry out boring as an auxiliary or additional operation are classified in **heading 84.58**.

(4) **Milling machines**. These work a plane or profile surface by means of rotating tools (known as milling cutters), the circular cutting movement is combined with a traversing movement of the article fixed on the machine table. Milling machines include, *inter alia*, horizontal milling machines, vertical milling machines, horizontal-vertical milling machines, milling machines with adjustable heads, plane-milling machines, universal milling machines which, in addition to the normal milling work, can by means of a dividing head mounted on the machine, mill splines in a shaft, or spur or helical gears, repetitive milling machines, milling machines for grooving or chamfering, engraving millers.

(5) **Tapping machines** (i.e., machines to produce a screw thread in an existing hole) and **threading machines** for threading bolts, screws, etc. It should be noted that **thread milling machines** are regarded as milling machines.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories (**other than** the tools of **Chapter 82**) of the machine-tools of this heading are classified in **heading 84.66**.

*

* *

The heading also **excludes :**

(a) Machine-tools for working any material by removal of material, by laser or other light or photon beam, ultrasonic, electro-discharge, electro-chemical, electron beam, ionic-beam or plasma arc processes; water-jet cutting machines (**heading 84.56**).

(b) Machining centres, unit construction machines (single station) and multi-station transfer machines, for working metal (**heading 84.57**).

(c) Lathes (including turning centres) for removing metal (**heading 84.58**).

(d) Machine-tools for planing and other machine-tools working by removing metal, of **heading 84.61**.

(e) Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor (**heading 84.67**).

(f) Machines and appliances for testing, of **heading 90.24**.

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Subheading Explanatory Notes.

Subheadings 8459.21, 8459.31, 8459.41, 8459.51 and 8459.61

See the Explanatory Note to subheadings 8458.11 and 8458.91.

Subheadings 8459.51 and 8459.59

The machines of these subheadings can be identified by the presence of a console which consists of a horizontal element which moves vertically on a stand by means of guideways. This stand supports the worktable which is operated in a transverse direction. The console usually contains the devices necessary to drive the machines.

8459.10

- Way-type unit head machines

8459.2

- Other drilling machines :

8459.21

-- Numerically controlled

8459.29

-- Other

8459.3

- Other boring-milling machines :

8459.31

-- Numerically controlled

8459.39

-- Other

8459.4

- Other boring machines :

8459.41

-- Numerically controlled

8459.49

-- Other

8459.5

- Milling machines, knee-type :

8459.51

-- Numerically controlled

8459.59

-- Other

8459.6

- Other milling machines :

8459.61

-- Numerically controlled

8459.69

-- Other

8459.70

- Other threading or tapping machines

Heading 8460

Machine-tools for deburring, sharpening, grinding, honing, lapping, polishing or otherwise finishing metal or cermets by means of grinding stones, abrasives or polishing products, other than gear cutting, gear grinding or gear finishing machines of heading 84.61.

EXPLANATORY NOTES

84.60 - Machine-tools for deburring, sharpening, grinding, honing, lapping, polishing or otherwise finishing metal or cermets by means of grinding stones, abrasives or polishing products, other than gear cutting, gear grinding or gear finishing machines of heading 84.61 (+).

- Flat-surface grinding machines :

8460.12 - - Numerically controlled

8460.19 - - Other

- Other grinding machines :

8460.22 - - Centreless grinding machines, numerically controlled

8460.23 - - Other cylindrical grinding machines, numerically controlled

8460.24 - - Other, numerically controlled

8460.29 - - Other

- Sharpening (tool or cutter grinding) machines :

8460.31 - - Numerically controlled

8460.39 - - Other

8460.40 - Honing or lapping machines

8460.90 - Other

This heading covers certain surface-finishing machines for metal or cermets, but **excludes** gear cutting, gear grinding or gear finishing machines (**heading 84.61**). These machines work by removing material by means of grinding stones, abrasives or polishing products. For the purposes of this heading the expression “polishing products” means the following :

(1) polishing discs made from metal carbides, steel, soft metal, wood, felt, textile material or leather;

(2) wire brushes;

(3) polishing pads.

In general machine-tools are power-driven but similar machines, worked by hand or pedal, are also covered by this heading. These latter types can be distinguished from the hand tools of **heading 82.05** and from the tools for working in the hand of **heading 84.67**, by the fact that they are usually designed to be mounted on the floor, on a bench, on a wall or on another machine, and are thus usually provided with a base plate, mounting frame, stand, etc.

The heading includes :

(1) **Deburring machines with metal brushes or abrasives**, for trimming rough castings or the rough edges of cut metal.

(2) **Sharpening machines** (tool and cutter grinding machines) including machines for grinding cermets or hard metal tool tips as well as card sharpening machines.

(3) **Grinding machines**, of different types (e.g., internal surface grinders, centreless surface grinders, surface grinding machines, thread grinding machines, machines for grinding valves and valve seats) whose function is to perfect, to the desired degree of precision, the work of other machines.

This group includes, for example :

(i) **Centreless grinding machines**. These machines are characterised by the absence of a spindle and the presence of two grinding wheels (an abrasive wheel and a regulating wheel) and of a support blade holding the workpiece.

(ii) **Cylindrical grinding machines**. These machines are characterised by the presence of a spindle and a support, that holds and moves the workpiece, and one or more abrasive wheels.

They can work the external surface of the workpiece, the internal surface or both (universal cylindrical grinding machines).

(4) **Honing and lapping machines** for producing a precision-fit surface.

(5) **Polishing machines** for finishing the surface of the workpiece.

(6) **Engraving machines excluding** those of **heading 84.59** or **84.61**.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the general Explanatory Note to Section XVI), parts and accessories (**other than** the tools of **Chapter 82**) of the machine-tools of this heading are classified in **heading 84.66**.

*

* *

The heading also **excludes** :

(a) Hand tools or hand or pedal operated grinding wheels (**heading 82.05**).

(b) Sand blasting machines (**heading 84.24**).

(c) Machine-tools for working any material by removal of material, by laser or other light or photon beam, ultrasonic, electro-discharge, electro-chemical, electron beam, ionic-beam or plasma arc processes; water-jet cutting machines (**heading 84.56**).

(d) Machining centres, unit construction machines (single station) and multi-station transfer machines, for working metal (**heading 84.57**).

(e) Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor (**heading 84.67**).

(f) Rotating drums for de-sanding, de-scaling or polishing metal goods (**heading 84.79**).

(g) Testing machines and apparatus (**heading 90.24**).

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Subheading Explanatory Note.

Subheadings 8460.12, 8460.22, 8460.23, 8460.24 and 8460.31

See the Explanatory Note to subheadings 8458.11 and 8458.91 regarding the term “numerically controlled”.

8460.1

- Flat-surface grinding machines :

8460.12

-- Numerically controlled

8460.19

-- Other

8460.2

- Other grinding machines :

8460.22

-- Centreless grinding machines, numerically controlled

8460.23

-- Other cylindrical grinding machines, numerically controlled

8460.24

-- Other, numerically controlled

8460.29

-- Other

8460.3

- Sharpening (tool or cutter grinding) machines :

8460.31

-- Numerically controlled

8460.39

-- Other

8460.40

- Honing or lapping machines

8460.90

- Other

Heading 8461

Machine-tools for planing, shaping, slotting, broaching, gear cutting, gear grinding or gear finishing, sawing, cutting-off and other machine-tools working by removing metal or cermets, not elsewhere specified or included.

EXPLANATORY NOTES

84.61 - Machine-tools for planing, shaping, slotting, broaching, gear cutting, gear grinding or gear finishing, sawing, cutting-off and other machine-tools working by removing metal or cermets, not elsewhere specified or included.

8461.20 - Shaping or slotting machines

8461.30 - Broaching machines

8461.40 - Gear cutting, gear grinding or gear finishing machines

8461.50 - Sawing or cutting-off machines

8461.90 - Other

The heading covers machine-tools working by removing metal or cermets, not elsewhere specified or included.

In general machine-tools are power-driven but similar machines, worked by hand or pedal, are also covered by this heading. These latter types can be distinguished from the hand tools of **heading 82.05** and from the tools for working in the hand of **heading 84.67**, by the fact that they are usually designed to be mounted on the floor, on a bench, on a wall or on another machine, and are thus usually provided with a base plate, mounting frame, stand, etc.

The heading includes :

(1) **Planing machines** which are for working the external plane or sectional surfaces of an article with the help of tools with a single cutting edge. These are machine-tools in which the tool is fixed while the table holding the article to be planed moves with a reciprocating planar motion. However, certain large planing machines such as pit planing machines or plate edge planers have a fixed table and are used for working articles of a great length (e.g., rails).

Some planing machines are fitted with one or two auxiliary or additional milling machine carriages, which replace an equal number of planing carriages. These machine-tools called “planing and milling machines” are considered as planing machines, even though it is possible by reducing the speed of the table to use them for milling work. They must not be confused with some milling machines called “plano-milling machines” of **heading 84.59**, the appearance of which is similar to that of a planing machine, but which are equipped only with milling carriages.

Planing machines may also possess one or two grinding slides in addition to planing carriages. The addition of these grinding heads allows these planing machines to be used as table surface trueing machines. Some models are fitted at one and the same time with planing carriages, milling carriages and grinding slides, while others are fitted with devices to allow them to carry out slotting work.

(2) **Shaping machines** which are machine-tools operating on the planing principle and which can be differentiated from planing machines by the fact that the article to be worked is fixed during the cut, while the tool moves with a reciprocating linear movement. Because of the overhang of the tool holder, its maximum run is limited and for this reason the shaping machine is usually restricted to working articles of small dimensions.

(3) **Slotting machines** which are machine-tools operating by the planing method in which the article to be worked is immobile during the cut, while the tool is moved with a reciprocating linear movement in vertical or sometimes inclined direction. These machines, by reference to use, are slotting tools which are machines characterised by their short slide stroke; slotting-punching machines for carrying out the work necessary for the rapid removal of considerable quantities of material from an extra thick article. These machines use either slide tools (with a single cutting edge), or a punching tool (with four cutting edges); vertical slotting machines; slotting with transverse displacement slide; machines called “grooving machines” (by pulling or pushing), the working process of which resembles that of broaching machines the difference being the tool used.

(4) **Broaching machines**. The tool (the broach) is pulled or pushed across the work or through a hole, for surface working or shaping. Among the different types of broaching machines are horizontal or vertical machines with simple slide; double machines ("duplex") which consist of two slides each working on one broach or broaching presses which are vertical machines working on the broach by pressure.

(5) **Gear-cutting, gear-grinding and gear-finishing machines**. This heading covers gear-cutting machines designed exclusively for making gears by removing metal from cylindrical or conical blanks.

Gear-cutting machines work principally according to the following processes :

- module-controlled milling-cutting in which a milling disc or conical cutter is used as a tool. This process is currently used for cutting spur gearing;

- reproduction cutting in which the teeth are produced by a planing tool (straight cutting tool). This process is for bevel gear-cutting and cylindrical gear-cutting;

- cutting by meshing, using a tool such as a worm hob, a rack cutting tool (or chasing tool) or a pinion tool (for circular cutter). This process allows internal or external straight or helical and conical gears to be worked;

- abrasive cutting.

(6) **Sawing machines**. Depending on the form of tool used, the following machines on this type can be distinguished :

- reciprocating sawing machines or oscillating sawing machines in which the tool consists of a straight toothed blade which moves with a reciprocating linear movement;

- circular saws, which employ a circular tool, toothed on its outer edge and turning at great speed. This tool is commonly called a "slitting saw blade" or "slotting saw blade";

- bandsaw sawing machines, which use a very long blade, one side of which is toothed and the ends of the blade are joined to form a band.

(7) **Cutting-off machines**. These machine-tools differ from sawing machines by virtue of the tools they use. The latter can be either cutting tools analogous to lathe tools, or abrasive or metal discs.

- cutting-off machines with cutting tools employ either of two methods.

  One type works in the same way as slide lathes but is distinguishable from them by the fact that the tool holders cannot be moved lengthwise, unlike the saddles of slide lathes.

  The other type works like a spindle or axle turning machine in which the tool itself is fixed while the article to be worked moves on a carriage. It is distinguishable from the latter, however, by the fact that the article to be worked can only be moved in one direction.

  Both the above types can only carry out one cutting-off operation.

Those which work like slide lathes consist of a hollow spindle of large diameter which works on the rotating articles. A very short bed supports one or two tool holders which can be moved transversely. In those which work like a spindle or axle turning machine, the article to be cut is fixed on a carriage which enables it to be moved. The tool itself is fixed on the machine and consists of a crown turning at high speed on which cutting tools are arranged in rings;

- cutting-off machines with abrasive discs have a construction similar to those of circular saws, but the slitting saw blade is replaced by a double-edged abrasive wheel;

- cutting-off machines with metal discs, also known as friction sawing machines, are characterised by the fact that they operate by means of a mild steel disc with a toothless periphery. This disc, which may be fluted, is rotated in such a way as to give it a peripheral speed such that if the periphery of the disc is gradually brought in close proximity to a piece of metal, the latter immediately melts without having close contact with the disc. This phenomenon is the result of friction combined with the oxidising action of the air trapped between the disc and the metal to be cut.

(8) **Filing machines**, which are of similar design to reciprocating sawing machines but which use a file rather than a blade.

(9) **Engraving machines, other than** those of **heading 84.59** or **84.60**.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories (**other than** the tools of **Chapter 82**) of the machine-tools of this heading are classified in **heading 84.66**.

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The heading also **excludes** :

(a) Hand tools (**heading 82.05**).

(b) Machine-tools for working any material by removal of material, by laser or other light or photon beam, ultrasonic, electro-discharge, electro-chemical, electron beam, ionic-beam or plasma arc processes; water-jet cutting machines (**heading 84.56**).

(c) Machining centres, unit construction machines (single station) and multi-station transfer machines, for working metal (**heading 84.57**).

(d) Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor (**heading 84.67**).

(e) Machines and appliances for testing, of **heading 90.24**.

8461.20

- Shaping or slotting machines
8461.30

- Broaching machines
8461.40

- Gear cutting, gear grinding or gear finishing machines
8461.50

- Sawing or cutting-off machines
8461.90

- Other
Heading 8462

Machine tools (including presses) for working metal by forging, hammering or die forging (excluding rolling mills); machine tools (including presses, slitting lines and cut-to-length lines) for working metal by bending, folding, straightening, flattening, shearing, punching, notching or nibbling (excluding draw-benches); presses for working metal or metal carbides, not specified above.
EXPLANATORY NOTES

84.62 - Machine-tools (including presses) for working metal by forging, hammering or die forging (excluding rolling mills); machine-tools (including presses, slitting lines and cut-to-length lines) for working metal by bending, folding, straightening, flattening, shearing, punching, notching or nibbling (excluding draw-benches); presses for working metal or metal carbides, not specified above.

- Hot forming machines for forging, die forging (including presses) and hot hammers :

8462.11 - - Closed die forging machines

8462.19 - - Other

- Bending, folding, straightening or flattening machines (including press brakes) for flat products :

8462.22 - - Profile forming machines

8462.23 - - Numerically controlled press brakes

8462.24 - - Numerically controlled panel benders

8462.25 - - Numerically controlled roll forming machines

8462.26 - - Other numerically controlled bending, folding, straightening or flattening machines

8462.29 - - Other

- Slitting lines, cut-to-length lines and other shearing machines (excluding presses) for flat products, other than combined punching and shearing machines :

8462.32 - - Slitting lines and cut-to-length lines

8462.33 - - Numerically controlled shearing machines

8462.39 - - Other

- Punching, notching or nibbling machines (excluding presses) for flat products including combined punching and shearing machines :

8462.42 - - Numerically controlled

8462.49 - - Other

- Machines for working tube, pipe, hollow section and bar (excluding presses) :

8462.51 - - Numerically controlled

8462.59 - - Other

- Cold metal working presses :

8462.61 - - Hydraulic presses

8462.62 - - Mechanical presses

8462.63 - - Servo-presses

8462.69 - - Other

8462.90 - Other

The heading covers certain machine-tools, listed in the heading text, which work by changing the shape or form of metal or metal carbides.

In general machine-tools are power-driven but similar machines, worked by hand or pedal, are also covered by this heading. These latter types can be distinguished from the hand tools of **heading 82.05** and from the tools for working in the hand of **heading 84.67**, by the fact that they are usually designed to be mounted on the floor, on a bench, on a wall or on another machine, and are thus usually provided with a base plate, mounting frame, stand, etc.

The heading includes :

1. **Hot forming machines for forging, die forging (including presses) and hot hammers**. Broadly speaking forging includes all processes for working heated metal by impact or by pressure, either to eliminate puddling slag (shingling) or to shape the metal. Except in the case of shingling where the metal is worked in the form of balls, the metal to be shaped is either in the form of semi-finished products such as blooms, billets or sheet bars, or in the form of bars and rods, usually of circular section.

In the process of die forging, the dies completely enclose the workpiece. In certain cases, however, a single metal die operating on only one part of the unworked piece is used. This is called open-die forging.

Die cutting machines can eliminate the "flash" produced during die forging. This trimming operation is carried out with the aid of special cutting dies.

The finishing operation to produce the necessary precise dimensions of the workpiece, carried out with a precision die, is described as "sizing" or "calibrating".

The following are examples of machine-tools specially designed and built for carrying out the operations described above :

(a) **Closed die forging machines :**

Closed die forging is the process in which dies move towards each other and cover the workpiece in whole or in part. The heated raw material, which normally is a sawed or cropped round or square billet, is placed in the bottom die. The shape of the forging is incorporated in the top or bottom die as a negative image. Coming from above, the impact of the top die on the raw material forms it into the required forged form.

(b) **Open die forging machines**:

Open die forging is the process of deforming a piece of metal between a hammer or ram and a single open die in a multiple step forming procedure until the final shape is achieved.

(c) **Hammers, drop forges and drop hammers** (mechanical, hydraulic or pneumatic hammers and steam hammers), which operate by a series of short, sharp shocks.

(d) **Metal working presses**, which operate by continuous pressure. However, general purpose presses not specially designed for metal working are **excluded** (**heading 84.79**).

2. **Bending, folding, straightening or flattening machines (including press brakes) for flat products.**

These products include*, inter alia* :

(a) **Profile forming machines** are machines that are used for the automated and continuous production of metal profiles from flat products. A flat metal sheet is passed through several roller sets mounted on consecutive stands. The flat sheet is gradually cross-folded by each of the roller systems until the desired section profile is obtained. Profile forming machines modify the cross section of the metal sheet, while the longitudinal axis remains linear.

(b) **Numerically controlled press brakes** for flat products are machines for bending metal sheet and plate in an automated and programmable manner. Typically, two C-frames form the sides of the press brake, connected to a table at the bottom and a moveable beam at the top. The bottom tool is mounted on the table and the top tool is mounted on the upper beam. The sheet is curved by a controlled lowering of the press beam. The flat sheet is pressed into a lower tool by an upper tool in a V-die and re-modelled in a straight line.

(c) **Numerically controlled panel benders** for flat products are machines for the cold forming of flat metal sheets, designed to produce metal products from blanks in an automated and programmable manner. Panel benders are machines loosely similar to press brakes in concept but with a high level of automation, used to mass produce products from sheets of metal. They are capable of bending the metal sheet in two directions without having to move it, which is impossible for press brakes where the piece has to be inverted.

(d) **Numerically controlled roll forming machines** for flat products are machines for bending operations in which a metal sheet or plate is passed through a set of three or more rolls, until the desired path (arc, circle, oval) of the longitudinal axis of the sheet or plate is obtained in an automated and programmable manner. Roll forming machines modify the curvature of the longitudinal axis of the metal sheet, while the cross section is left unchanged. Roll forming machines, passing products through roller systems, give them the required profile, in which the change in the structure of the metal occurs not over the entire area of the metal, but in places of deformation only as a result of bending.

(e) **Folding machines,** the working of flat products consists of giving a sheet (or strip) in a straight line a permanent deformation of small radius, without rupturing the metal. This operation is carried out, either on a universal folding machine, or on a folding press.

(f) **Straightening machines and flattening machine**s for remedying imperfections in flat products, such as sheets or strip, arising during their manipulation after manufacture. For example, flattening machines of the roller type, which consist of a series of parallel rollers (or cylinders), either small in number (5 to 11) but of relatively large diameter and great rigidity, or large in number (generally 15 to 23) but of small diameter, great flexibility, and supported by an equal number of counter rollers.

3. **Slitting lines, cut-to-length lines and other shearing machines (excluding presses) for flat products, other than combined punching and shearing machines.**

These products include*, inter alia* :

(a) **Slitting lines** for flat products are processing lines where two cylindrical rolls with matching ribs and grooves are used to cut a large roll of metal into a number of narrower rolls or rolls with cut edges. The basic parts of a slitting line are: an uncoiler, a coil flattener, a slitter and a recoiler. The material is fed from the uncoiler, and is first flattened and then fed through the nip between the two cutting wheels (one on top and another underneath). The slit pieces are then taken up by various recoilers at the end of the line.

(b) **Cut-to-length lines** for flat products are processing lines where a shear is used to cut long flat rolled or coiled metal into multiple sheets. Cut-to-length lines consist of three main parts: an uncoiler, a coil flattener, and a shear. The material is fed from the uncoiler through the coil flattener and cut by a shear into flat sheets of metal.

(c) **Shearing machines**. The shearing process involves two cutting tools with faces in the same plane applied vertically to the metal to be cut. These tools penetrate the metal which is subjected to plastic deformation and the fibres of which, under progressively more and more pressure and penetration, rupture along the line of the blades.

Machines of this type include : balance shears, lever shears and guillotine shears which use blades; rotary shearing machines which, instead of blades, use tools in the form of discs or frustums of cones.

4. **Punching, notching or nibbling machines (excluding presses) for flat products including combined punching and shearing machines.**

These products include*, inter alia* :

(a) **Punching machines** used for perforating, notching or cutting metal by means of two tools adjusted one inside the other. The punching tool is called the punch while the other is called the die. Rupture of the metal is effected as in shearing and the shape of the hole obtained depends on the shape of the tools.

The different machines of this type include machines for making gears by punching.

A punching machine works very differently than a press. Punching machines operate incrementally, along a given trajectory in cutting a piece of sheet metal, a process also known as nibbling. In contrast to this, punching as part of a die forging or die cutting operation cuts sheet metal with a single stroke of the dies.

(b) **Notching machines for flat products** are small machines used for working various flat products, either to prepare them for assembly (for example, grooves, slots, tenons and dovetails), or simply to cut or pierce them.

5. **Machines for working tube, pipe, hollow section and bar (excluding presses).**

These products include*, inter alia* :

Machines that perform operations on metal tube, pipe, profile, hollow section and bar in order to alter the shape of the processed material without chips removal. Such operations may include bending, folding, end-finishing, straightening, flattening, punching (without the removal of metal), and tube hydroforming, as well as the working of tube, pipe, profile, hollow section and bars (excluding presses), other than draw benches (heading 84.63).

Bending machines work either by means of forming rollers, by press bending or, for tubes (and, in particular, oil pipes), by drawing their ends while the main section is held by a fixed cylinder.

Folding machines work by folding bars, rods, tubes, angles, shapes and sections in a manner akin to forming (see item 2 (c) above).

Wire bending machines add curvature to single planes. Wire bending machines that carry out more complex operations (for example, spring manufacturing machines) do not constitute simple folding machines and fall in heading 84.63.

Notching machines for non-flat products are small machines used for working various sections (L, T, I or U sections) and half-rounds, either to prepare them for assembly (for example, grooves, slots, tenons and dovetails), or simply to cut or pierce them.

6. **Cold metal working presses :**

These products include, *inter alia* :

(a) **Hydraulic presses :**

Hydraulic presses are machines using a high pressure fluid to drive, by a piston, the moving element of the machine to generate the force needed to move the beam of the press, to which the tools or die are mounted that change the shape of the material.

Hydraulic presses can be controlled either numerically or non-numerically. In contrast to mechanical or servo presses, the travel of a hydraulic press is freely adjustable and any intermediate position of the press beam can be realized without changing the kinematic setup of the machine.

(b) **Mechanical presses :**

Mechanical presses are machines using an electrical motor to generate a compressive force through a kinematic chain. These presses are designed or intended to mechanically transfer energy from a primary motor to a tool using a clutch mechanism that transmits torque to generate movement from the wheel to the runner. The shape of the metal workpiece is changed by the substantial pressure placed on it.

Mechanical presses can be controlled either numerically or non-numerically. They have an electrical motor and use a clutch-based mechanism to reverse the motion.

(c) **Servo-presses :**

Servo-presses are machines using, typically, a kinematic system driven by a servo-motor to generate a compressive force to change the shape of a metal workpiece. These presses are designed to mechanically transfer energy to a tool by means of a servo-drive, without a clutch mechanism, to generate torque to power the device.

Servo-presses are a special type of mechanical presses (usually screw driven). Their main characteristic is related to the management of the motion, which is performed directly by the servo-drive, while in certain other mechanical presses, the motion is controlled by the setup of the mechanical hardware, resulting in lower flexibility with respect to adjusting the travel of the press beam.

(d) **Extruding presses** for extruding bars, rods, angles, shapes, sections, tubes, etc. These presses are designed to force a mass of metal through an extrusion die with the help of a punch.

(e) **Presses for compressing metal scrap** into bales

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories (**other than** the tools of **Chapter 82**) of the machine-tools of this heading are classified in **heading 84.66**.

*

* *

The heading also **excludes** :

(a) Hand tools (**heading 82.05**).

(b) Rolling mills (**heading 84.55**).

(c) Machining centres, unit construction machines (single station) and multi-station transfer machines, for working metal (**heading 84.57**).

(d) Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor (**heading 84.67**).

(e) Machines for stamping address plates (**heading 84.72**).

(f) Pig iron breakers and special stamping mills for breaking up cast iron scrap (**heading 84.79**).

(g) Machine-tools for bending, folding and straightening semiconductor leads (**heading 84.86**).

(h) Testing machines and apparatus (**heading 90.24**).

8462.1

- Hot forming machines for forging, die forging (including presses) and hot hammers :

8462.11

-- Closed die forging machines

8462.19

-- Other

8462.2

- Bending, folding, straightening or flattening machines (including press brakes) for flat products :

8462.22

-- Profile forming machines

8462.23

-- Numerically controlled press brakes

8462.24

-- Numerically controlled panel benders

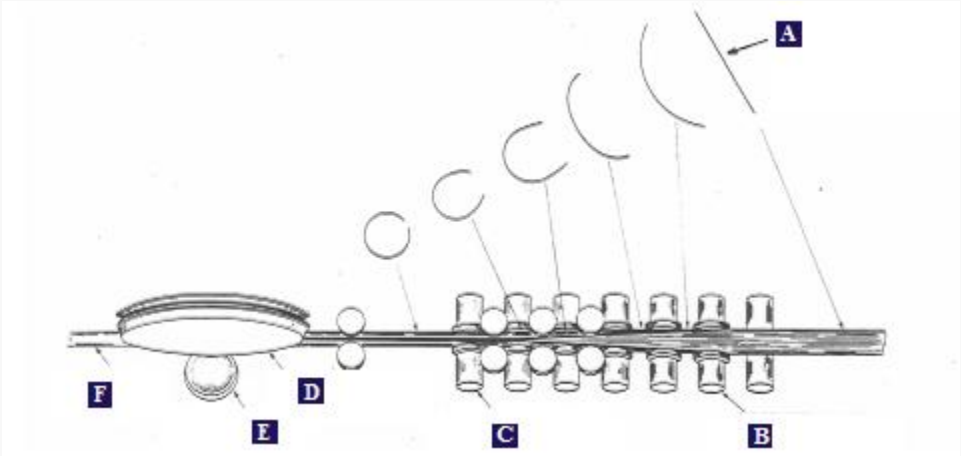
8462.25

-- Numerically controlled roll forming machines

CLASSIFICATION OPINIONS

1. Welded tube mill machinery presented without welding equipment, used to process coiled metal strip into tubular forms. The machinery consists of the following components : an edge trimmer; breakdown or forming rolls; idler vertical closing rolls; and fin pass rolls. **Application of GIRs 1 and 6.** *Adoption : 2001*

A Cross section of strip at various stages of forming operation**B** First forming roll**C** Final forming roll**D** Welding electrodes**E** Pressure roll**F** Welded tube



8462.26

-- Other numerically controlled bending, folding, straightening or flattening machines

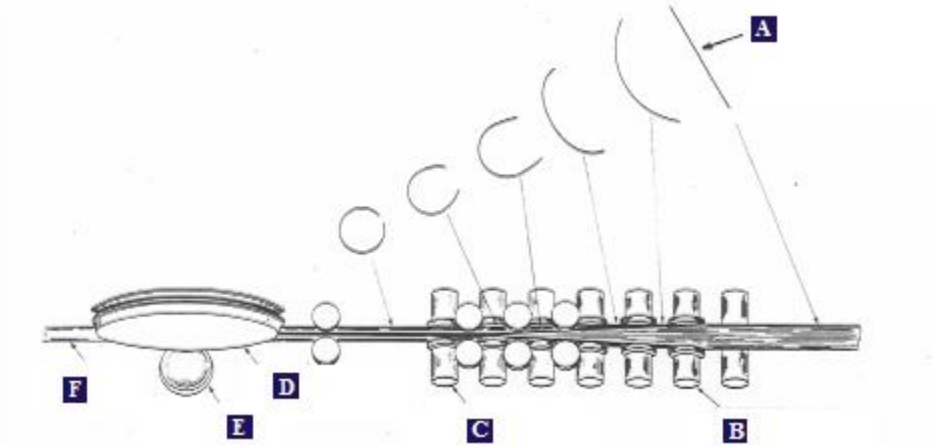
8462.29

-- Other

CLASSIFICATION OPINIONS

1. **Welded tube mill machinery** presented without welding equipment, used to process coiled metal strip into tubular forms. The machinery consists of the following components : an edge trimmer; breakdown or forming rolls; idler vertical closing rolls; and fin pass rolls. **Application of GIRs 1 and 6.** *Adoption : 2001*

A Cross section of strip at various stages of forming operation**B** First forming roll**C** Final forming roll**D** Welding electrodes**E** Pressure roll**F** Welded tube



2. **Scroll bending machine**, numerically controlled, with a pole changing motor. All operations are cold bending. The feed is a rolled metal bar with a previously prepared end. The work end of the feed is fixed stationary in the scroll bending tool (tools have various forms) with the help of the eccentric, designed in the form of a lever. The feed, clamped to the templet by the clamping roller, fixed on the working table of the machine, moves smoothly round the templet's

head, replicating its form. The machine has a vertical drive and can only be used for bending.
Application of GIRs 1 and 6.
Adoption : 2006



8462.3

- Slitting lines, cut-to-length lines and other shearing machines (excluding presses) for flat products, other than combined punching and shearing machines :

8462.32

-- Slitting lines and cut-to-length lines

8462.33

-- Numerically controlled shearing machines

8462.39

-- Other

8462.4

- Punching, notching or nibbling machines (excluding presses) for flat products including combined punching and shearing machines :

8462.42

-- Numerically controlled

8462.49

-- Other

8462.5

- Machines for working tube, pipe, hollow section and bar (excluding presses) :

8462.51

-- Numerically controlled

8462.59

-- Other
8462.6

- Cold metal working presses :
8462.61

-- Hydraulic presses
8462.62

-- Mechanical presses
8462.63

-- Servo-presses
8462.69

-- Other
8462.90

- Other
Heading 8463

Other machine-tools for working metal or cermets, without removing material.
EXPLANATORY NOTES

84.63 - Other machine-tools for working metal or cermets, without removing material.

8463.10 - Draw-benches for bars, tubes, profiles, wire or the like

8463.20 - Thread rolling machines

8463.30 - Machines for working wire

8463.90 - Other

With the **exception** of the machine-tools of **heading 84.62**, this heading covers machine-tools which work metal or cermets, without removing material.

In general machine-tools are power-driven but similar machines, worked by hand or pedal, are also covered by this heading. These latter types can be distinguished from the hand tools of **heading 82.05** and from the tools for working in the hand of **heading 84.67**, by the fact that they are usually designed to be mounted on the floor, on a bench, on a wall or on another machine, and are thus usually provided with a base plate, mounting frame, stand, etc.

The heading includes :

(1) **Drawing machines** (draw benches), for the bright-drawing of bars, tubes, shapes, sections, wire or similar products.

(2) **Thread rolling machines** in which the threads on bolts or screws are obtained by rolling and pressing and not by cutting.

(3) **Machines for working wire** e.g., for manufacturing wire goods such as springs, barbed wire, chains, pins, wire nails or staples, and hooks. The heading also covers machines which, being of a kind specially designed for making wire grill or netting, differ from the ordinary textile weaving

loom both as regards their method of operation and their constituent parts. Assembly looms using precrimped wire are **excluded** (**heading 84.79**, etc.).

Machinery for making ropes or stranded cables of metal wire or of mixed textile and wire is also **excluded** (**heading 84.79**).

(4) **Machines for spiralling fine metal wire** in the manufacture of electric lamp filaments.

(5) **Riveting machines** apart from presses of **heading 84.62**.

(6) **Swaging machines**, in which tubes or bars are forced through rotating dies to reduce the diameter.

(7) **Spinning lathes**. These machines differ from those of **heading 84.58** by the fact that they operate by deforming the metal.

(8) **Machines for manufacturing flexible tubes of spiral metal strip**.

(9) **Electro-magnetic-pulse metal-forming machines** (**or magneto-forming machines**), using the force of a magnetic flux to shape, without removing any material, a metal workpiece, usually tubular, with the aid of a die.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories (**other than** the tools of **Chapter 82**) of the machine-tools of this heading are classified in **heading 84.66**.

*

* *

The heading also **excludes** :

(a) Hand tools (**heading 82.05**).

(b) Banding machines for banding bales, machines for closing cans or other containers (**heading 84.22**).

(c) Machining centres, unit construction machines (single station) and multi-station transfer machines, for working metal (**heading 84.57**).

(d) Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor (**heading 84.67**).

(e) Testing machines and apparatus (**heading 90.24**).

8463.10

- Draw-benches for bars, tubes, profiles, wire or the like
8463.20

- Thread rolling machines
8463.30

- Machines for working wire
8463.90

- Other
Heading 8464

Machine-tools for working stone, ceramics, concrete, asbestos-cement or like mineral materials or for cold working glass.
EXPLANATORY NOTES

84.64 - Machine-tools for working stone, ceramics, concrete, asbestos-cement or like mineral materials or for cold-working glass (+).

8464.10 - Sawing machines

8464.20 - Grinding or polishing machines

8464.90 - Other

In general machine-tools are power-driven but similar machines, worked by hand or pedal, are also covered by this heading. These latter types can be distinguished from the hand tools of **heading 82.05** and from the tools for working in the hand of **heading 84.67**, by the fact that they are usually designed to be mounted on the floor, on a bench, on a wall or on another machine, and are thus usually provided with a base plate, mounting frame, stand, etc.

(I) MACHINES FOR WORKING STONE, CERAMICS, CONCRETE, ASBESTOS-CEMENT OR LIKE MINERAL MATERIALS

This group covers not only machines for working natural stone, but also those for working similar hard materials (ceramics, concrete, artificial stone, asbestos-cement, etc.). Although most machines for working precious or semi-precious stones have special features (higher precision, etc.), they are nevertheless classified in this heading.

The heading includes :

(A) **Sawing or cutting machines**, such as :

(1) **Sawing machines proper** (circular saws, band saws and reciprocating saws, including those using toothless blades, etc.).

(2) **Disc (e.g., abrasive) cutting machines**, including machines for grooving or cutting false joints on concrete surfaces or on the face of building stone.

(3) **Helical-wire cutting machines**. These operate by means of an endless steel wire consisting of several spirally twisted strands, and guided by a system of grooved pulleys. The wire,

assisted by an abrasive mixture of powdered sandstone and water, cuts into the stone by friction.

(B) **Machines for splitting or cleaving**.

(C) **Machines for grinding, smoothing, polishing, graining, etc**.

(D) **Machines for drilling or milling**.

(E) **Machines for turning, engraving, carving, cutting mouldings, etc**.

(F) **Machines for cutting or dressing grinding wheels**.

(G) **Machine-tools for working ceramic products** (drilling, cutting, milling, polishing, etc.), **except** machines for working ceramic paste or unfired articles of ceramic materials (e.g., machines for moulding or shaping ceramic paste, **heading 84.74**).

(II) MACHINE-TOOLS FOR COLD WORKING GLASS

This category covers machine-tools used for cold-working glass, but it **excludes** machines used for hot-working glass (i.e., glass heated until it becomes fluid or plastic) (**heading 84.75**). Nevertheless, the fact that in some cases the glass is slightly heated to facilitate certain processes does not exclude the machines from this heading, since they are working on glass which still retains the consistency of a hard material.

Many of these machines carry out operations similar to those mentioned in paragraph (I) above in connection with stone or the like.

Others, on the other hand, are employed for more specific work, e.g., decorative finishing, or for certain specialised uses (e.g., optical or watch-making). The following, in particular, fall in this latter category :

(1) **Glass cutting machines**, of the wheel or diamond type.

(2) **Glass cutting (shaping) machines**, for facetting, or for cut-glass articles.

(3) **Trueing, grinding, etc., machines**, used mainly for smoothing edges, levelling bases or trimming moulded objects.

(4) **Polishing machines**. Polishing is sometimes followed by a still more specialised finishing process, known as smoothing, executed by **felt disc machines**; such machines also fall in this heading.

(5) **Engraving machines** of the grinding wheel or diamond type; sand jet engraving machines are, however, **excluded** (**heading 84.24**).

(6) **Machine-tools used for finishing or polishing optical, spectacle or clock or watch glass**. These include the special circular glass-cutter which is used to cut out eye-pieces for spectacles, and also machines for shaping or polishing optical glass by wearing down the surface of lenses, prisms, spectacle lenses (spherical, ring-shaped, cylindrical, multi-focus, etc.), etc.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories (**other than** the tools of **Chapter 82**) of the machine-tools of this heading fall in **heading 84.66**.

*

* *

This heading also **excludes** :

(a) Hand tools or hand or pedal operated grinding wheels (**heading 82.05**).

(b) Machines for twisting glass fibres into yarns, weaving machines, and other machines of **heading 84.45** or **84.46**.

(c) Machine-tools for working any material by removal of material, by laser or other light or photon beam, ultrasonic or plasma arc processes and other machines of **heading 84.56**.

(d) Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor (**heading 84.67**).

(e) Crushing, grinding, mixing, moulding, agglomerating, casting, brick-making, etc., machines (**heading 84.74**).

(f) Machine-tools for sawing, scribing or scoring semiconductor boules or wafers (e.g., “wafer dicers”), and machine-tools for grinding, polishing or lapping semiconductor boules or wafers or flat panel displays (**heading 84.86**).

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° °

Subheading Explanatory Note.

Subheading 8464.10

This subheading covers the sawing or cutting machines described in paragraph (A) of Part (I) of the Explanatory Note to heading 84.64.

8464.10

- Sawing machines

8464.20

- Grinding or polishing machines

8464.90

- Other

Heading 8465

Machine-tools (including machines for nailing, stapling, glueing or otherwise assembling) for working wood, cork, bone, hard rubber, hard plastics or similar hard materials.

EXPLANATORY NOTES

84.65 - Machine-tools (including machines for nailing, stapling, glueing or otherwise assembling) for working wood, cork, bone, hard rubber, hard plastics or similar hard materials.

8465.10 - Machines which can carry out different types of machining operations without tool change between such operations

8465.20 - Machining centres

- Other :

8465.91 - - Sawing machines

8465.92 - - Planing, milling or moulding (by cutting) machines

8465.93 - - Grinding, sanding or polishing machines

8465.94 - - Bending or assembling machines

8465.95 - - Drilling or morticing machines

8465.96 - - Splitting, slicing or paring machines

8465.99 - - Other

This heading covers machine-tools for the shaping or surface-working (including cutting, forming and assembling) of wood (and materials derived from wood), cork, bone, hardened rubber, hard plastics and similar hard materials (horn, corozo, mother of pearl, ivory, etc.).

The heading **excludes** machines for working materials which although referred to in the heading do not possess the characteristics of hard materials at the time work commences on them. For this reason, machines for cutting or slicing supple plastics or unhardened rubber are **excluded** (**heading 84.77**). Furthermore, the heading **does not cover** machines for making articles from granules or powder, such as machines for moulding plastic materials (**heading 84.77**), machines for agglomerating or moulding particles or fibres of wood or other ligneous matter (**heading 84.79**) or other similar machines. Although they might be considered to be for the treatment of the materials mentioned in the heading, the heading also **excludes**, in general, machines and apparatus whose function is not to work the material or its surface, e.g., those for the drying of wood or the ageing of it by desiccation (**heading 84.19**), machines for the expansion of cork (**heading 84.19**) or machines for compressing, agglomerating or impregnating wood (**heading 84.79**).

In general, machine-tools are power-driven but similar machines, worked by hand or pedal, are also covered by this heading. These latter types can be distinguished from the hand tools of **heading 82.05** and from the tools for working in the hand of **heading 84.67**, by the fact that they

are usually designed to be mounted on the floor, on a bench, on a wall or on another machine, and are thus usually provided with a base plate, mounting frame, stand, etc.

(A) MACHINES NOT NORMALLY SPECIALISED FOR A PARTICULAR INDUSTRY

This group includes :

(1) **Sawing machines** of all types. They operate by means of blades or chains generally provided with teeth. They include :

(a) Sawing machines with reciprocating tools, e.g., log cross-cut sawing machines with right-toothed blades, fret saws and vertical or horizontal frame saws for cutting rough timber into planks.

(b) Sawing machines whose tool revolves. These include chain saws and band saws such as vertical and horizontal band saws, quartering and halving band saws, chariot or table band saws and various specialised machines such as multiple band saws for making blocks, strips, friezes, etc., for wood flooring and band saws for the paper industry.

(c) Sawing machines whose tool has a rotating motion. This large group includes all machines which cut by means of one or more toothed blades moving in a circular movement. It includes, for example, pendulum saws, cut-off saws with a straight line tool stroke, radial saws, block stroke saws with longitudinal cut, circular log-cutting saws, edging circular saws, bench saws, sliding table saws, circular panel-cutting saws.

(2) **Moulding and planing machines**, which prepare the surface of the workpiece using blades which remove chips of the material. These include machines which work on one or two surfaces and planing machines which can work on up to all four surfaces.

(3) **Machines for moulding and milling**, which shape the workpiece using profiled rotating tools which remove chips of the material. These include, for example, spindle moulding machines, single-end tenoning machines, dovetailing machines, grooving machines, countersinking machines, pattern milling and recessing machines, copying machines (other than lathes), 1, 2, 3 or 4-side moulding machines, profile forming machines, with rotating workpiece, slotting machines and log-milling machines (canters). This group also includes CNC milling machines.

(4) **Machining centres** (see Subheading Note 1 to this Chapter), also known as **CNC work centres**. These machines carry out several machining operations and have automatic tool change, from a magazine or the like in conformity with a machining programme. Consequently, this group covers machine-tools which carry out **two or more** machining operations by automatic tool change from a magazine or the like, whereas machine-tools which carry out **one** machining operation using a single tool or several tools working simultaneously or sequentially (for example, multiple-spindle drills or multiple-cutter milling machines) remain classified in their respective subheadings as drilling or milling machines.

(5) **Grinding, sanding and polishing machines**. Grinding machines which use grindstones are principally used for hard products such as corozo, hard rubber, horn and ivory.

Sanding machines use abrasives to improve the surface finish as well as the dimensional accuracy of the workpiece. This group includes those with an oscillating action, belt sanders, disc

sanders, bobbin and drum sanders. Machines known as smoothing machines are also in this group.

Polishing machines impart a lustre, by means of bands, drums or flexible rollers, to a workpiece previously given a smooth finish.

(6) **Bending machines** which mechanically change the form or physical characteristics of the workpiece by action on its structure.

(7) **Assembling machines**.

These include :

(a) Machines which assemble two or more parts by means of binding agents, adhesives or gummed paper. This group includes veneer splicing machines, plank glueing machines, panel forming machines, frame clamps, carcase clamps, plywood and laminating wood presses, veneering presses. These machines may incorporate devices for spreading glue on the surface of the wood.

(b) Machines which join, using nails, staples, wire, etc.

(c) Machines for joining without binding agents or fasteners, e.g., squeeze presses.

(8) **Drilling machines**. These are used solely to drill a circular hole using a rotating tool (spindle or bit). The centre of the tool and of the hole to be drilled are along a common axis. This group includes single and multiple drilling spindle machines, knot hole drilling machines and dowel hole drilling machines. CNC drilling machines also belong to this group.

(9) **Morticing machines**. These cut non-cylindrical holes using a chisel, a mortice chain or routing bit, e.g., slot, chisel or chain morticing machines.

(10) **Splitting, stamping, fragmenting, paring and slicing machines**. All these machines transform a workpiece mechanically without removing chips of wood.

These include :

(a) Splitting machines which split the fibre bond by wedge action. These include log splitting machines, firewood splitting machines, root splitting machines and willow, bamboo and rattan splitting machines.

(b) Stamping machines which shape by impact cutting, e.g., veneer stamping machines.

(c) Fragmenting machines which produce small pieces of wood of similar size and shape. These include sliver cutting machines, particle producing machines, wood-wool making machines and chopping and chipping machines.

However, defibrators for producing wood pulp are **excluded** and fall in **heading 84.39**.

(d) Paring or slicing machines which use a straight cutting edge to produce thin sheets either by slicing (machines for making thin boards) or by paring (machines for producing veneers or thin sheets for plywood production).

This group also includes veneer shearing machines which use rectilinear blades, mitre trimming machines and mullion cutting machines.

(11) **Lathes**, which are used to fashion a workpiece by a motion about its own axis, the tool not turning. This group includes lathes of all kinds, including copying lathes.

(12) **Tree delimbing or bucking machines**.

(13) **Wood de-barking machinery** (log decorticators, post peeling machines, etc.), **other than** water-jet bark strippers of **heading 84.24** and barking drums of **heading 84.79**.

(14) **Knot-boring machines** for preparing logs (e.g., for use in making paper pulp).

The heading also includes machines which can carry out different types of machining operations without tool change between such operations.

Examples are :

(1) **Combined joinery machines** having in a single unit several machines with different functions, used independently of each other. With this type of machine it is necessary to give manual assistance to the workpiece between each operation. These include machines for surface planing combined with one or more other operations and sawing-moulding-morticing machines.

(2) **Multi-purpose machines** in which, unlike the previous group, no further manual assistance is required after the insertion of the workpiece. These include single-end tenoning machines with several spindles, double-end tenoning machines, machines for positioning hardware, dowel holes, etc., machines for assembling, using adhesives and finishing (for the production of veneer strips or making panels from laths).

(B) MACHINE-TOOLS SPECIALISED

FOR A PARTICULAR INDUSTRY

This group includes :

(1) **Cooperage machinery** (e.g., stave-jointing, stave-planing, stave-bending, stave croze cutting or cask crozing machines; cask assembly machines; machines for driving the hoops over a cask). But the heading **excludes** cask or stave steaming apparatus (**heading 84.19**).

(2) **Machinery used in the pencil-making industry**.

(3) **Machines for the morticing or boring of railway sleepers**.

(4) **Wood-sculpturing machines, engraving machines, including copying machines**.

(5) **Wood flour grinding machines**. But the heading **excludes** defibrators used in the paper pulp industry (**heading 84.39**).

(6) **Machines for nailing, stapling, glueing or otherwise assembling boxes, crates, cases, casks, etc**.

(7) **Wooden button-making machines**.

(8) **Machines for making clogs, wooden soles or heels for shoes, or shoe-trees**.

(9) **Machinery for working osier, cane, etc**. (peeling, splitting, rounding, etc.), **other than** machines for the manufacture of basketwork or wickerwork (**heading 84.79**).

The heading includes **machine-tools used for working cork** (e.g., by sawing, cutting-out, cutting, polishing), **bone, hard rubber, hard plastics and similar hard materials**. These machines are, in general, designed on the same principles as machine-tools for wood-working.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories (**other than** the tools of **Chapter 82**) of the machine-tools of this heading are classified in **heading 84.66**.

*

* *

The heading also **excludes** :

(a) Bamboo crushers, wood chip cutting machines and log grinding machines used in pulp manufacture (**heading 84.39**).

(b) Machine-tools for working any material by removal of material, by laser or other light or photon beam, ultrasonic or plasma arc processes and other machines of **heading 84.56**.

(c) Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor (**heading 84.67**).

(d) Deflash machines for cleaning and removing contaminants from the metal leads of semiconductor packages (**heading 84.86**).

8465.10

- Machines which can carry out different types of machining operations without tool change between such operations

8465.20

- Machining centres

8465.9

- Other :

8465.91

-- Sawing machines

8465.92

-- Planing, milling or moulding (by cutting) machines

8465.93

-- Grinding, sanding or polishing machines

8465.94

-- Bending or assembling machines

8465.95

-- Drilling or morticing machines

8465.96

-- Splitting, slicing or paring machines

8465.99

-- Other

CLASSIFICATION OPINIONS

1. Milling machines specially designed for grinding waste of hard plastics, driven by an electric motor and fitted with three mobile blades and two fixed blades. *Adoption : 1961*

Heading 8466

Parts and accessories suitable for use solely or principally with the machines of headings 84.56 to 84.65, including work or tool holders, self-opening dieheads, dividing heads and other special attachments for the machines; tool holders for any type of tool for working in the hand.

EXPLANATORY NOTES

84.66 - Parts and accessories suitable for use solely or principally with the machines of headings 84.56 to 84.65, including work or tool holders, self-opening dieheads, dividing heads and other special attachments for the machines; tool holders for any type of tool for working in the hand.

8466.10 - Tool holders and self-opening dieheads

8466.20 - Work holders

8466.30 - Dividing heads and other special attachments for machines

- Other :

8466.91 - - For machines of heading 84.64

8466.92 - - For machines of heading 84.65

8466.93 - - For machines of headings 84.56 to 84.61

8466.94 - - For machines of heading 84.62 or 84.63

With the **exception** of the tools of **Chapter 82** and **subject** to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), this heading covers :

(A) **Parts** of the machines of **headings 84.56 to 84.65**.

(B) **Accessories** for these machines, that is, subsidiary devices used in connection with the machines, such as interchangeable devices which modify the machine so that it can perform a wider range of operations; devices to increase precision; devices which perform a particular service relative to the main function of the machine.

(C) **Tool holders** for any type of tool for working in the hand.

The very wide range of parts and accessories classified here includes :

(1) **Tool holders** which hold, guide or operate the working tool and which **permit the interchange of such tool-pieces**. They are of very varied types, e.g. :

Chucks; tap and drill collets; lathe tool posts; self-opening dieheads; grinding wheel holders; honing bodies for use in honing machines; boring bars; turrets for turret lathes, etc.

This heading also includes tool holders for any type of tool designed for operation in the hand. Such holders are usually designed for the tools **of heading 82.05** or **84.67**, but this heading also includes tool holders for flexible shaft outfits. (See also the provisions of the Explanatory Notes to **headings 84.67 and 85.01**).

(2) **Work holders** designed to hold and sometimes manipulate (as required for a particular operation) the part being worked by the machine. These include :

Lathe centres; mechanical or pneumatic lathe chucks of all kinds and their clamping jaws; work holding plates and tables (whether or not with a micrometer adjusting or setting device); clamps and angle plates; chocks and wedges; fixed, revolving or adjustable machine vices; steady rests (ring-shaped devices designed to support long parts during turning, in order to prevent buckling and overcome vibrations set up by the pressure of the tool).

(3) **Auxiliary attachments for notching, for spherical turning**, **etc**.

(4) **Copying attachments** (including those which are electrically or electronically operated) for the automatic reproduction of work according to a pattern.

(5) **Surface-finishing attachments** for lathes, planing, shaping, etc., machines.

(6) **Mechanical or pneumatic attachments used to automatically control** the progress of the work or the tool in the course of working.

(7) **Other special auxiliary attachments**, designed to increase the precision of the machine without actually entering into its operation. They include centring or levelling attachments; dividing heads; indexing tables; micrometer carriage stops; carriage spacing attachments, etc. Such attachments remain in the heading even if incorporating an optical device to assist in reading the scale or in carrying out adjustments (e.g., “optical” dividing heads). However the heading **excludes** apparatus which are in themselves essentially optical apparatus, e.g., centring

microscopes (**heading 90.11**), alignment or levelling telescopes and image projecting test apparatus (**heading 90.31**), etc.

The heading also **excludes** :

(a) Grinding wheels and similar abrasive tools of **heading 68.04**.

(b) Magnetic or electro-magnetic oil filters (**heading 84.21**).

(c) Auxiliary devices for lifting or handling (e.g., levelling jacks sometimes used to support very large or heavy work during machining) (**heading 84.25**, etc).

(d) Gear-boxes and other speed changers, clutches and similar transmission equipment (**heading 84.83**).

(e) Parts and accessories, including work or tool holders and other special attachments for machine-tools or water-jet cutting machines, suitable for use solely or principally with the machines and apparatus of heading 84.86 (**heading 84.86**).

(f) Electric (including electronic) parts and accessories (e.g., magnetic chucks and numerical control panels) (**Chapter 85**).

(g) Measuring or checking apparatus (**heading 90.31**).

(h) Revolution counters and production counters (**heading 90.29**).

(ij) Brushes for mounting on machines (**heading 96.03**).

8466.10

- Tool holders and self-opening dieheads

CLASSIFICATION OPINIONS

1. Telescopic arm (also called an extension rod) of base metal. The product is an accessory (tool holder) that extends up to 4 m in length and is designed for use in conjunction with pneumatic rakes, to facilitate harvesting fruits, or with pneumatic secateurs and saws to prune fruit trees. It comes with a quick assembly disassembly system and a safety cut-out handle. **Application of GIRs 1 and 6.** *See also Opinions 8467.19/1, 8467.19/2, and 8467.29/1. Adoption : 2015*



8466.20

- Work holders

8466.30

- Dividing heads and other special attachments for machines

8466.9

- Other :

8466.91

-- For machines of heading 84.64

8466.92

-- For machines of heading 84.65

8466.93

-- For machines of headings 84.56 to 84.61

8466.94

-- For machines of heading 84.62 or 84.63

Heading 8467

Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor.

EXPLANATORY NOTES

84.67 - Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor.

- Pneumatic :

8467.11 - - Rotary type (including combined rotary percussion)

8467.19 - - Other

- With self-contained electric motor :

8467.21 - - Drills of all kinds

8467.22 - - Saws

8467.29 - - Other

- Other tools :

8467.81 - - Chain saws

8467.89 - - Other

- Parts :

8467.91 - - Of chain saws

8467.92 - - Of pneumatic tools

8467.99 - - Other

This heading covers tools which incorporate an electric motor, a compressed air motor (or compressed air operated piston), an internal combustion motor or any other motor (e.g., small hydraulic turbine); the compressed air motor is generally operated by an external source of compressed air, and in the case of the internal combustion motor the ignition batteries are sometimes separate. In pneumatic tools the action of the compressed air is sometimes supplemented by hydraulic connections.

The heading covers such tools **only** if for working in the hand. The expression "tools for working in the hand" means tools designed to be held in the hand during use, and also heavier tools (such as earth rammers) which are portable, that is, which can be lifted and moved by hand by the user, in particular while work is in progress, and which are also designed to be controlled and directed by hand during operation. To obviate the fatigue of taking their full weight during operation they may be used with auxiliary supporting devices (e.g., tripods, jacklegs, overhead lifting tackle).

However, certain tools for working in the hand of this heading have fittings permitting them to be **temporarily** fixed to a support. They remain classified here, together with the support if it is presented therewith, **provided** the tools are essentially "for working in the hand" as defined above.

Some of the tools covered by this heading may be fitted with auxiliary devices (e.g., a fanwheel and its dust-bag to remove and collect dust during working).

The heading **excludes** tools which, because of their weight, size, etc., obviously cannot be used in the hand as described above. It also **excludes** tools (whether or not portable) fitted with a base plate or other device for fixing to the wall, bench, floor, etc., those with provisions for running on rails (e.g., machines for slotting or drilling railway sleepers) and walk-behind or similar hand-directed machines on wheels, e.g., floor grinding machines, for concrete, marble, or wood, etc.

The heading further **excludes** combinations consisting of a tool holder with one or more tools, and a separate spark-ignition internal combustion piston engine or a separate electric motor with a flexible shaft; the tool holder is classified in **heading 84.66**, the motor with its flexible shaft in **heading 84.07** or **85.01**, as the case may be, and the tools in their own appropriate headings.

The tools of this heading include tools for working various materials and are used in various industries.

Subject to the conditions above, the tools of this heading include, *inter alia :*

(1) Drilling, tapping or reaming machines.

(2) Boring machines, rock drills and the like.

(3) Wrenches, screwdrivers, nut setters.

(4) Planing, gauging, surfacing or similar appliances.

(5) Filing machines, grinders, sanders, polishers and the like.

(6) Wire brush machines.

(7) Circular saws, chain saws and the like.

(8) Hammers of various types, such as chipping hammers, de-scaling hammers, caulking hammers, riveting hammers, concrete breakers.

(9) Squeeze-type riveters; rivet busters and other chisel-operated appliances.

(10) Sheet metal cutters (shear type or nibbler type).

(11) Sand rammers, de-coring tools for removing cores from castings, mould vibrators for foundries.

(12) Earth compacting rammers for road building or maintenance.

(13) Automatic spades.

(14) Concrete vibrators to facilitate the flow and setting of concrete.

(15) Hedge trimmers.

(16) Hydraulically driven boiler type de-scalers.

(17) Compressed air type greasing pistols for garages, etc.

(18) Portable machines for trimming lawns, cutting grass in corners, along walls, borders or under bushes, for example. Such machines have a self-contained motor in a light metal frame and a cutting device usually consisting of a thin nylon thread.

(19) Portable brush-cutters with a self-contained motor, a drive shaft (rigid or flexible) and a tool holder, presented together with various interchangeable cutting tools for mounting in the tool holder.

(20) Cutters for cutting textiles in the ready-made clothing industry.

(21) Engraving tools.

(22) Electric hand scissors, comprising a fixed cutter blade and a mobile cutter blade operated by a built-in electrical motor, for use in dressmakers' and milliners' workrooms, households, etc.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts (**other than** tool holders of **heading 84.66**) of the tools of this heading.

*

* *

The heading also **excludes :**

(a) Grinding, sharpening, polishing, cutting wheels and the like, of stone, ceramics or agglomerated abrasives (**heading 68.04**).

(b) Tools of **Chapter 82**.

(c) Air compressors (**heading 84.14**).

(d) Liquid or powder sprayers, hand controlled spray guns, sand blasting apparatus and the like (**heading 84.24**).

(e) Electric lawn mowers (**heading 84.33**).

(f) Electro-mechanical domestic appliances (**heading 85.09)**.

(g) Electric shavers, hair clippers and hair-removing appliances of **heading 85.10**.

(h) Electro-mechanical hand tools for medical or dental purposes (**heading 90.18**).

8467.1

- Pneumatic :

8467.11

-- Rotary type (including combined rotary-percussion)

8467.19

-- Other

CLASSIFICATION OPINIONS

1. **Pneumatic secateurs**, incorporating a piston and blades on a thick tube (handgrip) and operated by compressed air triggered by the user's thumb and index finger via the piston; they are designed to be held in the hand during use and can be fitted to extension rods (arms), which may be telescopic. They are used for pruning trees. **Application of GIRs 1 and 6.** *See also Opinions 8466.10/1, 8467.19/2, and 8467.29/1. Adoption : 2014*



2. **Pneumatic rake**, of base metal, non-rotary, fan-shaped, used for harvesting olives, almonds and pistachios. It is powered by air from a compressor. It can be operated in the hand without the use of accessories, but is usually attached to an extension rod, e.g., a telescopic arm, which facilitates harvesting. **Application of GIRs 1 and 6.** *See also Opinions 8466.10/1, 8467.19/1, and 8467.29/1. Adoption : 2015*



8467.2

- With self-contained electric motor :

8467.21

-- Drills of all kinds

8467.22

-- Saws

8467.29

-- Other

CLASSIFICATION OPINIONS

1. Electric rake, of base metal, fan-shaped, incorporating an electric motor which is powered by an external battery or a generator, used for harvesting olives, almonds and pistachios. It can be operated in the hand without the use of accessories, but is usually attached to an extension rod, e.g., a telescopic arm, which facilitates harvesting. **Application of GIRs 1 and 6.** *See also Opinions 8466.10/1, 8467.19/1, and 8467.19/2. Adoption : 2015*



8467.8

- Other tools :

8467.81

-- Chain saws

8467.89

-- Other

8467.9

- Parts :

8467.91

-- Of chain saws

8467.92

-- Of pneumatic tools

8467.99

-- Other

Heading 8468

Machinery and apparatus for soldering, brazing or welding, whether or not capable of cutting, other than those of heading 85.15; gas-operated surface tempering machines and appliances.

EXPLANATORY NOTES

84.68 - Machinery and apparatus for soldering, brazing or welding, whether or not capable of cutting, other than those of heading 85.15; gas-operated surface tempering machines and appliances.

8468.10 - Hand-held blow pipes

8468.20 - Other gas-operated machinery and apparatus

8468.80 - Other machinery and apparatus

8468.90 - Parts

The heading covers :

(A) Soldering, brazing or welding machinery and apparatus, whether or not capable of cutting, gas-operated or using processes other than those referred to in the text of **heading 85.15**. Machines designed exclusively for cutting are classified in their own appropriate headings.

(B) Gas-operated surface tempering machines and appliances.

(I) GAS-OPERATED APPLIANCES FOR WORKING METAL, ETC.

The appliances of this group are operated by means of a very hot flame produced by the combustion of an inflammable gas in a jet of oxygen or air.

In general, these appliances can be used not only for the operations referred to in the heading, but also for other operations requiring a similar high temperature (e.g., preliminary heating for certain operations, or refilling worn parts or cavities with metal); in practice certain appliances are specialised for these other operations, but they remain in this heading **provided** they operate in the same manner and on the same principle as the other appliances of the heading.

All the appliances of this group have an arrangement for bringing two gases to the nozzle which has two outlets, either concentric or side by side; one of the gases is inflammable (acetylene, butane, propane, coal gas, hydrogen, etc.) and the other compressed air or oxygen.

The heading covers hand-operated appliances and also machines.

(A) HAND-OPERATED GAS WELDING, ETC.,

APPLIANCES (BLOWPIPES)

Blowpipes are said to be of high-pressure or low-pressure type depending on whether they are designed to be connected to a high or low-pressure source of inflammable gas. In the high-pressure type, the compression gives the gas the velocity required to produce the flame jet; with the low-pressure type a compressor is necessary.

Both types of blowpipes are otherwise of more or less similar construction. In design, they consist of a handle or body fitted with the supply pipes, at the exit of which (the nozzle) the gas is ignited; they generally also include regulating valves, etc. The apparatus is connected to an external gas supply by flexible tubing.

To enable the appliances to be adapted to the type of work concerned (e.g., to blast-furnace tapping, rivet removing, grooving or simple heating) the tubes and nozzles are usually interchangeable (variable aperture nozzles, multiple nozzle orifices, flame-separating nozzles, etc.). Some blowpipes are specially designed for particular operations, e.g., welding blowpipes equipped with a water-cooling system, for heavy work.

(B) MACHINES FOR WELDING, ETC.

These are based on the same principles as the hand-operated appliances in Part (A) above, and consist essentially of fixed or adjustable blowpipes. Other parts of the machine (e.g., feed-tables, jaws, slide-rests and jointed arms) either enable the part being worked to be fixed, guided or moved forward, or allow the nozzles to be moved or adjusted according to the progress of the work.

(C) SURFACE TEMPERING MACHINES

These consist of a number of nozzles arranged according to the shape of the object to be treated; the flames from these nozzles project on to the surface to be tempered a heat of such intensity that it is rapidly brought to the temperature required, but this heat does not penetrate far below the surface. Once the surface has been brought to the required tempering temperature, sprays of cooling liquid are directed on the article or it is immersed in a bath of the liquid.

(II) GAS-OPERATED APPLIANCES

FOR WELDING THERMOPLASTICS

This heading also includes certain appliances for welding or sealing thermoplastic materials or articles thereof. The appliances of this heading operate by means of a flame or a jet of hot air, nitrogen or inert gas from a welding torch. The air or other gases may be heated by passage through a gas-heated tube.

(III) MACHINERY AND APPARATUS FOR WELDING, OTHER THAN GAS-OPERATED APPLIANCE

This group includes :

(1) Machinery and mechanical appliances for welding by means of grooved wheels or heated irons, **other than** hand soldering irons (**heading 82.05**) and **other than** electrical apparatus of **heading 85.15**.

(2) Friction welding machines.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of the machines and apparatus of this heading.

The heading also includes accessory attachments such as supports (ball, roller, etc.).

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* *

The heading also **excludes** :

(a) Blow lamps and brazing lamps of **heading 82.05**.

(b) Machinery and apparatus for spraying molten metal (**heading 84.24**).

(c) Apparatus for cutting or piercing rock or concrete, using the high temperature produced by burning iron or steel in a jet of oxygen (**heading 84.79**).

(d) Welding, brazing or soldering machines and apparatus, using both gas and electricity (**heading 85.15**).

8468.10

- Hand-held blow pipes

8468.20

- Other gas-operated machinery and apparatus

8468.80

- Other machinery and apparatus

8468.90

- Parts

Heading 8470

Calculating machines and pocket-size data recording, reproducing and displaying machines with calculating functions; accounting machines, postage-franking machines, ticket-issuing machines and similar machines, incorporating a calculating device; cash registers.

EXPLANATORY NOTES

84.70 - Calculating machines and pocket-size data recording, reproducing and displaying machines with calculating functions; accounting machines, postage-franking machines, ticket-issuing machines and similar machines, incorporating a calculating device; cash registers.

8470.10 - Electronic calculators capable of operation without an external source of electric power and pocket-size data recording, reproducing and displaying machines with calculating functions

- Other electronic calculating machines :

8470.21 - - Incorporating a printing device

8470.29 - - Other

8470.30 - Other calculating machines

8470.50 - Cash registers

8470.90 - Other

All machines of this heading, **except** for certain cash registers, have one common characteristic in that they include a calculating device enabling them to add together at least two figures each comprising several digits. It should be noted that devices which merely count or add one by one are **not** regarded as calculating devices (e.g., devices incorporated in certain stamp affixing machines, revolution counters, production counters). The machines of this heading may be manually or electrically operated. The calculation operations are performed mechanically or by electro-magnetic, electronic or fluidic devices.

(A) CALCULATING MACHINES AND POCKET-SIZE DATA RECORDING, REPRODUCING AND DISPLAYING MACHINES WITH CALCULATING FUNCTIONS

This group comprises a wide range of calculating machines varying from the simplest types which can only add and subtract to more complex machines which can perform the four arithmetic operations and several other types of calculations (e.g., extract square roots, raise a number to a given power and carry out trigonometric calculations). It includes, in particular, pocket electronic calculators and office electronic calculators, whether or not programmable. This group also includes pocket-size data recording, reproducing and displaying machines with calculating functions (see Note 9 to this Chapter).

Electronic programmable calculators differ from automatic data processing machines, in particular, by the fact that they cannot execute, without human intervention, a processing program which requires them to modify their execution, by logical decision during the processing run. These calculators incorporate a microprocessor designed to carry out complex mathematical operations.

Calculating machines comprise the following main parts :

(1) **Manual arrangements for data input** (stops or cursors, keyboard, etc.). However, they may have ancillary facilities for the automatic input of recurrent or preset data (readers for punched cards or tape, magnetic tape, etc.).

(2) **A calculating device** operated by a series of keys or by a program which may be fixed or may be modified by replacing the programming element or changing the program instructions.

(3) **An output device** presenting the results in the form of a visual display or a print-out. “Printer” machines incorporate a device for printing the result and sometimes also the preliminary data. However, calculating machines remain classified here whether or not comprising such a device.

Calculating machines with a printing facility use numbers and a limited range of symbols. However, they differ from accounting machines in that they print vertically only, on paper bands or rolls. Some have ancillary facilities for recording the results in code on data media.

Some of the components of these machines (calculating device, ancillary devices, etc.) may be built-in or be separate units connected by electric cable.

(B) ACCOUNTING MACHINES

These machines are designed to keep accounting books, accounting documents, etc. They combine the function of accounting (i.e., totalling a series of items) with that of printing letters or symbols in addition to figures in order to provide an adequate description of the accounting operation performed.

The structure of accounting machines is appreciably the same as that of calculating machines. In addition to manual input arrangements for variable data (e.g., debit-credit operations), like calculating machines they may be fitted with devices for reading punched cards or tape, magnetic tape or cards, etc., to introduce recurrent data (account No., customer’s name and address, etc.) or pre-set data (e.g., balance of account).

Accounting machines have numeric or alpha-numeric printing devices which can print both vertically and horizontally; this is one of the features which distinguishes them from calculating machines.

In most cases, these machines are designed to be used with specially printed forms such as pay slips, invoices, loose-leaf pages of day books, journals, ledgers, etc., or filing cards. Some of them can type simultaneously on two or more forms (e.g., on the invoices and corresponding day book and ledger entries).

They are often equipped with apparatus for transcribing data onto data media in coded form. Some print in clear on a card and simultaneously transcribe the results in code on a magnetic track on the side of the card. These results can then serve as basic data for further processing in the machine.

Like calculating machines, these machines may be in the form of a self-contained unit or consist of separate units to be electrically interconnected.

(C) CASH REGISTERS

This group comprises cash registers whether or not incorporating a calculating device.

These machines are used in shops, offices, etc., to provide a record of all transactions (sales, services rendered, etc.) as they occur, of the amounts involved, the total of the amounts recorded and, in some cases, the code number of the article sold, quantity sold, time of transaction, etc.

Data may be introduced either manually by means of a keyboard and a stop, lever or handle, or automatically, e.g., by means of a bar-code reader. Like calculating and accounting machines, some cash registers also have ancillary facilities for the automatic input of recurrent or pre-set data (e.g., card or tape readers).

Usually, the result is visually displayed and printed, at the same time, on a ticket for the customer and on a tallyroll which is periodically removed from the machine for checking purposes.

These machines are often combined with a till or drawer in which the cash is kept.

They may also incorporate or work in conjunction with devices such as multipliers for increasing their calculating capacity, calculators of change due, automatic change dispensers, trading stamp dispensers, credit card readers, check digit verifiers, or appliances for transcribing all or part of the data on transactions onto data media in coded form. If presented separately, these devices are classified in their respective headings.

This heading also covers cash registers working in conjunction, on-line or off-line, with an automatic data processing machine and cash registers which use, for example, the memory and microprocessor of another cash register (to which they are linked by cable) to perform the same functions.

This group also includes terminals for electronic payment by credit or debit card. These terminals use the telephone network to connect to the financial institution for authorisation and completion of the transaction, and to record and issue receipts indicating the amounts debited and credited.

(D) OTHER MACHINES INCORPORATING A CALCULATING DEVICE

These include :

(1) **Postage-franking machines**; these print on the envelope a design in place of the postage stamp. The machine has a non-reversible totalling device which adds up the total value of the postages printed. In addition the machine can often be used for other printing on the envelope (e.g., advertising slogans).

(2) **Ticket-issuing** machines used to issue tickets (e.g., cinema or railway tickets) at the same time recording and totalling the amounts involved; certain of these also print the ticket.

(3) **Totalisator** machines for racecourses. These issue the tickets, record and total the amounts staked, and in certain complex machines also calculate the odds.

Machines which only count the tickets, etc., issued, without totalising the amounts, are **excluded** (**heading 84.72** or, if coin-operated, **heading 84.76**).

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories of machines of this heading are classified in **heading 84.73**.

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The heading **does not cover** :

(a) Data processing machines of **heading 84.71**.

(b) Weighing machines which total the weights (**heading 84.23** or **90.16**).

(c) Slide rules, disc calculators, cylindrical calculators and other calculating instruments based on the slide rule or other mathematical calculating principle including, for instance, pocket-type adding and subtracting devices operated by the selection of numbers with a stylus according to a given procedure (**heading 90.17**).

(d) Instruments which count unit by unit, such as revolution counters, production counters, etc., of **heading 90.29**.

8470.10

- Electronic calculators capable of operation without an external source of electric power and pocket-size data recording, reproducing and displaying machines with calculating functions

8470.2

- Other electronic calculating machines :

8470.21

-- Incorporating a printing device

8470.29

-- Other

8470.30

- Other calculating machines

8470.50

- Cash registers

CLASSIFICATION OPINIONS

1. Terminal for electronic payment by credit or debit card which is used in establishments such as hotels, restaurants, travel agencies, etc. The face of the machine incorporates a keypad, a display, a paper roll for receipts, and a slot for reading the magnetic strip of a card or a smart card. The terminal functions by using the telephone network to connect to the financial institution for authorization and completion of the transaction, and to record and issue receipts indicating the amounts debited and credited.
Adoption : 1998

8470.90

- Other

Heading 8471

Automatic data processing machines and units thereof; magnetic or optical readers, machines for transcribing data onto data media in coded form and machines for processing such data, not elsewhere specified or included.

EXPLANATORY NOTES

84.71 - Automatic data processing machines and units thereof; magnetic or optical readers, machines for transcribing data onto data media in coded form and machines for processing such data, not elsewhere specified or included (+).

8471.30 - Portable automatic data processing machines, weighing not more than 10 kg, consisting of at least a central processing unit, a keyboard and a display

- Other automatic data processing machines :

8471.41 - - Comprising in the same housing at least a central processing unit and an input and output unit, whether or not combined

8471.49 - - Other, presented in the form of systems

8471.50 - Processing units other than those of subheading 8471.41 or 8471.49, whether or not containing in the same housing one or two of the following types of unit : storage units, input units, output units

8471.60 - Input or output units, whether or not containing storage units in the same housing

8471.70 - Storage units

8471.80 - Other units of automatic data processing machines

8471.90 - Other

(I) AUTOMATIC DATA PROCESSING MACHINES

AND UNITS THEREOF

Data processing is the handling of information of all kinds, in pre-established logical sequences and for a specific purpose or purposes.

Automatic data processing machines are machines which, by logically interrelated operations performed in accordance with pre-established instructions (program), furnish data which can be used as such or, in some cases, serve in turn as data for other data processing operations.

This heading covers data processing machines in which the logical sequences of the operations can be changed from one job to another, and in which the operation can be automatic**,** that is to say with no manual intervention for the duration of the task. These machines mostly use electronic signals but may also use other technologies. They may be self-contained, all the elements required for data processing being combined in the same housing, or they may be in the form of systems consisting of a variable number of separate units.

This heading also covers separately presented constituent units of automatic data processing systems described above.

However, the heading **excludes** machines, instruments or apparatus incorporating or working in conjunction with an automatic data processing machine and performing a specific function. Such machines, instruments or apparatus are classified in the headings appropriate to their respective functions or, failing that, in residual headings (See Part (E) of the General Explanatory Note to this Chapter).

(A) AUTOMATIC DATA PROCESSING MACHINES

The automatic data processing machines of this heading must be capable of fulfilling **simultaneously** the conditions laid down in Note 5 (A) to this Chapter. That is to say, they must be capable of :

(1) Storing the processing program or programs and at least the data immediately necessary for the execution of the program;

(2) Being freely programmed in accordance with the requirements of the user;

(3) Performing arithmetical computations specified by the user; and

(4) Executing, without human intervention, a processing program which requires them to modify their execution, by logical decision during the processing run.

Thus, machines which operate only on fixed programs, i.e., programs which cannot be modified by the user, are **excluded** even though the user may be able to choose between a number of such fixed programs.

These machines have storage capability and also stored programs which can be changed from job to job.

Automatic data processing machines process data in coded form. A code consists of a finite set of characters (binary code, standard six bit ISO code, etc.).

The data input is usually automatic, by the use of data media such as magnetic tapes, or by direct reading of original documents, etc. There may also be arrangements for manual input by means of keyboards or the input may be furnished directly by certain instruments (e.g., measuring instruments).

The input data are converted by the input units into signals which can be used by the machine, and stored in the storage units.

Part of the data and program or programs may be temporarily stored in auxiliary storage units such as those using magnetic discs, magnetic tapes, etc. But these automatic data processing machines must have a main storage capability which is directly accessible for the execution of a particular program and which has a capacity at least sufficient to store those parts of the processing and translating programs and the data immediately necessary for the current processing run.

Automatic data processing machines may comprise in the same housing, the central processing unit, an input unit (e.g., a keyboard or a scanner) and an output unit (e.g., a visual display unit), or may consist of a number of interconnected separate units. In the latter case, the units form a “system” when it comprises at least the central processing unit, an input unit and an output unit (see Subheading Note 2 to this Chapter). The interconnections may be made by wired or wireless means.

A complete automatic data processing system must comprise, at least :

(1) A **central processing unit** which generally incorporates the main storage, the arithmetical and logical elements and the control elements; in some cases, however, these elements may be in the form of separate units.

(2) An **input unit** which receives input data and converts them into signals which can be processed by the machine.

(3) An **output unit** which converts the signals provided by the machine into an intelligible form (printed text, graphs, displays, etc.) or into coded data for further use (processing, control, etc.).

Two of these units (input and output units, for example) may be combined in one single unit.

A complete automatic data processing system is classified in this heading, even though one or more units may be classified elsewhere when presented separately (see Part (B) **Separately presented units**, below).

These systems may include remote input or output units in the form of data terminals.

Such systems may also include units, apart from the input or output units, designed to increase the capacity of the system for instance, by expanding one or more of the functions of the central unit (see Part (B) below). Such units are inserted between the input or output units (start and end of the system), although adapting and converting units (channel adaptors and signal converters) may occasionally be connected before the input unit or after the output unit.

Automatic data processing machines and systems are put to many uses, for example, in industry, in trade, in scientific research and in public or private administrations. (See Part (E) of the General Explanatory Note to Chapter 84 with respect to the classification of machines incorporating or working in conjunction with an automatic data processing machine and performing a specific function (Note 5 (E) to this Chapter)).

(B) SEPARATELY PRESENTED UNITS

Subject to the provisions of Notes 5 (D) and (E) to this Chapter, this heading also covers separately presented constituent units of automatic data processing systems. These may be in the form of units having a separate housing or in the form of units not having a separate housing and designed to be inserted into a machine (e.g., insertion onto the main board of a central processing unit). Constituent units are those defined in Part (A) above and in the following paragraphs, as being parts of a complete system.

An apparatus can only be classified in this heading as a unit of an automatic data processing system if it :

(a) Performs a data processing function;

(b) Meets the following criteria set out in Note 5 (C) to this Chapter :

(i) It is of a kind solely or principally used in an automatic data processing system;

(ii) It is connectable to the central processing unit either directly or through one or more other units; and

(iii) It is able to accept or deliver data in a form (codes or signals) which can be used by the system.

(c) Is not excluded by the provisions of Notes 5 (D) and (E) to this Chapter.

In accordance with the last paragraph of Note 5 (C) to this Chapter, keyboards, X-Y co-ordinate input devices and disc storage units which satisfy the conditions of items (b) (ii) and (iii) above, are in all cases to be classified as constituent units of data processing systems.

If the unit performs a specific function other than data processing, it is to be classified in the heading appropriate to that function or, failing that, in a residual heading (see Note 5 (E) to this Chapter). If an apparatus does not meet the criteria set out in Note 5 (C) to this Chapter, or is not performing a data processing function, it is to be classified according to its characteristics by application of General Interpretative Rule 1, if necessary in combination with General Interpretative Rule 3 (a).

Separately presented appliances such as measuring or checking instruments adapted by the addition of devices (signal converters, for example), which enable them to be connected directly to a data processing machine, are, in particular, **not** to be regarded as units of an automatic data processing system. Such appliances fall to be classified in their own appropriate heading.

Apart from central processing units and input and output units, examples of other units include :

(1) **Additional storage** external to the central processing unit (magnetic card transports, magnetic or optical disc storages, tape autoloaders and libraries, optical disc drive libraries (sometimes referred to as “optical disc jukeboxes”), etc.). This group also includes additional data storage devices known as “proprietary storage formats”, whether for internal installation in an automatic data processing machine or for external use with such machines. The devices may be in the form of drives for discs or tapes.

(2) **Additions which enhance the processing power of the central processing unit** (e.g. floating point processing units).

(3) **Control and adaptor units** such as those to effect interconnection of the central processing unit to input or output units (e.g., USB hubs). However, control and adaptor units for communication in a wired or wireless network (such as a local or wide area network) are **excluded** (**heading 85.17**).

(4) **Signal converting units**. At input, these enable an external signal to be understood by the machine, while at output, they convert the output signals that result from the processing carried out by the machine into signals which can be used externally.

(5) **X-Y co-ordinate input devices**, which are units for inputting position data into automatic data processing machines. These devices include the mouse, the light pen, the joystick, the track ball and the touch-sensitive screen. Their common attribute is that their input consists of, or is interpreted as, data indicating position relative to some fixed point. Their common usage is to control the position of the cursor on the display unit, as a replacement for or a complement to the cursor keys on the keyboard.

This category also covers graphic tablets, which are X–Y co-ordinate input devices making it possible to capture and trace the co-ordinates of a curve or any other geometrical form. This apparatus is generally composed of a rectangular board with an active sensing surface, a pointer or pen used to create drawings, and a zoom linked to a cross-piece, making it possible to input data.

This category further covers digitizers, which have similar functions to graphic tablets. However, while graphic tablets are used for creating original art and drawings, as well as for application menu selection

and on-screen object control, digitizers are generally used for the capture of existing drawings that exist only in hard-copy form. Digitizer pointing devices may assume any shape, but must be small enough to be hand-held and moved around the (active) sensing region of the digitizer. Cross-hair cursors are the most common shape.

(II) MAGNETIC OR OPTICAL READERS, MACHINES FOR TRANSCRIBING DATA ONTO DATA MEDIA IN CODED FORM AND MACHINES FOR PROCESSING SUCH DATA, NOT ELSEWHERE SPECIFIED OR INCLUDED

This group comprises a wide range of machines, many being electro-magnetic or electronic, which usually complement each other and are generally used in systems for compiling statistics or for accounting or other operations. The group includes magnetic or optical readers, machines for transcribing data onto data media in coded form and machines which process data and which decode the result.

The group includes machines only if they are not elsewhere specified or included. It thus **excludes**, for example :

(a) The automatic data processing machines and units thereof described in Part (I) above, other than bar code readers.

(b) Calculating machines, accounting machines and cash registers of **heading 84.70**, from which they differ in that they have no manual input arrangements but receive data solely in coded form (magnetic tape, discs, CD-ROMs, etc.).

(c) Automatic typewriters and word-processing machines (**heading 84.72**).

(A) MAGNETIC OR OPTICAL READERS

Magnetic or optical readers read characters, generally in a special form, and convert them into electric signals (impulses) which can be directly used by machines for transcribing or processing coded information.

(1) **Magnetic readers**. In this type of appliance, the characters, printed with a special magnetic ink, are magnetised and then converted into electric impulses by a magnetic reader head. They are subsequently identified either by comparison with data registered in the storage units of the machine or by means of a numeric code, usually binary.

(2) **Optical readers**. These do not require the use of special ink. The characters are read directly by a series of photoelectric cells and translated on the binary code principle. This group also includes bar code readers. These machines generally use photosensitive semiconductor devices, e.g., laser diodes, and are used as input units in conjunction with an automatic data processing machine, or with other machines, e.g., cash registers. They are designed for working in the hand, for placing on a table or for fixing to a machine.

The readers described above are classified in this heading only if presented separately. When combined with other machines (e.g., machines for transcribing data onto data media in coded form and machines for processing such data in coded form) they are classified with those machines **provided** they are presented with them.

(B) MACHINES FOR TRANSCRIBING DATA ONTO DATA MEDIA

IN CODED FORM

This group includes :

(1) **Machines for transferring coded information from one medium to another**. These machines can be used either to transfer coded information from one type of data medium to a different type or to transfer it to another medium of the same type. The latter category includes **reproducing machines** which are used to reproduce all or part of the data on a master tape, magnetic or optical discs (e.g., DVD, CD-ROM) by making a new tape or disc.

(2) **Machines for introducing fixed programs into integrated circuits** (programmers). These machines are designed to transfer, in coded form, the data contained in the internal memory of the programmers onto integrated circuits. The programmers “burn” the information onto one or more integrated circuits following various techniques suitable for the type of programmable integrated circuit used.

Some programmers have an additional feature (emulator) which allows the user to picture or emulate the result of the programming before actually committing the program to the integrated circuit.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories of the machines of this heading are classified in **heading 84.73**.

*

* *

This heading also **excludes** :

(a) Power supply units (**heading 85.04**).

(b) Modulator-demodulator apparatus (modems), which modulate, in transmittable form over a telephone network, information obtained from an automatic data processing machine, and reconvert it into digital form (**heading 85.17**).

(c) Electronic integrated circuits (**heading 85.42**).

(d) Flight simulators (e.g., **heading 88.05**).

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Subheading Explanatory Notes.

Subheading 8471.30

This subheading covers portable automatic data processing machines weighing not more than 10 kg. These machines, which are equipped with a flat screen, may be capable of operating without an external source of electric power and often have a modem or other means for establishing a link with a network.

Subheading 8471.90

This subheading covers, *inter alia*, optical disc filing systems which usually include keyboards, displays, optical disc drive units, scanners and printers. These systems may include an automatic data processing machine as the controller or they may be configured such that they are accessible or controllable by an automatic data processing machine. These systems generally perform the following functions :

- recording the image by electronic scanning
- filing
- retrieval
- display
- printing on ordinary paper.

8471.30

- Portable automatic data processing machines, weighing not more than 10 kg, consisting of at least a central processing unit, a keyboard and a display

CLASSIFICATION OPINIONS

1. **Palm-size electronic organizer (dimensions 11.5 cm x 7.7 cm x 1 cm. Weight : 115 g) presented as a set for retail sale, with cradle and software.** The front of the device incorporates a touch screen with a writing area and various function keys. The device is supplied with a data transfer/recharging cradle, a metal stylus and spare plastic stylus, CD-ROM with installation software (intended for installation in a personal computer, thus enabling it to exchange data with the electronic organizer), an organizer user manual, a getting started guide, a lithium ion (internal) rechargeable battery, a DB-25 adapter and a protective cover. Its principal applications are as follows : date book, address book, to-do list, memo pad, calculator and expense record keeper. **Application of GIR 3 (b).** *Adoption : 2004*



2. Tablet computer, designed to be primarily operated by using its touch screen. It can process data, execute programs, and connect to the Internet via a wireless network in order to, for example, exchange and manage e-mails, exchange or download files, download software applications, conduct video or VoIP ("Voice over Internet Protocol") communications, etc. The machine has the following main characteristics :
Dimensions 241 x 186 x 9 mm
Weight 0.6 kg
Display :
- Size (diagonal) 25 cm (9.7'')
- Resolution 1024 x 768
- Technology IPS LCD
Input technology Capacitive Multi touch
CPU :
- Architecture ARM
- Frequency (GHz) 1.0
- Cores 2
Storage :
- Type SSD
- Capacity 16 / 32 / 64 GB
RAM 0.5 GB
Connectivity :
- Wi-Fi 802.11a/b/g/n
- Bluetooth® 2.1+EDR
- Cellular Optional 3G (UMTS/HSDPA/HSUPA (850, 900, 1900, 2100 MHz); GSM/EDGE (850, 900, 1800, 1900 MHz))
GPS Optional Assisted GPS
Camera Front and back
Battery :
- Type Lithium-polymer
- Life Up to 10 h.

Application of GIRs 1 (Note 3 to Section XVI and Note 6 (A) to Chapter 84) and 6 *Adoption : 2012*

3. Tablet computer, designed to be primarily operated by using its touch screen. It can process data, execute programs, and connect to the Internet via a wireless network in order to, for example, exchange and manage e-mails, exchange or download files, download software applications, conduct video or VoIP ("Voice over Internet Protocol") communications, etc. The machine has the following main characteristics :

Dimensions 312 x 207 x 17 mm
Weight 1.16 kg
Display :
- Size (diagonal) 31 cm (12.1'')
- Resolution 1280 x 800
- Technology IPS LCD
Input technology Capacitive dual touch, digitizer
CPU :
- Architecture x86-64
- Frequency (GHz) 1.33, 1.86 turbo boost
- Cores 2
Storage :
- Type SSD
- Capacity 32 / 64 GB
Storage expansion MMC / SDXC
RAM 2 / 4 GB
Connectivity :
- Wi-Fi 802.11b/g/n
- Bluetooth® 3.0
Camera Front (2.0 MP)
Battery :
- Type Lithium-polymer
- Life 4.5 h.

Application of GIRs 1 (Note 3 to Section XVI and Note 6 (A) to Chapter 84) and 6 *Adoption : 2012*

4. Tablet computer, designed to be primarily operated by using its touch screen. It can process data, execute programs, and connect to the Internet via a wireless network in order to, for example, exchange and manage e-mails, exchange or download files, download software applications, conduct video or VoIP ("Voice over Internet Protocol") communications, etc. In addition, it can also be connected to a cellular network.
The machine has the following main characteristics :
Dimensions 190 x 120 x 12 mm
Weight 0.38 kg
Display :
- Size (diagonal) 18 cm (7'')
- Resolution 1024 x 600
- Technology TFT LCD (C-Type, PLS)
Input technology Capacitive Multi touch
CPU :
- Architecture ARM
- Frequency (GHz) 1.0
- Cores 1
Storage :
- Type SSD
- Capacity 16 / 32 GB
Storage expansion Micro SD
RAM 0.512 GB
Connectivity :
- Wi-Fi 802.11a/b/g/n
- Bluetooth® 3.0

- Cellular GSM/GPRS/EDGE, HSUPA/HSDPA/CDMA
GPS Assisted GPS
Camera Front (1.3 MP) and back (3 MP)
Battery :
- Type Lithium-polymer
- Life Up to 10 h

Application of GIRs 1 (Note 3 to Section XVI and Note 6 (A) to Chapter 84) and 6
Adoption : 2013

8471.4

- Other automatic data processing machines :

8471.41

-- Comprising in the same housing at least a central processing unit and an input and output unit, whether or not combined

8471.49

-- Other, presented in the form of systems

CLASSIFICATION OPINIONS

1. Personal computer consisting of a combination of three separate units : a 14" (35 cm) colour television receiver (display) with a digital processing unit, a keyboard (input unit), and an infra-red remote control device. The first unit comprises a processor (80486DX2), a memory (4 Mb RAM), a diskette drive (1.44 Mb), a hard disk (350 Mb), a CD-ROM drive, a colour monitor television receiver, non-interlaced in PC mode and interlaced in TV mode, and stereophonic loudspeakers. The different functions (PC, television or "soundstack") are selected by using either a trackball incorporated in the keyboard, the keyboard itself or the infra-red remote control device. The system also plays audio and software CDs and records digital audio files.
Application of Note 3 to Section XVI.
Adoption : 1998

8471.50

- Processing units other than those of subheading 8471.41 or 8471.49, whether or not containing in the same housing one or two of the following types of unit : storage units, input units, output units

8471.60

- Input or output units, whether or not containing storage units in the same housing

CLASSIFICATION OPINIONS

1. Electronic whiteboard, size 78 inches (198.12 cm), consisting of a touch-sensitive surface with multi-touch functionality, which accepts touch input from a pen or a finger. The whiteboard features integrated speakers.
The product is generally presented complete with two electronic pens, device driver software and a user guide.
The whiteboard can be connected to a video projector and an automatic data processing (ADP) machine, wirelessly or via USB or serial cables.
Projected by the video projector, the screen of an ADP machine is displayed on the surface of the

whiteboard, which functions as an input unit for the ADP machine. The whiteboard can also be used as a simple writing board with a dry-erase surface when it is not connected to an ADP machine.
Application of GIRs 1 (Note 6 (C) to Chapter 84) and 6.
Adoption : 2018

2. Digital smart pen is both a ball point pen and a digital smart pen with the ability to convert the users' handwriting into digital files. The smart pen comes with an instruction manual, a charging cable, a mini test pad and an additional ball point cartridge. The pen, in combination with specialised paper, can digitise the writing or drawings of the user. The camera, located near the tip of the pen, along with pressure and image sensors, turns the trajectory and image created by the pen into digital files, which can be wirelessly transmitted to enable digital devices or stored in the built-in memory for transfer at a later time. When used on normal paper, the pen operates as a standard ink cartridge ball point pen.
Application of GIRs 1 (Note 6 (C) to Chapter 84) and 6.
Adoption : 2022

8471.70

- Storage units
CLASSIFICATION OPINIONS

1. CD-ROM drives, being storage units for automatic data processing machines which consist of drive-units designed for retrieving signals from CD-ROMs, audio CDs and photo-CDs. They are equipped with a jack for earphones, a volume-control button and a start/stop button.
Application of GIRs 1 (Notes 6 (B) and 6 (C) to Chapter 84) and 6.
Adoption : 1996

8471.80

- Other units of automatic data processing machines
CLASSIFICATION OPINIONS

1. Cryptographic processor containing a Data Encryption Standard (DES) encryption algorithm, which is connected as a peripheral device to one or more automatic data processing machines from which it receives commands to perform pre-programmed operations. Its function is to provide the necessary data security functions (e.g., authentication and encryption) which would otherwise have to be performed by software loaded onto the host automatic data processing machine; this eliminates the need for storage of certain security data bases in the automatic data processing machine(s). The functions of the apparatus are controlled by firmware (a chip containing a programme) installed in the product at the manufacturing process. The apparatus has an RS 232C physical interface to an automatic data processing machine. With suitable modification of the firmware, it can be used in various financial institutions for purposes such as generating the cryptographic values used in credit or debit cards or for providing data security in financial transactions.
Adoption : 1998

2. Video card, consisting of integrated circuits and other components, intended to be incorporated in an automatic data processing (ADP) machine to enable it to produce images and sound. It converts analogue image and sound signals received from a VCR, laser disc player, CCD/V8 camera, or camcorder into digital signals which can be used by the ADP machine. The card is presented with a magnetic disc (floppy disc) which contains the installation software; this program must be installed in the ADP machine to permit it to display video images.

The magnetic disc (floppy disc) containing the installation software is classified together with the video card as a set in subheading 8471.80 by application of General Interpretative Rule 3 (b).
Adoption : 2001

3. Sound card, consisting of integrated circuits and other components, intended to be incorporated in an automatic data processing (ADP) machine to enable it to produce sound. The sound card converts analogue sound signals, from a microphone, radio or cassette player, into digital signals which can be used by the ADP machine. Furthermore, it converts digital signals into analogue signals that can then be sent to an amplifier, headphone or speakers. It also has ports for a CD-ROM drive and digital musical instruments (Musical Instrument Digital Interface (MIDI)). The card is presented with a magnetic disc (floppy disc) which contains the installation software; this program must be installed in the ADP machine to permit it to record, compress and play back sound.
The magnetic disc (floppy disc) containing the installation software is classified together with the sound card as a set in subheading 8471.80 by application of General Interpretative Rule 3 (b).
Adoption : 2001

8471.90

- Other

CLASSIFICATION OPINIONS

1. A flatbed desk-top scanner used in the graphics industry, particularly for scanning colour films. It consists of several thousand Charge Coupled Device (CCD) elements (arranged in a row, on a single integrated circuit and called a CCD array), a glass plate, lenses, a lamp, a mirror and electrical connections. Light of a specific colour and intensity falling on each CCD element creates a proportional electrical charge within it. This analogue charge is systematically passed along chains of cells to an Analog/Digital (A/D) converter, where it is converted into digital data. The original to be scanned is placed on the glass plate where it is evenly lit by a light source. The entire width of an image is read simultaneously as a line. The maximum scanning resolution is 8,200 dots per inch (dpi). The machine enables the retouching of images and prints, including Hue Saturation Luminance (HSL) colour corrections. It has to be connected directly via a Small Computer Systems Interface (SCSI) to an automatic data processing machine.
Adoption : 1999

Heading 8472

Other office machines (for example, hectograph or stencil duplicating machines, addressing machines, automatic banknote dispensers, coin-sorting machines, coin-counting or wrapping machines, pencil-sharpening machines, perforating or stapling machines).

EXPLANATORY NOTES

84.72 - Other office machines (for example, hectograph or stencil duplicating machines, addressing machines, automatic banknote dispensers, coin-sorting machines, coin-counting or wrapping machines, pencil-sharpening machines, perforating or stapling machines).

8472.10 - Duplicating machines

8472.30 - Machines for sorting or folding mail or for inserting mail in envelopes or bands, machines for opening, closing or sealing mail and machines for affixing or cancelling postage stamps

8472.90 - Other

This heading covers all office machines **not covered** by the preceding two headings or more specifically by any other heading of the Nomenclature.

The term “office machines” is to be taken in a wide general sense to include all machines used in offices, shops, factories, workshops, schools, railway stations, hotels, etc., for doing “office work” (i.e., work concerning the writing, recording, sorting, filing, etc., of correspondence, documents, forms, records, accounts, etc.).

Office machines are classified here **only** if they have a base for fixing or for placing on a table, desk, etc. The heading **does not cover** the hand tools, not having such a base, of **Chapter 82**.

The machines of this heading may be hand-operated, mechanically operated or electrically operated (including electro-magnetic relay or electronic operated machines).

The heading includes, *inter alia* :

(1) **Duplicating machines** of the hectograph type (e.g., gelatin or spirit duplicators), and **stencil duplicating machines** which operate with waxed paper stencils previously cut by a stylus or on a typewriter. The heading includes small presses designed for use with hectographic apparatus.

But it **excludes** small printing machines (e.g., letterpress, lithographic or offset printing machines) even if intended for office use, and duplicators using embossed plastic or metal sheets (including such machines which can also operate with stencils), and photocopying or thermocopying apparatus (**heading 84.43**), and microfilm apparatus (**Chapter 90**).

(2) **Addressing machines**. These rapidly print addresses on invoices, letters, envelopes, etc.; they usually operate by means of a series of small card or metal stencils or embossed metal plates. The heading also covers special machines used for cutting the stencils or embossing the metal plates, and machines for selecting certain out of a number of address plates or stencils.

(3) **Ticket-issuing machines** (**other than** those incorporating a calculating device (**heading 84.70**) and coin-operated machines (**heading 84.76**)). This heading includes small portable machines for punched tickets, or which issue and print the ticket from a roll of paper (e.g., as used by bus or tram conductors); it also covers machines for date stamping tickets.

(4) **Coin-sorting or coin-counting machines** (including banknote counting and paying-out machines). This heading covers such machines whether or not they are fitted with a device for wrapping the coins or banknotes, or in some cases for printing the amount on the wrapping.

Coin-counting machines operating by weighing fall in **heading 84.23** or **heading 90.16**.

(5) **Automatic banknote dispensers**, operating in conjunction with an automatic data processing machine, whether on-line or off-line.

(6) **Automatic teller machines**, with which customers deposit, draw and transfer money and see the balances of their accounts without direct contact with bank personnel.

(7) **Pencil-sharpening machines** including hand-operated machines.

The heading **excludes** non-mechanical pencil sharpeners; these fall in **heading 82.14** or, if they have the character of toys, in **Chapter 95**.

(8) **Punching machines** used for punching holes in paper cards or documents (e.g., for loose leaf filing purposes or for simple indexing or sorting).

The heading **excludes** machines for perforating lines of small holes (as in sheets of postage stamps) (**heading 84.41**).

(9) **Machines for perforating paper bands so that they can be used in automatic typewriting machines**.

(10) **Perforated band operated machines** which do not themselves contain any typewriting mechanism, but constitute separate units used in conjunction with ordinary typewriters for automatic typing. Certain of these machines can select parts from the perforated band as required for a particular letter or document.

(11) **Stapling machines** (used to fix documents together with a staple) **and de-stapling machines**.

But the heading **excludes** :

(a) Stapling pistols (**heading 82.05**).

(b) Stapling machines of a kind used in bookbinding (**heading 84.40**).

(c) Stapling machines of a kind used in cardboard box manufacture (**heading 84.41**).

(12) **Letter folding machines**, sometimes combined with a device for inserting the letter in an envelope or wrapping it with a paper band.

(13) **Letter opening machines and letter closing or sealing machines**.

(14) **Stamp cancelling machines**.

(15) **Letter sorting machines** used in post offices, including those consisting essentially of groups of coding desks, pre-sorting channel systems, intermediate sorters and final sorters, the whole being controlled by an automatic data processing machine and constituting a functional unit within the meaning of Note 4 to Section XVI (see also the General Explanatory Note to Section XVI).

(16) **Machines for delivering wrapping paper or gummed paper**.

(17) **Machines for moistening gummed paper or stamps** (including the simple roller type).

(18) **Paper shredders of a kind used in offices for destroying confidential documents**.

(19) **Cheque-writing machines**; these are usually small machines specially designed for the purpose. In addition to typing letter by letter, they can often type a whole word or group of words simultaneously (e.g., when inserting, in words, a sum of money). They usually employ special indelible and penetrating inks, and sometimes also perforations or embossing.

(20) **Cheque-signing machines**; these automatically write in the signature on cheques in an indelible fashion, and usually also reproduce an elaborate background difficult to copy.

(21) **Automatic change dispensers** used in conjunction with cash registers for automatic dispensing of change to the customer.

(22) **Stand-alone machines of a kind used in offices for sorting and collating documents and printed matter.**

(23) **Typewriters** (**other than** printers of **heading 84.43**). They are, in general, characterised by a hand-operated keyboard, the keys of which when depressed cause the corresponding characters to be printed directly onto the paper. In some cases they operate by a series of levers and hammers, the character being engraved in relief on the faces of the hammers; in other cases the characters are carried on a ball, a cylinder, a daisy wheel or on cylindrical elements (shuttles) which present the required character to the paper on which it then prints. The text is produced letter by letter, though in exceptional cases combinations of letters (e.g., standards, words or abbreviations) may be used.

Typewriters are classified here whatever the characters used (e.g., normal letters and figures, stenotype symbols, music symbols or Braille characters). Machines for writing in code or for de-coding, operating in the same manner as normal typewriters, are also covered by the heading.

Electric typewriters, whether operated by electric motors, by electro-magnetic relays or, in the case of certain automatic typewriters, with electronic devices, are also classified in this heading.

The heading also covers :

(i) **Automatic typewriters**. These include :

(a) Machines in which a previously perforated paper band is run through the machines, thus causing it to type a stock paragraph or a complete stock letter.

(b) Machines with a memory of limited capacity which are able, using additional functional keys, to memorise, correct and retype texts automatically.

(c) Keyboardless machines (printers) which print character by character using interchangeable typewheels. These machines are designed to be connected, by means of an appropriate interface, to other typewriters, word-processing machines, automatic data processing machines, etc. Subject to Note 6 (B) to this Chapter, the printers which satisfy the conditions of Note 6 (D) (i) to this Chapter are to be classified as printers of **heading 84.43**.

(ii) Machines for typing identifying characters (and sometimes also branding with heated characters) on to insulated tubing for electrical wiring.

(iii) Typewriters, **not incorporating any calculating device** but specially designed for accounting purposes (e.g., for typing on specially prepared forms such as invoices, loose leaf ledgers, day books or filing cards).

(iv) Typewriters incorporating a device for transmitting the figures being typed to a separate calculating machine, or incorporating a counting device for use in speed tests.

(24) **Word-processing machines**. These comprise, in addition to a keyboard, one or more large-capacity memories (e.g., disc, minidisc or cassette), a visual display unit and a printer. The various components may be housed in a single unit or be in separate units connected by cables. Word-processing machines may be fitted with interfaces permitting, for example, relay to other word-processing machines, to phototype-setting equipment, to automatic data processing machines, or to telecommunications systems. Their ability to correct or compose text is greater than that of automatic typewriters. Their ability to perform arithmetical operations does not compare with that of automatic data processing machines (as defined in Note 6 to this Chapter) and thus they do not lose the character of word-processing machines. They are different from automatic data processing machines of **heading 84.71** in that, in particular, they cannot take a logical decision during processing to modify the execution of a program (see Note 6 to this Chapter).

The machines referred to in Items (19) and (20) above can be also used for filling in and signing other documents.

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories of the machines of this heading are classified in **heading 84.73**.

*

* *

This heading also **excludes** :

(a) Sorters which are parts or accessories of the machines of **heading 84.43**.

(b) Accounting machines (**heading 84.70**).

(c) Automatic data processing machines (**heading 84.71**).

(d) Teleprinters (**heading 85.17**).

(e) Dictating machines and other sound recording or sound reproducing apparatus (**heading 85.19**).

(f) X-ray apparatus for the examination of banknotes or other documents (**heading 90.22**).

(g) Time recorders (**heading 91.06**).

(h) Toy typewriters (**heading 95.03**).

(ij) Hand-operated date, sealing or similar stamps (**heading 96.11**).

8472.10

- Duplicating machines

8472.30

- Machines for sorting or folding mail or for inserting mail in envelopes or bands, machines for opening, closing or sealing mail and machines for affixing or cancelling postage stamps

8472.90

- Other

CLASSIFICATION OPINIONS

1. Automatic change dispenser, separately imported, designed for use in conjunction with a cash register which transmits to it, in the form of impulses and by electric cable, data on the amount of change due to the customer. *Adoption : 1971*

Heading 8473

Parts and accessories (other than covers, carrying cases and the like) suitable for use solely or principally with machines of headings 84.70 to 84.72.

EXPLANATORY NOTES

84.73 - Parts and accessories (other than covers, carrying cases and the like) suitable for use solely or principally with the machines of headings 84.70 to 84.72.

- Parts and accessories of the machines of heading 84.70 :

8473.21 - - Of the electronic calculating machines of subheading 8470.10, 8470.21 or 8470.29

8473.29 - - Other

8473.30 - Parts and accessories of the machines of heading 84.71

8473.40 - Parts and accessories of the machines of heading 84.72

8473.50 - Parts and accessories equally suitable for use with the machines of two or more of the headings 84.70 to 84.72

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), this heading covers parts and accessories suitable for use **solely** or **principally** with the machines of **headings 84.70 to 84.72.**

The accessories covered by this heading are interchangeable parts or devices designed to adapt a machine for a particular operation, or to perform a particular service relative to the main function of the machine, or to increase its range of operations.

The heading includes :

(1) Form feed devices for the continuous feeding of stationery into typewriters, accounting machines, etc.

(2) Automatic spacing devices for typewriters, accounting machines, etc.

(3) Listing devices for attachment to addressing machines.

(4) Auxiliary printing devices for tabulating machines.

(5) Copy holders for attachment to typewriters.

(6) Metal address plates, whether or not cut or embossed, identifiable as for use in addressing machines.

(7) Calculating devices for incorporation in typewriters, accounting machines, calculating machines, etc.

(8) Diskettes for cleaning disk drives in ADP machines, etc.

(9) Electronic memory modules (e.g., SIMMs (Single In-line Memory Modules) and DIMMs (Dual In-line Memory Modules)) suitable for use solely or principally with automatic data processing machines, not consisting of discrete components as required by Note 12 (b) (ii) to Chapter 85, not conforming to the definition of multi-component integrated circuits (MCOs) (see Note 12 (b) (iv) to Chapter 85), and not having an individual function.

But the heading **excludes** covers, carrying cases and felt pads; these are classified in their appropriate headings. It also **excludes** articles of furniture (e.g., cupboards and tables) whether or not specially designed for office use (**heading 94.03**). However, stands for machines of **headings 84.70 to 84.72** not normally usable except with the machines in question, remain in this heading.

The heading also **excludes :**

(a) Spools or similar supports, suitable for use with machines of a kind falling in **heading 84.70**, **84.71** or **84.72** (classified according to their constituent material, for example, in **heading 39.23** or **Section XV**).

(b) Mouse pads (classified according to their constituent material).

(c) Duplicator stencils of paper (**heading 48.16**) or of other materials (classified according to constituent material).

(d) Printed statistical cards (**heading 48.23**).

(e) Magnetic disc packs and other media prepared for magnetic recording (**heading 85.23**).

(f) Electronic integrated circuits (**heading 85.42**).

(g) Revolution counters (e.g., for attachment to typewriters to check speed) (**heading 90.29**).

(h) Typewriter or similar ribbons, whether or not on spools or in cartridges (classified according to their constituent material, or in **heading 96.12** if inked or otherwise prepared for giving impressions).

(ij) Monopods, bipods, tripods and similar articles (**heading 96.20**).

8473.2

- Parts and accessories of the machines of heading 84.70 :

8473.21

-- Of the electronic calculating machines of subheading 8470.10, 8470.21 or 8470.29

8473.29

-- Other

8473.30

- Parts and accessories of the machines of heading 84.71

CLASSIFICATION OPINIONS

1. Plug-in read only memory (ROM) cartridge for microcomputers (automatic data processing machines), consisting of a cartridge of plastics which contains a printed circuit board mounted with a ROM integrated circuit and two capacitors; the cartridge, when inserted into a compatible microcomputer, becomes an accessible part of the microcomputer memory, the program contained in the ROM cartridge imparting an enhanced ability for data-processing in accordance with its particular characteristics (for example, a mathematics educational program used mainly by students). *Adoption : 1986*

8473.40

- Parts and accessories of the machines of heading 84.72

8473.50

- Parts and accessories equally suitable for use with the machines of two or more of the headings 84.70 to 84.72

Heading 8474

Machinery for sorting, screening, separating, washing, crushing, grinding, mixing or kneading earth, stone, ores or other mineral substances, in solid (including powder or paste) form; machinery for agglomerating, shaping or moulding solid mineral fuels, ceramic paste, unhardened cements, plastering materials or other mineral products in powder or paste form; machines for forming foundry moulds of sand.

EXPLANATORY NOTES

84.74 - Machinery for sorting, screening, separating, washing, crushing, grinding, mixing or kneading earth, stone, ores or other mineral substances, in solid (including powder or paste) form; machinery for agglomerating, shaping or moulding solid mineral fuels, ceramic paste, unhardened cements, plastering materials or other mineral products in powder or paste form; machines for forming foundry moulds of sand.

8474.10 - Sorting, screening, separating or washing machines

8474.20 - Crushing or grinding machines

- Mixing or kneading machines :

8474.31 - - Concrete or mortar mixers

8474.32 - - Machines for mixing mineral substances with bitumen

8474.39 - - Other

8474.80 - Other machinery

8474.90 - Parts

This heading covers :

(I) Machinery of a kind used, mainly in the extractive industries, for the treatment (sorting, screening, separating, washing, crushing, grinding, mixing or kneading) of solid mineral products (in general the products of Section V of the Nomenclature) such as earth (including earth colours), clay, stone, ores, mineral fuels, mineral fertilisers, slag cement or concrete.

(II) Machinery for agglomerating, shaping or moulding solid mineral products in powder or paste form (e.g., agglomerating solid mineral fuels; moulding to shape ceramic pastes, unhardened cements, plastering materials, etc., whether or not with an added binder or filler).

(III) Machines for forming foundry moulds of sand.

Many machines of this heading combine two or more of the functions in question (e.g., hydraulic sorting and washing, grinding and sorting, grinding and mixing, mixing and moulding machines).

Certain machines of the kind **normally** used for the treatment of mineral products can, as a secondary use, also treat non-mineral products (e.g., wood or bone); such machines remain in this heading. However, the heading **does not extend** to machinery specially designed for carrying out similar operations on non-mineral materials (e.g., for sorting or screening wood chips; for grinding wood flour; for grinding or mixing chemicals or organic colouring materials; for grinding bone, ivory, etc.; for agglomerating or moulding cork powder).

(I) MACHINES REFERRED TO IN CATEGORY (I) ABOVE (MACHINES MAINLY FOR THE EXTRACTIVE INDUSTRIES)

This group includes :

(A) **Sorting, screening, separating or washing machines** for separating the materials, usually according to the size or weight of the lumps or particles, or for washing the materials free of impurities. These machines include :

(1) **Roller sorters**. These consist of a number of parallel rollers revolving in the same direction in more or less close contact with each other. Each roller has a number of grooves so that, with the adjacent roller, it forms a channel through which the material passing over the rollers can fall if small enough. These channels increase in size along the machine, so that the material falls through the channels and is collected in receptacles below according to the size of the particles.

(2) **Screening machines using wire mesh or perforated sheet**. The material passes over an inclined screen whose meshes or perforations increase in size towards the lower end. These machines are of two types : in the first type, the wire mesh or perforated sheet is formed into

a revolving inclined drum, usually cylindrical or hexagonal (trommels); in the other type, a flat inclined mesh or perforated screen is vibrated or oscillated by the machine.

(3) **Rake type sorting machines**. The material is sorted by a series of rakes whose teeth are spaced at appropriate distances.

(4) **Specialised machines** of various types for removing stones, etc., from coal.

(5) **Hydraulic washing, separating or concentrating machines**. Some simply wash away impurities; others separate out or concentrate the heavier part not held in suspension by the water.

(6) **Flotation separating machines**, mainly for ore concentration. The crushed ore is mixed with water and certain surface active agents (oil or various chemicals). A film forms on certain of the mineral particles which are then carried to the surface and are removed; in certain cases, the action is accelerated by blowing air into the mixture.

The heading also covers sorting or separating machines incorporating magnetic or electrical devices (e.g., electrostatic separating machines), and machines using electronic or photoelectric detecting devices, for example, sorting equipment for uranium or thorium ore, operating by radioactivity measurement.

The heading **does not cover** centrifugal sorting machines, i.e., machines in which separation depends entirely on the centrifugal principle that particles of differing specific gravities can be collected at differing distances from the quickly rotating centre (**heading 84.21**). However, machines in which centrifugal force is used to throw the material against a wire screen remain in this heading.

Conveyor bands used in conjunction with sorting or screening apparatus remain in their own appropriate headings unless forming an integral part of a sorting or screening machine, or **unless** the conveyor band itself acts as a screening or sorting device (e.g., has perforations for sorting or screening).

(B) **Crushing or grinding machines**. These include :

(1) **Vertical rotary crushers**. Essentially, they comprise a vessel in which a cone revolves, sometimes with an eccentric motion; the material is crushed between the cone and the walls of the vessel.

(2) **Jaw crushers of various types**. The material to be crushed falls between two vertical grooved jaws, one of which is fixed and the other movable.

(3) **Drum crushers**. The material is lifted to the top of a drum and is broken by falling on to the bottom.

(4) **Roller crushers or grinders**. The material is crushed between parallel rollers revolving in opposite directions - the distance between the rollers varying according to the fineness required. In many cases the machine consists of a number of pairs of such rollers.

(5) **Percussion grinders**. The material is thrown violently (e.g., by rapidly rotating arms) against the walls of the machine.

(6) **Hammer type crushers**.

(7) **Ball or rod mills**. These consist essentially of a rotating drum containing a number of balls or short rods (e.g., of steel or porcelain). The material is placed in the rotating drum and is crushed or ground by the action of the balls or rods.

(8) **Millstone type grinders**.

(9) **Drop hammer crushers** (known as stamp mills); mainly used for crushing ores. A series of cam-operated drop hammers, often arranged in graduated stages, break up the material to the required fineness.

(10) **Machines for breaking up and kneading** lumps of clay prior to further working in the ceramics industry.

(C) **Mixing or kneading machines**. These consist essentially of a container, equipped with paddles or other stirring devices, in which two or more materials are mixed or kneaded by stirring or agitation. They include :

(1) **Concrete or mortar mixers**. Concrete mixers permanently mounted on a railway wagon or on a lorry chassis are, however, **excluded** (**heading 86.04** or **87.05**).

(2) **Machinery for mixing mineral substances** (crushed or broken stone, gravel, limestone, etc.) **with bitumen**, for the preparation of bituminous road-surfacing materials. These may take the form, for example, of installations consisting of a group of separate components (feed hopper, dryer, dust extractor, mixer, elevator, etc.) mounted on a common chassis, or of functional units in which the components are simply placed side by side (fixed or transportable asphalt plant).

(3) **Ore mixers**.

(4) **Machines for mixing coal dust, etc., with binding substances** in the production of agglomerated fuels.

(5) **Machines used in the ceramics industry** (e.g., for mixing the clay with colouring materials, or for kneading the ceramic paste).

(6) **Mixing machines used in the preparation of foundry sand**.

(II) AGGLOMERATING, MOULDING OR SHAPING MACHINERY

In general these machines are of one of the three following types :

(i) Various types of presses operating with moulds in which the material previously prepared is agglomerated and pressed into the required shape.

(ii) Large cylinders whose surfaces are fitted with a series of hollows or moulds where the material is pressed into the required shape.

or (iii) Extrudingmachines.

This group includes :

(A) **Machines for agglomerating solid mineral fuel** (coal dust, peat fibres, etc.) into brick, ball, egg, etc., shapes.

(B) **Machines for agglomerating or shaping ceramic pastes**. These include :

(1) **Brick making machines of the press or extrusion types**, including machines for cutting the extruded bars into bricks.

(2) **Tile moulding machines**, including machines for trimming the edges.

(3) **Machines for moulding or extruding earthenware pipes.**

(4) **Bricanion lath making machines**. In these, wire mesh is passed through rollers and covered at the intersections with clay.

(5) **Potters' wheels and similar machines** on which the ceramic paste is rotated and moulded to shape by hand, or with the aid of tools.

(6) **Machinery for moulding porcelain artificial teeth.**

(C) **Machinery for agglomerating abrasives**, in the manufacture of grinding wheels.

(D) **Machinery for making various prefabricated concrete articles** (e.g., paving stones, posts, balustrades, pylons), including **centrifugal moulding machines for tubes**.

(E) **Machinery for moulding various plaster, staff, stucco, etc., articles** (e.g., toys, statuettes and ceiling decorations).

(F) **Machinery for moulding articles of asbestos-cement** (e.g., vats, drinking troughs, chimneys), and **machines for making tubes or pipes of asbestos-cement** by rolling on a mandrel.

(G) **Machinery for moulding graphite electrodes**.

(H) **Machinery for extruding graphite pencil leads**.

(IJ) **Machinery for moulding blackboard chalks.**

(III) MACHINES FOR FORMING FOUNDRY MOULDS OF SAND

These machines, which may be of various types, are designed to press previously prepared foundry sand either into a mould to form a foundry core, or round a pattern in a moulding box to form a mould. They often incorporate a jolting mechanism to settle the sand firmly in the mould.

This heading covers the many types in which compressed air acts either on a piston or directly on to the surface of the sand; but machines in which sand is sprayed in a jet of compressed air are **excluded** (**heading 84.24**). Core or mould drying stoves are also **excluded** (**heading 84.19**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading are also classified here. However, balls for ball mills are classified according to their constituent material.

*

* *

The heading also **excludes** :

(a) Pulverised fuel burners; mechanical stokers, incorporating pulverising or grinding equipment (heading 84.16).

(b) Calendering or rolling machines (heading 84.20).

(c) Filter presses (heading 84.21).

(d) Machine-tools for working stone or other mineral materials, or for cold working glass (heading 84.64).

(e) Concrete vibrators (headings 84.67 or 84.79, as the case may be).

(f) Machinery for moulding or pressing glass (heading 84.75).

(g) Machinery for moulding plastics (heading 84.77).

(h) General purpose presses (heading 84.79).

(ij) Concrete spreaders (heading 84.79 or Chapter 87).

(k) Moulding boxes for metal foundry; moulds for use in the machines of this heading (heading 84.80).

8474.10

- Sorting, screening, separating or washing machines

8474.20

- Crushing or grinding machines

8474.3

- Mixing or kneading machines :

8474.31

-- Concrete or mortar mixers

8474.32

-- Machines for mixing mineral substances with bitumen
8474.39

-- Other
8474.80

- Other machinery
8474.90

- Parts
Heading 8475

Machines for assembling electric or electronic lamps, tubes or valves or flashbulbs, in glass envelopes; machines for manufacturing or hot working glass or glassware.
EXPLANATORY NOTES

84.75 - Machines for assembling electric or electronic lamps, tubes or valves or flashbulbs, in glass envelopes; machines for manufacturing or hot working glass or glassware.

8475.10 - Machines for assembling electric or electronic lamps, tubes or valves or flashbulbs, in glass envelopes

- Machines for manufacturing or hot working glass or glassware :

8475.21 - - Machines for making optical fibres and preforms thereof

8475.29 - - Other

8475.90 - Parts

The heading covers machines for assembling electric or electronic lamps, tubes or valves or flashbulbs, in glass envelopes. It also includes machines for manufacturing or hot working glass or glassware (**other than** furnaces of **heading 84.17** or **85.14**).

(I) MACHINES FOR ASSEMBLING ELECTRIC OR ELECTRONIC LAMPS, TUBES OR VALVES OR FLASHBULBS, IN GLASS ENVELOPES

This group includes :

(A) **Machines for the vacuum-sealing of lamp bulbs**.

(B) **Rotary machines for the automatic assembly of incandescent lamps or wireless valves**.

These machines usually include equipment for the heat-treatment of glass (e.g., blowpipes or pressing and closing devices for closing the glass envelope), but remain here even if not including such glass-working devices.

The heading also includes machinery for assembling electric filament lamps of which the component parts are interconnected by conveyors, and which include equipment for the heat-treatment of glass, pumps and lamp-testing units (see Note 4 to Section XVI).

The heading **does not**, however, **include** machines used solely for making metal parts of components of lamps or valves (e.g., machines for cutting out or deep drawing screens, anodes or supports (**heading 84.62**), machines for spiralling fine metal wire in the manufacture of electric lamp filaments (**heading 84.63**), and machines for welding screens or electrodes (**heading 84.68** or **85.15**)).

(II) MACHINES FOR THE MANUFACTURE OR HOT WORKING OF GLASS OR GLASSWARE

The glass-working machines of this heading are those which work glass (including fused quartz and other fused silica) which has been heated until it becomes soft or liquid. These machines operate mainly by casting, drawing, rolling, spinning, blowing, modelling, moulding, etc. Machines for working glass in the hard state (even if slightly heated to facilitate the operation) are **excluded** (**heading 84.64**).

(A) MACHINES FOR THE MANUFACTURE OF FLAT GLASS SHEETS

This group includes :

(1) **Machines for making sheet glass by drawing out flat strips**. A roughly formed sheet of glass is picked up by a special device; it is then gripped by rollers and drawn out vertically or horizontally as it passes through an annealing oven. The continuous band thus obtained is cut into sheets (mechanically or by an electrically heated wire).

(2) **Machines for the manufacture of floatglass**. In the float process, the glass is floating horizontally on a molten media, to manufacture an endless glass ribbon, which later in the process is cut into pieces.

(B) OTHER MACHINES FOR HOT WORKING GLASS

This group includes :

(1) **Bottle-making machines, etc**. These range from simple mechanical appliances for gathering and blowing (operated by suction or compressed air and using separate moulds), to automatic continuous feeder machines (with two revolving plates, one with rough-casting moulds, the other with finishing moulds).

(2) **Special machines and presses for moulding** various glass articles (e.g., paving blocks, tiles, insulators, optical glass blanks and hollow glassware), but **excluding** presses of general use (**heading 84.79**).

(3) **Machines for drawing, shaping or blowing glass pipes or tubes, and special machinery for drawing fused silica tubes**.

(4) **Machines for making glass beads**, in particular, machines in which cut pieces of tubing are rounded by being rolled in rotating heated drums.

(5) **Machines for making glass fibre or filaments**. These fall into three main categories :

(i) **Machines for making continuous glass yarn for weaving**. These consist of a small electric furnace which is charged with glass balls. The bottom of the furnace consists of a draw-plate with a hundred or so very fine holes; the filaments are lubricated as they emerge from these

holes, and are joined together by a special device to form a single strand. This is wound on a rotating drum which ensures that the filaments are continuously drawn forward.

(ii) **Machines for making short fibres**. These machines are equipped with an electric furnace and a draw-plate like that mentioned above, but there are also sets of converging compressed air jets on either side. These jets fulfil the dual purpose of drawing out and breaking the filaments. The fibres fall through an oil-spray on to a rotating perforated drum; a suction device inside the drum draws the fibres together to form a roving which is wound on to a spool bobbin.

(iii) **Special machines for making glass wadding**. The molten glass is poured on to a heated rotating disc; it adheres to the corrugations of the disc and is drawn into fibres by centrifugal action.

(6) **Machines for bulb-blowing or for making other glass parts of electric light bulbs or tubes, or of electronic valves or tubes, etc.** (e.g., base blocks, filament supports, stems).

(7) **Machines for making optical fibres and preforms thereof**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading are classified here.

*

* *

The heading also **excludes** :

(a) Hand type glass blowers (**heading 82.05**).

(b) Certain machines for the manufacture of toughened glass, in which ordinary glass sheets are placed between heated plates and then suddenly cooled (**heading 84.19**).

(c) Moulds for manual or mechanical glass-making (**heading 84.80**).

8475.10

- Machines for assembling electric or electronic lamps, tubes or valves or flashbulbs, in glass envelopes

8475.2

- Machines for manufacturing or hot working glass or glassware :

8475.21

-- Machines for making optical fibres and preforms thereof

8475.29

-- Other

8475.90

- Parts

Heading 8476

Automatic goods-vending machines (for example, postage stamp, cigarette, food or beverage machines), including money-changing machines.

EXPLANATORY NOTES

84.76 - Automatic goods-vending machines (for example, postage stamp, cigarette, food or beverage machines), including money-changing machines (+).

- Automatic beverage-vending machines :

8476.21 - - Incorporating heating or refrigerating devices

8476.29 - - Other

- Other machines :

8476.81 - - Incorporating heating or refrigerating devices

8476.89 - - Other

8476.90 - Parts

This heading covers the various kinds of machines which supply some kind of merchandise when one or more coins, tokens or a magnetic card are put in a slot (**other than** those machines covered more specifically by other headings of the Nomenclature or excluded from the Chapter by a Chapter or Section Note). The term “vending” in the context of this heading refers to a “monetary” exchange between the purchaser and the machine in order to acquire a product. This heading **does not cover** machines which dispense a product but do not have a device to accept payment.

Automatic hot or cold beverage-dispensing machines without a device to accept payment are **excluded** (**heading 84.19**).

The heading covers not only machines in which the distribution is automatic, but also those consisting of a number of compartments from which the merchandise can be withdrawn after the coin has been inserted, the machine incorporating a device for releasing the lock of the appropriate compartment (e.g., by pressing on a corresponding button).

Simple cupboards or containers with a coin-operated lock, such as are used in stations for the deposit of baggage or in theatres for supplying opera glasses are **excluded** from this heading, but fall, for example, in **Section XV** or **Chapter 94**.

The heading includes machines equipped with heating or refrigerating devices, or with devices for preparing the product sold (e.g., fruit juice pressers, coffee and milk mixers, ice cream mixers), **provided** the principal function and purposes of the machines is the automatic sale of the product.

The heading includes coin-operated machines for selling postage stamps, railway tickets, chocolate, sweets, ice cream, cigarettes, cigars, beverages (such as beer, wine, liqueurs, coffee or fruit juices),

toilet products (including scent spraying machines), stockings, photographic films, newspapers, etc.; also machines on which name plates can be stamped out on a strip of metal.

The heading also covers money-changing machines.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers **automatic vending mechanisms** of the kind to be built into shop fronts, and parts of the machines of this heading.

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* *

The following coin-operated machines or appliances **are not covered** by the heading :

(a) Coin-operated locks (e.g., for cupboards or public lavatories) (**heading 83.01**).

(b) Pumps for dispensing fuel or lubricants, of the type used in filling-stations or in garages (**heading 84.13**).

(c) Weighing machines (**heading 84.23**).

(d) Typewriters (**heading 84.72**).

(e) Coin-operated shoe brushing machines (**heading 84.79**).

(f) Electric shavers (**heading 85.10**).

(g) Telephone apparatus (**heading 85.17**).

(h) Television receivers (**heading 85.28**).

(ij) Telescopes, cameras, cinematograph projectors (**Chapter 90**).

(k) Gas or electricity supply meters (**heading 90.28**).

(l) Games of skill or chance (**heading 95.04**) and other machines of **Chapter 95**.

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° °

Subheading Explanatory Note.

Subheadings 8476.21 and 8476.29

The expression “automatic beverage-vending machines” refers to all automatic machines for selling beverages (coffee, tea, fruit juices, alcoholic drinks, etc.) dispensed either ready for use in a cup or in any other container (e.g., tin, bottle or carton), or by dispensing separately both instant-mix powders and hot or cold water.

8476.2

- Automatic beverage-vending machines :

8476.21

-- Incorporating heating or refrigerating devices

8476.29

-- Other

8476.8

- Other machines :

8476.81

-- Incorporating heating or refrigerating devices

8476.89

-- Other

8476.90

- Parts

Heading 8477

Machinery for working rubber or plastics or for the manufacture of products from these materials, not specified or included elsewhere in this Chapter.

EXPLANATORY NOTES

84.77 - Machinery for working rubber or plastics or for the manufacture of products from these materials, not specified or included elsewhere in this Chapter.

8477.10 - Injection-moulding machines

8477.20 - Extruders

8477.30 - Blow moulding machines

8477.40 - Vacuum moulding machines and other thermoforming machines

- Other machinery for moulding or otherwise forming :

8477.51 - - For moulding or retreading pneumatic tyres or for moulding or otherwise forming inner tubes

8477.59 - - Other

8477.80 - Other machinery

8477.90 - Parts

The heading covers machinery for working rubber or plastics or for the manufacture of products from these materials, not specified or included elsewhere in this Chapter.

This heading includes :

(1) Moulding machines for tyres or other articles of rubber or plastics **excluding** moulds as such (**headings 68.15**, **69.03** and **84.80** in particular).

(2) Inner-tube valve-hole cutting machines.

(3) Special rubber-thread cutting machines and appliances.

(4) Forming presses for rubber or plastics.

(5) Special presses for moulding thermoplastic powders.

(6) Presses for making gramophone records.

(7) Machinery for the manufacture of vulcanised fibre.

(8) Extruders.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of the machinery of this heading.

*

* *

However, the heading **does not cover** machinery for encapsulation in the assembly of semiconductors (**heading 84.86**).

8477.10

- Injection-moulding machines

CLASSIFICATION OPINIONS

1. Audio compact disc manufacturing system, consisting of a series of machines housed within a clean air cabinet. The system manufactures polycarbonate discs, and creates a series of “pits” (or small depressions) and “lands” (flat areas of the disc's surface that are not indented) on those discs through a moulding process. The production process includes the following stages : the compact disc is first formed in the injection moulding machine where polycarbonate granules are heated inside the machine and the molten plastic is forced by using hydraulic pressure, into the injection moulding machine. A master disc is placed in the mould and pressed against the plastic with a clamping unit. This reproduces a mirror image of the pattern of indentations (or “pits”) and unaffected areas (or “lands”) that appear on the master disc. Then, the metallizing unit covers the disc with an aluminium reflective coating using vacuum deposition. After that the spin coater gives the disc a clear acrylic plastic coating to serve as a protective layer. The system also contains an inspection unit that optically

scans the discs for defects, two handling systems for loading and unloading, an alarm system, and a control unit. The control unit, housed outside of the clean air cabinet, contains a programmable central processing system with input and output units used to operate the entire manufacturing system. The system produces recorded audio CDs.
Application of GIRs 1 (Note 3 to Section XVI) and 6.
Adoption : 2006

8477.20

- Extruders

8477.30

- Blow moulding machines

8477.40

- Vacuum moulding machines and other thermoforming machines

8477.5

- Other machinery for moulding or otherwise forming :

8477.51

-- For moulding or retreading pneumatic tyres or for moulding or otherwise forming inner tubes

8477.59

-- Other

8477.80

- Other machinery

CLASSIFICATION OPINIONS

1. **Hand-held printing pen** which operates by extruding a heated plastic thread made of either acrylonitrile butadiene styrene (ABS) or polylactic acid (PLA), which cools almost instantly into a solid structure, allowing for the free-hand creation of three-dimensional objects by hand. The plastic thread is heated in the body of the pen and extruded through the nozzle at the front.
Application of GIRs 1 and 6.
Adoption : 2019





8477.90

- Parts

Heading 8478

Machinery for preparing or making up tobacco, not specified or included elsewhere in this Chapter.

EXPLANATORY NOTES

84.78 - Machinery for preparing or making up tobacco, not specified or included elsewhere in this Chapter.

8478.10 - Machinery

8478.90 - Parts

This heading covers machinery, **not** specified or included elsewhere in this Chapter, for preparing or making up tobacco.

Stripping is carried out in threshing separators. A current of air passes through a system of rotating beating hammers and metallic grills (baskets) of various sizes thus fragmenting the tobacco leaves, the lighter leaf parts being separated from the heavier veins and ribs.

The heading includes :

(1) Tobacco leaf stripping or cutting machines.

(2) Cigar or cigarette-making machines, whether or not equipped with an auxiliary packaging device.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of the machinery of this heading.

8478.10

- Machinery

8478.90

- Parts

Heading 8479

Machines and mechanical appliances having individual functions, not specified or included elsewhere in this Chapter.

EXPLANATORY NOTES

84.79 - Machines and mechanical appliances having individual functions, not specified or included elsewhere in this Chapter.

8479.10 - Machinery for public works, building or the like

8479.20 - Machinery for the extraction or preparation of animal or fixed vegetable or microbial fats or oils

8479.30 - Presses for the manufacture of particle board or fibre building board of wood or other ligneous materials and other machinery for treating wood or cork

8479.40 - Rope or cable-making machines

8479.50 - Industrial robots, not elsewhere specified or included

8479.60 - Evaporative air coolers

- Passenger boarding bridges :

8479.71 - - Of a kind used in airports

8479.79 - - Other

- Other machines and mechanical appliances :

8479.81 - - For treating metal, including electric wire coil-winders

8479.82 - - Mixing, kneading, crushing, grinding, screening, sifting, homogenising, emulsifying or stirring machines

8479.89 - - Other

8479.90 - Parts

This heading is **restricted to** machinery having individual functions, which :

(a) Is not excluded from this Chapter by the operation of any Section or Chapter Note.

and (b) Is not covered more specifically by a heading in any other Chapter of the Nomenclature.

and (c) Cannot be classified in any other particular heading of this Chapter since :

(i) No other heading covers it by reference to its method of functioning, description or type.

and (ii) No other heading covers it by reference to its use or to the industry in which it is employed.

or (iii) It could fall equally well into two (or more) other such headings (general purpose machines).

The machinery of this heading is distinguished from the parts of machinery, etc., that fall to be classified in accordance with the general provisions concerning parts, by the fact that it has individual functions.

For this purpose the following are to be regarded as having “individual functions” :

(A) Mechanical devices, with or without motors or other driving force, whose function can be performed distinctly from and independently of any other machine or appliance.

Example : Air humidification and dehumidification are individual functions because they can be performed by appliances operating independently of any other machine or appliance.

A separately presented air dehumidifier, even if designed to be mounted on an ozone generator falls, therefore, to be classified in this heading as having an individual function.

(B) Mechanical devices which cannot perform their function unless they are mounted on another machine or appliance, or are incorporated in a more complex entity, **provided** that this function :

(i) is distinct from that which is performed by the machine or appliance whereon they are to be mounted, or by the entity wherein they are to be incorporated, and

(ii) does not play an integral and inseparable part in the operation of such machine, appliance or entity.

Example : A chain cutter is a device which is mounted on an industrial sewing machine and which automatically cuts the thread so that the machine can run without interruption. This device performs an individual function because it plays no part in the "sewing" function of the machine; as there is no other more specific heading, the chain cutter falls to be classified here.

On the other hand, the function of a carburettor for an internal combustion engine is distinct from that of the engine but it is not an "individual function" as defined above because the operation of the carburettor is inseparable from that of the engine. Separately presented carburettors are therefore to be classified as parts of engines in **heading 84.09**.

Similarly, mechanical or hydraulic shock absorbers form an integral part of the machine or appliance in which they are to be incorporated. Separately presented shock absorbers therefore fall to be classified as parts of the machines or appliances on which they are to be mounted. (Shock absorbers for vehicles or aircraft fall in **Section XVII**).

The many and varied machines covered by this heading include *inter alia* :

(I) MACHINERY OF GENERAL USE

This group includes, for example :

(1) Vats or other receptacles (e.g., vats or tanks for electrolysis), fitted with mechanical devices (agitators, etc.), and which are not identifiable as being for any particular industry and are not heating, cooking, etc., apparatus of **heading 84.19**. Vats or other receptacles simply fitted with taps, level or pressure gauges or the like are classified according to their constituent material.

(2) Presses, crushers, grinders, mixers, etc., not designed for particular goods or industries.

(3) Volumetric distributing apparatus (e.g., mechanical hopper feeds) and mechanical distributors for continuous presentation of work pieces in the same alignment ready for the working operation, not specialised for any particular industry.

(4) Eyeletting or tubular riveting machines equally suitable for applying the eyelets or rivets to any material such as textiles, paperboard, plastics or leather; and machines equally suitable for joining by stapling the ends of machinery belting of textiles, rubber or other materials.

(5) Vibrator motor consisting of an electric motor with eccentric discs fitted to the protruding ends of the shaft, generating radial vibrations which are transmitted to the apparatus or appliance (chutes, bins, hoppers, conveyors, compacting appliance, etc.) to which the vibrator motor is fixed.

(6) Electro-magnetic vibrator, for attachment to conveying, screening, compacting, etc., appliances, consisting of a base plate carrying an electro-magnet and two metal rods supporting a mass held in position by two sets of springs at a suitable distance from the electro-magnet; the mass is alternatively attracted by the magnet and pulled back by the springs.

(7) Industrial robots for multiple uses. Industrial robots are automatic machines which can be programmed to carry out repeatedly a cycle of movements. By the use of sensors, industrial robots are able to acquire information about the field in which they operate and to analyse the information thus obtained to be able to adapt their pattern of activity to variations in their field of operation.

Industrial robots may consist of an articulated structure comparable to that of the human arm, mounted on a base in a horizontal or vertical position, and having at its extremity a mobile holder for the toolholder (so-called vertical robots). They may also consist of a rectilinear structure often moving on a vertical axis of which the holder forms the terminal part of the operating mechanism often moving on a horizontal axis (horizontal robots). These robots could equally be placed on a beam (beam robots).

The different parts of the structure are activated by electric motors or by means of a hydraulic or pneumatic system.

Industrial robots have many uses; welding, painting, handling, loading and unloading, cutting, assembling, metal trimming, etc. They are replacing humans in tasks performed in a hostile environment (with toxic products, dust, etc.) or with laborious tasks (moving of heavy loads, repetitive tasks of a boring nature). For these varied applications, robots are equipped with a tool holder and tools specifically designed for the accomplishment of the task (pincers, grippers, welding heads, for example).

The heading covers only industrial robots capable of performing a variety of functions simply by using different tools. However, the heading **excludes** those industrial robots **specifically designed** to perform a specific function; these industrial robots are classified in the heading covering their function (e.g., **heading 84.24, 84.28, 84.86** or **85.15**).

(II) MACHINERY FOR CERTAIN INDUSTRIES

This group includes :

(A) **Machinery for public works, building or the like**, e.g. :

(1) Machines for spreading mortar or concrete (**excluding** mixers for preparing concrete or mortar - **heading 84.74** or **87.05**).

(2) Road making machines which vibrate the concrete to consolidate it and to camber the surface, sometimes also spreading the concrete.

However this heading **does not include** levellers of **heading 84.29**.

(3) Machines, whether or not self-propelled, for spraying gravel on road or similar surfaces and self-propelled machines for spreading and tamping bituminous road-surfacing materials. Gravel sprayers mounted on a motor vehicle chassis are **excluded** (**heading 87.05**).

(4) Machinery and mechanical appliances for smoothing, grooving, checkering, etc., fresh concrete, bitumen or other similar soft surfaces.

Heating apparatus for bitumen, etc., are **excluded** (**heading 84.19**).

(5) Small pedestrian directed motorised apparatus for the maintenance of roads (e.g., sweepers and white line painters).

Mechanical rotating brooms, which may be mounted with a dirt hopper and a sprinkler system on a wheeled chassis powered by a tractor of **heading 87.01**, are also classified in this heading as interchangeable equipment, even if they are presented with the tractor.

(6) Salt and sand spreaders for clearing snow, designed to be mounted on a lorry, consisting of a tank for storing sand and salt, equipped with a lump-breaking agitator, a system for crushing/grinding the lumps of salt, and a hydraulic projection system with spreading disk. The machines' various functions are operated from the cab of the lorry, by remote control.

(B) **Machinery for the oil, soap or edible fat industries**, e.g. :

(1) Special grinders, crushers, mills or presses for oilseeds or oleaginous fruit.

(2) Tanks fitted with mechanical agitators, specially designed for purifying oils.

(3) Tallow-washing equipment.

(4) Equipment for rolling raw tallow in order to crush the cells before melting down.

(5) Churns and mixers for mixing together the component parts of margarine.

(6) Soap cutting or moulding machines.

(C) **Machinery for treating wood or similar materials**, e.g. :

(1) Barking drums in which logs are stripped of their bark by scraping against each other.

(2) Special presses for agglomerating wood fibre, wood chips, sawdust or cork dust.

(3) Wood hardening presses.

(4) Machines for impregnating wood under pressure.

(D) **Rope or cable-making machines** (stranding, twisting or cabling, etc., machines) working with either textile yarn or metal wire or both, including machinery for twisting flexible electrical conductors, **other than** twisting-frames of a type used in spinning textiles (**heading 84.45**).

The heading **does not cover** :

(a) Machines for reeling textile yarn, string, etc., into balls (**heading 84.45**).

(b) Machines for finishing (glazing, polishing) textile yarn, string, etc. (**heading 84.51**).

(E) **Machinery for treating metals, including electric wire coil-winders**, e.g. :

(1) Crucible vice-presses for alumino-thermic welding of rails, machine parts, etc.

(2) Machinery for scouring or pickling metals (by acid, trichloroethylene, etc.) including pickling units for sheet-rolling mills, but **excluding** steam or sand blasting appliances of **heading 84.24**.

(3) Rotating drums for de-sanding, de-scaling or polishing metal goods (e.g., nuts, bolts or ball bearings).

(4) Machines for tin-plating by dipping.

(5) Pig iron breakers and special stamping mills for breaking up cast iron scrap.

(6) Special machines for winding or covering electric cables with layers of textile yarn, impregnated paper strips, asbestos tapes or other insulating or protective material; but **excluding** gimping machines of the kind falling in **heading 84.47**.

(7) Electric wire coil-winders (e.g., for motors, transformers or inductors).

(F) **Basket-making, wickerwork-making and other machinery for plaiting or interlacing osier, canes, rattans, straw, wood strips, plastics, etc.** e.g. :

(1) Machines for making baskets, hampers or similar articles.

(2) Machines for forming wickerwork covers on carboys, bottles, etc.

(3) Machines for making protective straw envelopes for bottles.

(4) Machines for plaiting hats or braids and bands for hat-making.

The heading **does not include** machines for splitting wood, peeling osier, rounding rattans, etc. (**heading 84.65**).

(G) **Machinery for making paint brushes or other brushes**, e.g. :

(1) Machines for preparing (including trimming or shaping) hair, bristles, fibres, etc., for brushes.

(2) Machines for inserting the hairs, bristles, fibres, etc., into sockets, mounts or handles.

The heading **does not cover** :

(a) Machines for sterilising bristles or fibres (**heading 84.19**).

(b) Machines for working brush mounts or brush handles in wood, cork, bone, hard rubber or similar hard materials (**heading 84.65**).

(III) MISCELLANEOUS MACHINERY

This group includes :

(1) Air humidifiers or dehumidifiers, **other than** the appliances of **heading 84.15**, **84.24** or **85.09**.

(2) Engine starters (mechanical, hydraulic, compressed air, etc.) **but not** electrical equipment of **heading 85.11**.

(3) Hydraulic accumulators, for keeping in reserve an amount of liquid under pressure in order to give an even rate of flow or feed pressure to hydraulic machinery. Normally, these accumulators consist of a vertical pump-fed cylinder enclosing a weighted piston which is adjusted to a certain pressure.

(4) Pump-type automatic machine greasers.

(5) Match-dipping machines.

(6) Machinery for cask tarring or coating **other than** spraying appliances of **heading 84.24**.

(7) Machines for coating welding electrodes.

(8) Machines for cleaning off or re-covering gelatin inking rollers.

(9) Machines for coating photosensitive emulsions on to a backing **other than** those machines of **heading 84.86**.

(10) Machines for frosting glass by the acid process.

(11) Bolting or unbolting machines and metal core extractors, **other than** hand tools of **Chapter 82** and small tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motor (**heading 84.67**).

(12) Machines for the maintenance of pipelines or other non-flexible pipes (e.g., small self-propelled machines used on oil pipelines to clean the pipe, coat it with asphalt or other protective covering; machines, carried through the pipes by the flow of the fluid itself, used for cleaning the inside of pipelines).

(13) Machines for mounting card clothing on carding cylinders.

(14) Machines for making rope soles for footwear.

(15) Machines for washing, scouring or removing dust from bed feathers.

(16) Machines for filling eiderdowns or stuffing mattresses.

(17) Machines for applying abrasives to any backing (fabrics, paper, etc.).

(18) Coiling machines for flexible cables or tubes (e.g., for textile or metal cables or ropes, electric cables, lead pipes).

(19) Mechanical appliances for cutting water-weeds. These consist of a horizontal scythe, below water-level, rotating on a vertical axis which is supported by a frame for fitting to a boat. They may be hand or power-driven.

(20) Diving bells or metal diving suits, etc., mechanically equipped.

(21) Gyroscopic stabilisers for ships or for similar uses; but **excluding** the gyroscopic devices for instruments of **Chapter 90** (gyro-compasses, etc.) and torpedoes (**heading 93.06**).

(22) Steering and rudder equipment for ships, **other than** the rudders themselves (usually **heading 73.25** or **73.26**), and automatic pilots (Gyro pilots) of **heading 90.14**.

(23) Electrical, hydraulic, pneumatic, etc., windscreen wiping mechanisms for aircraft, ships and all vehicles **except** those for cycles or motor vehicles (**heading 85.12**). The heading also includes wiper-blade mountings and mounted wiper-blades, **provided** they are identifiable as for the wiping mechanisms described above; those for use with motor vehicle windscreen wiping mechanisms are **excluded** (**heading 85.12**).

(24) Ultrasonic apparatus for cleaning metal parts and miscellaneous other articles; consisting when complete (whether mounted in a common housing or as separate units) of a high frequency generator, one or several transducers and a tank for the articles to be cleaned, presented either complete or without the tank. The heading also covers ultrasonic transducers for such apparatus. Ultrasonic apparatus and transducers of a kind used solely or principally for cleaning semiconductor wafers or flat panel displays are **excluded** (**heading 84.86**).

(25) Underwater blowpipes, usually fitted with a special ignition device, and with provision for bringing an additional supply of compressed air or oxygen through a ring-shaped outlet round the nozzle, in order to create a cavity in the water so that the flame can burn.

(26) Apparatus for cutting or piercing rock or concrete, using the high temperature produced by burning iron or steel in a jet of oxygen. The apparatus used is usually quite simple, consisting of a heat-resisting handle or grip which incorporates a valve and has provision for connecting both to a source of oxygen and to a length of iron or steel tubing. In operation, the oxygen passes through the iron or steel tubing, the end of which, previously brought to red heat, is thus burned away producing a very high temperature sufficient to melt the rock or concrete.

(27) Automatic shoe brushing machines.

(28) Machines for waxing paper cups and containers, etc., by immersion.

(29) Industrial floor polishers.

(30) Evaporative air coolers.

(31) Passenger boarding bridges. These bridges permit passengers and personnel to walk between a terminal building and a parked aircraft, a cruise ship or ferry-boat, without having to go outside. The bridges generally consist of a rotunda assembly, two or more rectangular telescopic tunnels, vertical lift columns with wheel bogies, and a cabin located in the front part of the bridges. They include electromechanical or hydraulic devices that are designed for moving the bridges horizontally, vertically and radially (i.e., their telescopic sections, cabin, vertical lift columns, etc.), in order to adjust the bridges to the appropriate position to the particular aircraft's door, or to the port (entrance) of the cruise ship or ferry-boat. The passenger boarding bridges of the type used at seaports can be, furthermore, equipped with a transitional device installed on their foreside which can be extended into the port (entrance) of the cruise ship or ferry-boat. These bridges themselves do not lift, handle, load or unload anything.

Appliances for cleaning carpets in situ by injecting a liquid cleaning solution into the carpet, the solution then being extracted by suction, and designed for use in establishments (other than domestic premises) such as hotels, motels, hospitals, offices, restaurants and schools are classified in **heading 84.51**.

The heading also **excludes** machinery for encapsulation in the assembly of semiconductors (**heading 84.86**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of the machinery of this heading, including moulds **other than** those covered elsewhere (in particular, **heading 84.80**).

8479.10

- Machinery for public works, building or the like

CLASSIFICATION OPINIONS

1. Salt and sand spreader for clearing snow, designed to be mounted on a lorry, consisting of (1) a tank for storing sand and salt, equipped with a lump-breaking agitator which turns at the same time as an endless screw, (2) a system for crushing/grinding the lumps of salt, and (3) a hydraulic projection system with spreading disk. The machine's various functions are operated from the cab of the lorry, by remote control.
Application of GIRs 1 and 6.
Adoption : 2003

8479.20

- Machinery for the extraction or preparation of animal or fixed vegetable or microbial fats or oils

8479.30

- Presses for the manufacture of particle board or fibre building board of wood or other ligneous materials and other machinery for treating wood or cork

8479.40

- Rope or cable-making machines

8479.50

- Industrial robots, not elsewhere specified or included

8479.60

- Evaporative air coolers

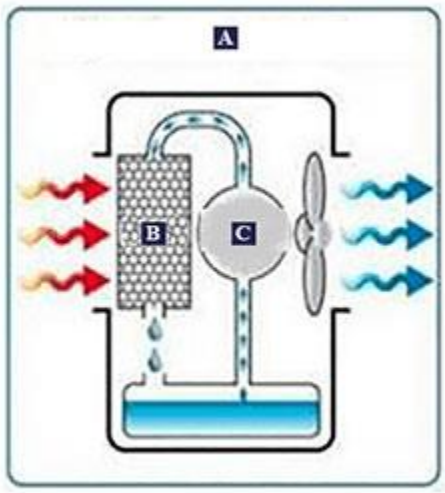
CLASSIFICATION OPINIONS

1. **Portable air coolers,** for domestic use, being self-contained units incorporating an air filter of nylon fibres, a water-circulating system (with built-in tank and pump) and an electric motor-driven fan for expelling the cooled air, but with no device specially designed for humidifying or drying the air.
   Adoption : 1961 + 1994

2. **Evaporative air coolers** of a weight exceeding 20 kg, which cool air by the latent heat of evaporation principle, incorporating a water-circulating system (comprising a built-in tank and pump) designed to continuously soak a filter and with an electric motor-driven fan which expels air through the filter medium. They do not include a device specially designed for humidifying or drying the air.
   Adoption : 1994

3. **Evaporative air cooler**, which cools the air by the latent heat of evaporation principle, of a weight of 27 kg (dimensions (L x W x H): 510 mm x 685 mm x 1,445 mm) with four wheels for moving. It incorporates a water-evaporating system in which a pump continuously draws water from a built-in tank and distributes the water equitably to the cooling pads. The water on the cooling pads evaporates, lowering the temperature of the air, and a motor-driven fan expels the air into the room.
   Application des RGI 1 et 6.
   Adoption : 2019





8479.7

- Passenger boarding bridges :

8479.71

-- Of a kind used in airports

8479.79

-- Other

8479.8

- Other machines and mechanical appliances :

8479.81

-- For treating metal, including electric wire coil-winders

8479.82

-- Mixing, kneading, crushing, grinding, screening, sifting, homogenising, emulsifying or stirring machines

8479.83

-- Cold isostatic presses

8479.89

-- Other

CLASSIFICATION OPINIONS

1. "**Central greasing systems**", hand-operated or automatic, for lubricating semiautomatic machines, consisting of a special grease pump which acts as a central distributor to feed a variable number of piston-type injectors delivering predetermined quantities of grease at the points requiring lubrication.
   This Classification Opinion applies to the complete system.
   Adoption : 1959

2. **Fumigation chamber,** mounted on wheels for disinfecting shrubs, seeds, books, manuscripts, etc., by the action of methyl bromide, prussic acid, etc.
   Adoption : 1961

3. **Self-propelled machines for sweeping factories, etc,** equipped with a driver's seat and containing a rotating pick-up broom, a dirt hopper and a fan to suck up dust.
   Adoption : 1964

4. **Horns operated by compressed air,** comprising a blower, a small air tank, two trumpet-shaped sound signalling devices and a mechanical or electrical control device, these components being connected together by flexible tubes; for mounting mainly on motor vehicles.
   Adoption : 1964

5. **Greasing appliance,** consisting of a container, with a lid carrying a lever to operate a piston which forces the lubricant into a hose (also mounted on the lid); the hose is fitted with a grease nipple coupler at the delivery end, for coupling to the grease nipple of the machine or appliance to be serviced; while in use the container is placed on the ground.
   Adoption : 1965

6. **Mobile mechanical unit for bunkering ships,** consisting of :

(i) several reels mounted on a common axle, for reeling or unreeling a length (approximately 45 m) of collapsible hose;

(ii) a pump for stripping the hose after use;

(iii) a petrol engine to drive the reels or the pump;

mounted on a four wheel chassis with a tow bar

Application of Note 3 to Section XVI.
Adoption : 1967

7. Metal chamber, fitted with a diaphragm which is submitted, on one side, to the pressure of a gas and, on the other side, to direct contact with the fluid in the piping on which the chamber is mounted; serves in certain installations (e.g., central heating) as a **sealed expansion chamber.**
Adoption : 1969

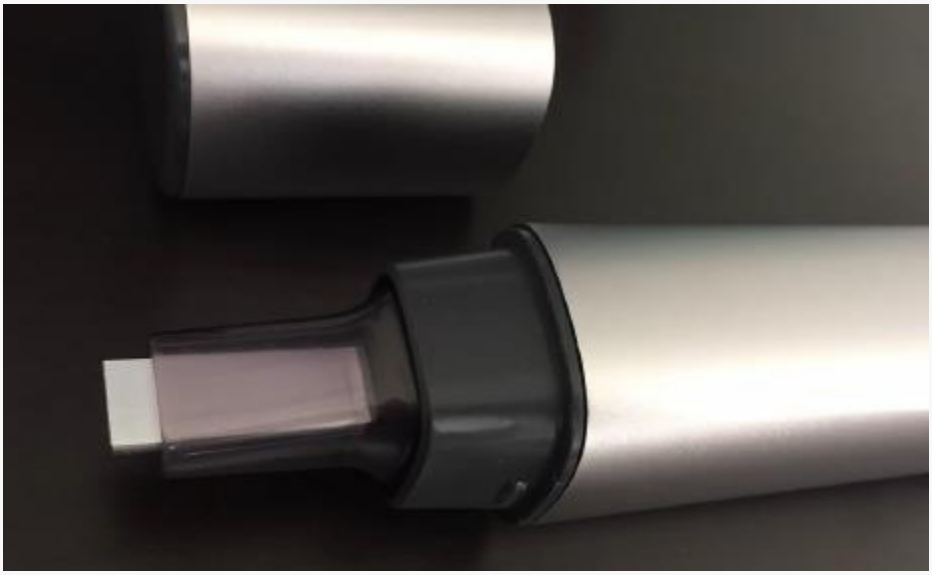
8. Flat base silos, made of corrugated sheets of galvanized steel iron, used for grain storage, ranging from 4.51 to 31.60 m in diameter with storage capacity from 50 to 15,000 tons, containing an indoor temperature control system which helps to identify the hot areas and insect activity. They are equipped with a bottom sweep auger which rotates 360° around its own axis to unload residual grains at the bottom of the silos. Radial and axial fans are used for aeration of stored material.
Application of GIRs 1 and 6.
Adoption : 2017



9. Conical base silos, made of corrugated sheets of galvanized steel iron, used for grain storage, produced within a range of 45 - 65° base angle, containing an indoor temperature control system which helps to identify the hot areas and insect activity. Radial and axial fans are used for aeration of stored material.
Application of GIRs 1 and 6.
Adoption : 2017



10. Handheld machine, used for removing dirt and stains on clothes which have been moistened. The machine contains a horn which vibrates at ultrasonic speed creating micro-bubbles. The bursting force of these bubbles assists in removing dirt and stains. **Application of GIRs 1 and 6.** *Adoption : 2017*



11.Tape Automated Bonding equipment (TAB Bonder) used in the manufacture of LCD modules, the main function and application of which is to electrically and physically bond and connect the LCD glass substrate and flexible printed circuit (FPC) of a drive integrated circuit (IC) by using anisotropic conductive film (ACF). During the bonding process, the conductive cable on the FPC and the mark coordinate on LCD glass substrate are precisely positioned (positioning accuracy up to 20 μm). After the completion of the positioning, the FPC and LCD glass substrate are laminated by accelerating the solidifying of the film (ACF) under heating and pressure. **Application of GIRs 1 (Note 4 to Section XVI) and 6.** *Adoption : 2018*

12. Dual speed floor polisher designed for professional use, which can perform the function of two rotary scrubbers: a standard 180 RPM (revolutions per minute) floor cleaner and a 320 RPM

buffer, with self-contained electric motor with an output of 1110 W.
Application of GIRs 1 and 6.
Adoption : 2022



8479.90

- Parts

Heading 8480

Moulding boxes for metal foundry; mould bases; moulding patterns; moulds for metal (other than ingot moulds), metal carbides, glass, mineral materials, rubber or plastics.

EXPLANATORY NOTES

84.80 - Moulding boxes for metal foundry; mould bases; moulding patterns; moulds for metal (other than ingot moulds), metal carbides, glass, mineral materials, rubber or plastics.

8480.10 - Moulding boxes for metal foundry

8480.20 - Mould bases

8480.30 - Moulding patterns

- Moulds for metal or metal carbides :

8480.41 - - Injection or compression types

8480.49 - - Other

8480.50 - Moulds for glass

8480.60 - Moulds for mineral materials

- Moulds for rubber or plastics :

8480.71 - - Injection or compression types

8480.79 - - Other

This heading covers the moulding boxes used in metal foundry, mould bases and moulding patterns, with certain **exceptions** referred to later, it also covers all moulds (whether or not hinged, and whether used by hand or in presses or moulding machines) which are of a kind used for moulding the following materials into blanks or finished articles :

(I) Metals and metal carbides.

(II) Glass (including fused quartz or other fused silica) or mineral materials such as ceramic pastes, cement, plaster or concrete.

(III) Rubber or plastics.

In general, the essential function of a mould is to retain the material in a predetermined shape while it sets; some moulds also exert a certain pressure on the material. But the heading **excludes** stamping dies of **heading 82.07** since these shape the material solely by means of a powerful blow or compression (e.g., dies for stamping out sheet-metal goods).

(A) MOULDING BOXES FOR METAL FOUNDRY

These are frames usually of cast iron or steel and usually rectangular or round. They hold the sand mould formed by pressing the sand around a pattern.

(B) MOULD BASES

These are plates placed on the bottom of the moulds.

(C) MOULDING PATTERNS

These include foundry patterns, foundry cores, core boxes, moulding boards, pattern plates etc., used in the preparation of sand moulds (generally of wood).

(D) MOULDS FOR METAL (OTHER THAN INGOT MOULDS) OR FOR METAL CARBIDES

This group includes :

(1) **Chill-moulds (die-casts)**. These take the form of a metallic casing consisting of two or more adjustable parts which reproduce, in hollow form, the shape of the required articles.

(2) **Pressure-casting moulds**, into which the molten metal is forced under pressure. They normally consist of two complementary metallic chill-moulds, with hollows corresponding to the shape of the required articles in their opposing faces; in some cases the halves of the mould compress the molten metal to a certain degree.

(3) **Moulds for sintering metal powders**. These moulds are heated. They are sometimes also used for sintering metal carbides or ceramic powders.

(4) **Cylindrical moulds** for centrifugal moulding machines (e.g., for casting iron pipes, gun barrels).

(E) MOULDS FOR GLASS

This group includes :

(1) **Moulds for glass paving stones, bricks or flags, and compression moulds for glass tiles**.

(2) **Bottle moulds** for hand or machine working, including pedal operated moulds (e.g., blank or finishing moulds, ring moulds).

(3) **Moulds for hollow glassware, for insulators, etc**.

(4) **Shaping moulds for glassmakers' lathes**.

(5) **Moulds made of steel or cast iron, used to make lens or spectacle blanks, etc**.

(F) MOULDS FOR MINERAL MATERIALS

This group includes :

(1) **Moulds for ceramic pastes** (e.g., brick moulds, moulds for pipes or for other articles of ceramics, including moulds for artificial teeth).

(2) **Moulds for moulding concrete, cement or asbestos-cement goods** (tubes, vats, paving stones, flags, chimney-pots, bannisters, architectural ornaments, wall, floor or roof slabs, etc.). Also moulds for making prefabricated construction elements of reinforced or prestressed concrete (window frames, parts of vaulting beams, railway sleepers, etc.).

(3) **Moulds for agglomerating abrasives into grinding wheels**.

(4) **Moulds for plaster, staff or stucco articles** (e.g., toys, statuettes and ceiling decorations).

(G) MOULDS FOR RUBBER OR PLASTICS

This group includes :

(1) **"Bladder" moulds for vulcanising tyres**. These consist of two adjustable metal chill-moulds, steam or electrically heated, enclosing a kind of air-inflated ring-shaped bag (the air-bag) or hot water-inflated bag (the water-bag), which presses the tyre firmly against the mould surfaces.

(2) **Moulds for moulding or vulcanising miscellaneous rubber articles**.

(3) **Moulds for making plastic articles**, whether or not electrically or otherwise heated; they may operate by gravity, or by injection or compression.

The heading also includes **preliminary tabletting moulds**. These employ a cold process to consolidate the moulding powders into tablets, each of which contains the appropriate quantity of material (and are of a suitable shape and volume) ready for final moulding into the desired article.

The heading also **excludes** :

(a) Forms used in the manufacture of articles (e.g., gloves) by dipping the form into liquid rubber, plastics, etc. (classified according to their constituent material).

(b) Moulds made of graphite or other carbon (**heading 68.15**).

(c) Moulds of any kind made of ceramics (**heading 69.03** or **69.09**, as the case may be).

(d) Moulds made of glass (**heading 70.20**).

(e) Ingot moulds (**heading 84.54**).

(f) Moulds for the manufacture of semiconductor devices (**heading 84.86**).

(g) Matrices and masters for the production of records (**heading 85.23**).

(h) Subject to the above exclusions, moulds used on presses and other machines, for the moulding of materials other than those cited in the text of this heading (classified as parts of the machines for which they are designed).

8480.10

- Moulding boxes for metal foundry

8480.20

- Mould bases

8480.30

- Moulding patterns

8480.4

- Moulds for metal or metal carbides :

8480.41

-- Injection or compression types

8480.49

-- Other

8480.50

- Moulds for glass

8480.60

- Moulds for mineral materials

8480.7

- Moulds for rubber or plastics :

8480.71

-- Injection or compression types

8480.79

-- Other

Heading 8481

Taps, cocks, valves and similar appliances for pipes, boiler shells, tanks, vats or the like, including pressure-reducing valves and thermostatically controlled valves.

EXPLANATORY NOTES

84.81 - Taps, cocks, valves and similar appliances for pipes, boiler shells, tanks, vats or the like, including pressure-reducing valves and thermostatically controlled valves.

8481.10 - Pressure-reducing valves

8481.20 - Valves for oleohydraulic or pneumatic transmissions

8481.30 - Check (nonreturn) valves

8481.40 - Safety or relief valves

8481.80 - Other appliances

8481.90 - Parts

This heading covers taps, cocks, valves and similar appliances, used on or in pipes, tanks, vats or the like to regulate the flow (for supply, discharge, etc.), of fluids (liquid, viscous or gaseous), or, in certain cases, of solids (e.g., sand). The heading includes such devices designed to regulate the pressure or the flow velocity of a liquid or a gas.

The appliances regulate the flow by opening or closing an aperture (e.g., gate, disc, ball, plug, needle or diaphragm). They may be operated by hand (by means of a key, wheel, press button, etc.), or by a motor, solenoid, clock movement, etc., or by an automatic device such as a spring, counterweight, float lever, thermostatic element or pressure capsule.

Taps, valves, etc., incorporating such mechanisms or devices remain classified in this heading. This applies, for example, to a valve equipped with a thermostatic element (double-leaf, capsule, bulb, etc.). The heading also covers valves, etc., connected to a thermostatic element by means of, for instance, a capillary tube.

Combinations consisting of a tap, valve, etc. and a thermostat, manostat or any other measuring, checking or automatically controlling instrument or apparatus of heading 90.26 or 90.32 remain in this heading if the instrument or apparatus is mounted or is designed to be mounted directly on the tap, valve, etc., and **provided** the combined apparatus has the essential character of an article of this heading. If **not** satisfying these conditions, they are classified in **heading 90.26** (e.g., liquid-type pressure gauge fitted with a drain cock) or in **heading 90.32**.

In the case of remote-control systems, only the tap, valve, etc., is classified in this heading.

In general, taps, valves, etc., are of base metal or plastics, but those of other materials (**other than** unhardened vulcanised rubber, ceramics or glass) are also covered by the heading.

Taps, valves, etc., remain classified here even if incorporating other accessory features (e.g., double walls for heating or cooling purposes; short lengths of tubing; short lengths of tube ending in a shower rose; small drinking fountain bowls; locking devices).

Taps, cocks, valves, etc., remain in this heading even if specialized for use on a particular machine or apparatus, or on a vehicle or aircraft. However, certain machinery parts which incorporate a complete valve, or which regulate the flow of a fluid inside a machine although not forming a complete valve in themselves, **are classified as parts of the relative machines**, for example, inlet or exhaust valves for internal combustion engines (**heading 84.09**), slide valves for steam engines (**heading 84.12**), suction or pressure valves for air or other gas compressors (**heading 84.14**), pulsators for milking machines (**heading 84.34**) and non-automatic greasing nipples (**heading 84.87**).

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* *

The heading includes *inter alia :*

(1) Pressure-reducing valves for reducing the pressure of gases and maintaining that reduced pressure at a fairly constant level by means of a plug or stopper which is generally controlled by a pressure device (diaphragm, bellows, capsule, etc.) damped by an adjustable tension spring. These appliances directly regulate the pressure of gases passing through them; they are mounted, for example, on compressed gas cylinders, on pressure containers, or on feed pipe systems of the appliances which they serve.

The heading also includes pressure-reducing valves (sometimes called pressure regulators, pressure reducers or pressure regulator-reducers), also mounted at the outlets of pressure containers, of boilers, on connecting feed pipe systems or near the appliances which they serve, to perform the same function on compressed air, steam, water, hydrocarbons or other fluids.

If combined with a pressure gauge, pressure-reducing valves fall either in this heading or in **heading 90.26** depending on whether or not the combined apparatus retains the essential character of a tap, valve, etc. (see the fourth paragraph of this Explanatory Note).

(2) Valves for oleohydraulic or pneumatic transmissions (see Subheading Note 3 to this Chapter). These valves, which may be of any type (pressure-reducing type, check type, etc.), are used specifically in the transmission of “fluid power” in a hydraulic or pneumatic system, where the energy source is supplied in the form of pressurised fluids (liquid or gas).

(3) Nonreturn valves (e.g., swing check valves and ball valves).

(4) Safety valves, relief valves, etc., whether or not incorporating a warning whistle.

Bursting discs (thin discs of plastics or metal) are used in certain cases as safety devices instead of valves; they are mounted by means of a special carrier on pipe systems or pressure vessels and burst at a specific pressure. They are classified according to the constituent material (**headings 39.26**, **71.15**, **73.26**, **74.19**, **75.08**, **76.16**, etc.).

(5) Manifold valves (e.g., three way valves and “Christmas tree” valves).

(6) Control cocks, blow-off cocks and shut off valves, etc., for level gauges.

(7) Radiator drainage taps.

(8) Inner-tube valves.

(9) Float controlled valves.

(10) Steam traps in which the water of condensation from a steam conduit collects and which are automatically emptied (e.g., by the operation of a float). The heading also covers steam traps in which the plug or stopper is actuated by a thermostatic element (double-leaf or capsule) mounted inside the trap (thermostatically controlled steam traps).

(11) Fire-hydrants (stand pipes), fire cocks, hosepipe nozzles and the like, fitted with cocks or with valves for forming a jet or a spray.

Mechanical sprinkler heads for anti-fire installations, mechanical garden sprinkler heads and the like are **excluded** (**heading 84.24**).

(12) Mixing taps and valves, with two or more inlets and a mixing chamber. The heading also covers thermostatically controlled mixing valves incorporating an adjustable tension thermostatic element, which actuates the plugs or stoppers regulating the admission of fluids at different temperatures into the mixing chamber.

(13) Waste holes with plugs (**other than** simple waste holes with plugs to be inserted by hand, classified according to their constituent material).

(14) Sea cocks and other underwater valves, cocks, etc., for ships.

(15) Lubricating taps with flexible or telescopic tubes for lubricating shafts of steamships, etc.

(16) Soda-water bottle valves.

(17) Pressure spray-can lids for cans to be filled with liquid or gaseous insecticides, disinfectants, etc., under pressure, comprising a metal head fitted with a press-button displacing a needle which opens or closes the ejection orifice.

(18) Taps and cocks for fitting in the bung holes of casks, barrels, etc.

(19) Taps for bottle filling machines, designed to close automatically when the level of the liquid reaches the top of the bottle.

(20) Gas operated beer dispensing units for bar counters, consisting essentially of one or more hand-operated cocks fed by the pressure of carbon dioxide piped into the casks of beer.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the appliances of this heading are also classified here.

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* *

The heading also **excludes :**

(a) Taps, cocks, valves and similar appliances made of unhardened vulcanised rubber (**heading 40.16**), ceramics (**heading 69.03** or **69.09**), or of glass (**heading 70.17** or **70.20**).

(b) U-bends for waste water in sinks, lavatories, bathrooms or the like, and also flushing cisterns whether or not equipped with their mechanism, which are classified according to their constituent material (e.g., **heading 39.22**, **69.10**, **73.24**).

(c) Centrifugal governors for steam engines (**heading 84.12**).

(d) Steam injector or ejector pumps (**heading 84.13**).

(e) Air spraying equipment, etc. (**heading 84.24**).

(f) Pneumatic grease guns (**heading 84.67**).

(g) Blowpipes for gas welding (**heading 84.68**).

(h) Taps combined with a measuring-out device for dispensing ice cream, spirits, milk, etc. (**heading 84.79**).

8481.10

- Pressure-reducing valves

8481.20

- Valves for oleohydraulic or pneumatic transmissions

8481.30

- Check (nonreturn) valves

8481.40

- Safety or relief valves

8481.80

- Other appliances

CLASSIFICATION OPINIONS

1. **Constant level oil controls** for providing an even rate of flow to oil burners, functioning by the combined action of an automatic float valve and a hand-operated flow regulating device. *Adoption : 1962*

2. **Pneumatic actuator valve,** for regulating the flow of various liquids and gases, in which the position of the plug is determined by the action of compressed air on a diaphragm damped by a force balance spring, whether or not fitted with a positioner. *Adoption : 1962*

3. **Valve, not fitted with a press-button,** consisting of the following components :

(i) A cup, of base metal;

(ii) A cup gasket, of plastics;

(iii) A stem gasket, of plastics;

(iv) A stem, of plastics;

(v) A housing, of plastics;

(vi) A steel spring;

(vii) A diptube, of plastics.

The article opens and closes a container by displacement of a needle, which allows propellant gas, together with the other contents of the container, to escape into the air.

See also Opinions 8424.89/2 and 8424.89/3.
Adoption : 1996

4. Tyre inflation valve, comprising the following components:

(i) a rubber stem;

(ii) a screw-on cap;

(iii) a brass insert consisting of an opening, a pin, and a spring-loaded plunger mechanism;

the whole of which is inserted into a wheel on which a tyre is mounted. When the pin head is manually depressed, the valve opens, thereby allowing the flow of air into or out of the tyre, depending upon the pressure differential.
Adoption : 2000

8481.90

- Parts

Heading 8482

Ball or roller bearings.

EXPLANATORY NOTES

84.82 - Ball or roller bearings.

8482.10 - Ball bearings

8482.20 - Tapered roller bearings, including cone and tapered roller assemblies

8482.30 - Spherical roller bearings

8482.40 - Needle roller bearings, including cage and needle roller assemblies

8482.50 - Other cylindrical roller bearings, including cage and roller assemblies

8482.80 - Other, including combined ball/roller bearings

- Parts :

8482.91 - - Balls, needles and rollers

8482.99 - - Other

This heading covers all ball, roller or needle roller type bearings. They are used in place of smooth metal bearings and enable friction to be considerably reduced. They are generally fitted between the bearing housing and the shaft or axle, and may be designed to give radial support (radial bearings) or to resist thrust (thrust bearings). Certain bearings may be designed for both radial and thrust support.

Normally, bearings consist of two concentric rings (races) enclosing the balls or rollers, and a cage which keeps them in place and ensures that their spacing remains constant.

The bearings classified in this heading include :

(A) **Ball bearings**, with single or double rows of balls. This group also includes **slide mechanisms with bearing balls**, for example :

(1) Those consisting of a steel outer ring rigidly locked with a brass inner ring which has six slots arranged lengthwise and in the shape of elongated ellipses enclosing small steel balls.

(2) The restricted-travel type, of steel, comprising a grooved cylinder, a ball cage and a housing.

(3) The free-travelling type, of steel, comprising a segment, a casing enclosing the bearing balls, and a guide rail with a groove of triangular section.

(B) **Roller bearings**, with single or double rows of rollers of any shape (cylindrical, conical, barrel-shaped, etc.).

(C) **Needle roller bearings**. These differ from ordinary roller bearings in that they are bearings with cylindrical rollers of a uniform diameter not exceeding 5 mm and having a length which is at least three times the diameter. The ends of the rollers may be rounded (see Subheading Note 4 to the Chapter). These rollers are fitted between the two rings of the bearing and in most cases no cage is used.

Owing to the high pressure to which they are exposed, bearings are normally of steel (especially chromium steel), though some for particular uses are of bronze, copper or plastics.

PARTS

The heading also covers parts of ball, roller or needle roller bearings, e.g. :

(1) **Polished steel balls** (whether for bearings of this heading or not), the maximum and minimum diameters of which do not differ from the nominal diameter by more than 1 % or by more than

0.05 mm whichever is less; balls **not conforming** to this definition are classified in **heading 73.26** (see Chapter Note 7).

(2) **Bearing balls** of copper, bronze, plastics, etc.

(3) **Needles or rollers for bearings,** of any shape.

(4) **Rings, cages, fixing sleeves, etc**.

*

* *

The heading **does not cover** machinery parts incorporating ball, roller or needle roller bearings; these are classified in their own appropriate headings, e.g. :

(a) Bearing housings and bearing brackets (**heading 84.83**).

(b) Bicycle hubs (**heading 87.14**).

8482.10

- Ball bearings

CLASSIFICATION OPINIONS

Treadle roller for looms, consisting of a ball bearing with sideplates, the inner ring of the bearing constituting a short spindle with flats on the end of the trunnions which fit into the treadle fork.

Adoption : 1962

8482.20

- Tapered roller bearings, including cone and tapered roller assemblies

8482.30

- Spherical roller bearings

8482.40

- Needle roller bearings, including cage and needle roller assemblies

CLASSIFICATION OPINIONS

1. **Needle roller and cage assemblies**, made of iron, consisting of needle rollers (diameter : 2.5 mm, length : 11.6 mm) and a cage (diameter : 21 mm, width : 14 mm). The product is designed to be incorporated to a shaft as the inner raceway and assembled with a gear as the outer raceway. The product is intended to make the gear rotate smoothly and to reduce friction. It is used for an automatic transmission motor vehicle. **Application of GIRs 1 and 6 (Subheading Note 4 to Chapter 84).** *Adoption : 2017*



2. Needle roller and cage assemblies, made of iron, consisting of needle rollers (diameter : 2.5 mm, length : 20.8 mm) and split cages (diameter : 26 mm, width : 40 mm). The product is designed to be incorporated to a shaft as the inner raceway and assembled with a gear as the outer raceway. The product is intended to make a driving shaft rotate smoothly and to reduce friction. This assembly with split cages can be attached more easily than a normal assembly. It is used for a manual transmission motor vehicle. **Application of GIRs 1 and 6 (Subheading Note 4 to Chapter 84).** *Adoption : 2017*



8482.50

- Other cylindrical roller bearings, including cage and roller assemblies

CLASSIFICATION OPINIONS

1. Crossed roller chains for linear movements, consisting of a series of cylindrical steel rollers, usually assembled so that the axes of rotation of adjacent rollers are at an angle of 90° to each

other, held in a pressed steel retainer.

Adoption : 1962

8482.80

- Other, including combined ball/roller bearings

8482.9

- Parts :

8482.91

-- Balls, needles and rollers

8482.99

-- Other

CLASSIFICATION OPINIONS

1. Finished inner ring for a flanged tapered roller bearing (internal diameter : 54 mm), made of steel.
Application of GIRs 1 (Note 2 (b) to Section XVI) and 6.
Adoption : 2018



Heading 8483

Transmission shafts (including cam shafts and crank shafts) and cranks; bearing housings and plain shaft bearings; gears and gearing; ball or roller screws; gear boxes and other speed changers, including torque converters; flywheels and pulleys, including pulley blocks; clutches and shaft couplings (including universal joints).

EXPLANATORY NOTES

84.83 - Transmission shafts (including cam shafts and crank shafts) and cranks; bearing housings and plain shaft bearings; gears and gearing; ball or roller screws; gear boxes and other speed changers, including torque converters; flywheels and pulleys, including pulley blocks; clutches and shaft couplings (including universal joints).

8483.10 - Transmission shafts (including cam shafts and crank shafts) and cranks

8483.20 - Bearing housings, incorporating ball or roller bearings

8483.30 - Bearing housings, not incorporating ball or roller bearings; plain shaft bearings

8483.40 - Gears and gearing, other than toothed wheels, chain sprockets and other transmission elements presented separately; ball or roller screws; gear boxes and other speed changers, including torque converters

8483.50 - Flywheels and pulleys, including pulley blocks

8483.60 - Clutches and shaft couplings (including universal joints)

8483.90 - Toothed wheels, chain sprockets and other transmission elements presented separately; parts.

The goods covered by this heading are mainly :

(i) Certain mechanical parts which are used in the transmission of power from an **external** power unit to one or more machines.

(ii) Certain **internal** parts of a machine, used to transmit power to the various parts of the same machine.

(A) TRANSMISSION SHAFTS (INCLUDING CAM SHAFTS AND CRANK SHAFTS) AND CRANKS

These usually transmit a rotary motive power. They include :

(1) **Main shafts or driving shafts** driven directly by the motor.

(2) **Counter shafts**, for coupling to the main shaft by belts and pulleys or by cogs, etc.; they are used to take the drive from the main shaft to a number of machines, or to different parts of a machine.

(3) **Articulated shafts**, consisting of two or more shafts connected by ball and socket joints, etc.

(4) **Flexible shafts** which transmit the motion of a driving unit to, e.g., hand tools, measuring instruments (revolution counters, speedometers, etc.).

(5) **Cranks and crank shafts**. These may be either made in one piece or assembled from several parts. They receive a reciprocating motion (e.g., from a piston engine) and convert it into rotary movement, or vice versa.

(6) **Cam shafts and eccentric shafts**.

The heading **does not cover** simple axles which do not transmit power but merely support a wheel or other revolving part.

It also **excludes :**

(a) Bars of iron or steel of uniform cross-section (**heading 72.14** or **72.15**).

(b) Simple lengths of twisted wire for the manufacture of flexible drives, not fitted with coupling attachments (**heading 73.12**).

(c) Oscillating connecting-rods for transmitting motion to cutter bars of lawn mowers or grass cutters (**heading 84.33**).

(B) BEARING HOUSINGS AND PLAIN SHAFT BEARINGS

Bearing housings consist of a frame or block designed to house the plain, ball, roller, etc., bearing in which (or, in the case of a thrust bearing, against which) the ends of a shaft or axle turn. They usually consist of two parts which, when fitted together, form a ring to hold the bearing. They may incorporate means of lubricating the bearing.

They also often incorporate a chair, plate, bracket, etc., by which they can be fixed to the machine, or to a wall or other part of a building; but chairs, plates, brackets, etc., not incorporating a bearing housing (nor themselves designed to house a bearing)**are classified according to the constituent material** (usually **heading 73.25** or **73.26**).

Bearing housings incorporating ball, roller or needle roller bearings remain classified in this heading; but ball, roller or needle roller bearings presented separately fall in **heading 84.82**.

On the other hand **plain shaft bearings** are classified in this heading even if they are presented without housings. They consist of rings of anti-friction metal or other material (e.g., sintered metal or plastics). They may be in one piece or in several pieces clamped together, and form a smooth bearing in which a shaft or axle turns.

The heading **does not include** graphite or other carbon bearings (**heading 68.15**).

(C) GEARS AND GEARING INCLUDING FRICTION GEARS AND CHAIN SPROCKETS

The **basic gear** is the toothed wheel, cylinder, cone, rack or worm, etc. In an assembly of such gears, the teeth of one engage with the teeth of another so that the rotary movement of the first is transmitted to the next, and so on. According to the relative number of teeth in the separate units, the rotary movement may be transmitted at the same rate, or at a faster or slower rate; according to the type of gear and the angle at which it meshes with the next, the direction of transmission may be changed, or a rotary movement converted into a linear movement or vice versa (as with a rack and pinion).

The group covers all types of gears including simple cog wheels, bevel gears, conical gears, helical gears, worms, rack and pinion gears, differential gears, etc., and assemblies of such gears. It also covers toothed and similar wheels for use with transmission chains.

The group also covers **friction gears**. These are wheels, discs or cylinders, which, when mounted one on the driving shaft and one on the driven shaft, transmit the movement by friction between them. They are usually of cast iron, in certain cases being covered with leather, wood, bonded fibres or other material to increase the friction.

(D) BALL OR ROLLER SCREWS

Ball or roller screws consist of a threaded shaft and a nut with bearing balls or rollers distributed along the path between the threads on its inner surface; these devices enable rotary motion to be converted into linear motion, and vice versa.

(E) GEAR BOXES AND OTHER SPEED CHANGERS, INCLUDING TORQUE CONVERTERS

These provide a range of speeds which can be varied, either by hand or automatically, according to the requirements of the machine. They include, *inter alia :*

(1) **Gear-boxes** consisting of assemblies of gears which can be selected in alternative arrangements; the speed of transmission can thus be varied according to the arrangement of gears set.

(2) **Friction disc or friction cone couplings and couplings with chains or driving belts**, in which a disc, a cone, a chain or a belt is in contact with a friction wheel whose position, relative to the centre of the disc or the ends of the cone, can be varied automatically (or as required), and so controls the speed of rotation transmitted.

(3) **Variable speed fluid couplings, including hydraulic torque converters**. Variations are obtained by the rotation of vanes of the driving element in a fluid (generally oil) against fixed or movable vanes of the driven element. Power is transmitted either by pressure (hydrostatic changers) or by flux (hydrodynamic changers or torque converters).

The heading **does not cover** gear boxes or other variable speed changers combined with a motor; these are classified in the same heading as the motor.

(F) FLYWHEELS

These are relatively large, heavy wheels, usually constructed so that the weight is concentrated near the rim. The inertia of the wheel as it turns tends to resist any change in speed of the motor and so keeps the speed constant. Flywheels may in some cases have a grooved or cogged rim, or be fitted with connecting-rods, so that in certain circumstances they can act for the transmission of power (e.g., as a driving pulley or cog wheel).

(G) PULLEYS, INCLUDING PULLEY BLOCKS

Pulleysconsist of wheels, sometimes with a grooved rim, which transmit rotary movement from one to another by means of an endless belt or rope revolving in contact between them. The heading covers simple pulleys, drums (wide pulleys), conical pulleys, stepped pulleys, etc.

The group also covers **pulley blocks** for hoists, etc., and free pulleys which do not transmit any power themselves but simply act as a guide or turning post for a transmission rope or cable (e.g., idlers and jockey wheels used to regulate the tension of driving belts).

An assembly of two or more pulley blocks (i.e., a hoist) is, however, **excluded** (**heading 84.25**).

(H) CLUTCHES

These are used to connect or disconnect the drive at will. They include :

Friction clutches in which rotating discs, rings, cones, etc. with friction surfaces, can be engaged or disengaged; dog (or claw) clutches in which the opposing members have projections and corresponding slots; automatic centrifugal clutches which engage or disengage according to the speed of rotation; compressed air clutches; hydraulic clutches; etc.

Electro-magnetic clutches, however, are **excluded** (**heading 85.05**).

(IJ) SHAFT COUPLINGS (INCLUDING UNIVERSAL JOINTS)

These include sleeve couplings, flange couplings, flexible couplings, hydraulic couplings, etc., and universal couplings (such as Cardan joints and Oldham couplings).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of the goods covered by this heading.

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The heading also **excludes** :

(a) Pieces roughly shaped by forging, of **heading 72.07**.

(b) Transmission equipment of the kinds described above (gear boxes, transmission shafts, clutches, differentials, etc.), but which are designed for use solely or principally with vehicles or aircraft (**Section XVII**); it should, however, be noted that this exclusion does not apply to internal parts of vehicle or aircraft engines - these parts remain classified in this heading.

Thus a crank shaft or a cam shaft remains in this heading even if it is specialised for a motor car engine; but motor car transmission (propeller) shafts, gear boxes and differentials fall in **heading 87.08**.

It should further be noted that transmission equipment of the type described in this heading remains classified here even if it is specially designed for ships.

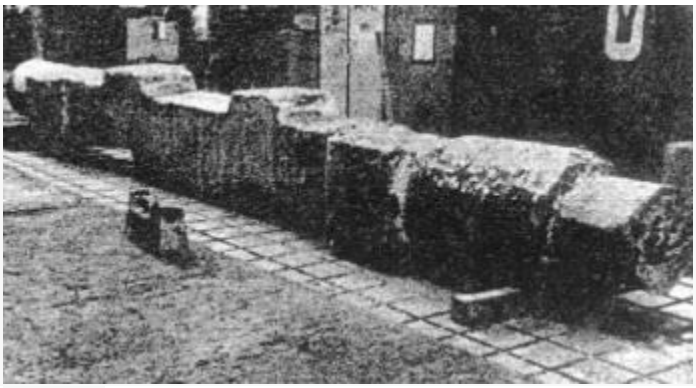
(c) Parts of clocks or watches (**heading 91.14**).

8483.10

- Transmission shafts (including cam shafts and crank shafts) and cranks

CLASSIFICATION OPINIONS

1. Closed-die crank shaft forgings being unfinished crank shafts. They are not further worked or formed beyond the forging process. **Application of GIR 2 (a) and Note 1 (f) to Section XV.** *Adoption : 2001*



8483.20

- Bearing housings, incorporating ball or roller bearings

8483.30

- Bearing housings, not incorporating ball or roller bearings; plain shaft bearings

8483.40

- Gears and gearing, other than toothed wheels, chain sprockets and other transmission elements presented separately; ball or roller screws; gear boxes and other speed changers, including torque converters

CLASSIFICATION OPINIONS

1. Slewing ring on ball or roller bearings, consisting of (1) one or more metal rings for mounting on the fixed part of the machine or mechanical appliance with which it is used and (2) a toothed metal ring to carry the mobile part of this machine or mechanical appliance and to turn this part when a rotary drive is applied to it by a motor.

Adoption : 1965

8483.50

- Flywheels and pulleys, including pulley blocks

CLASSIFICATION OPINIONS

1. Engine pulley made of steel, its inner part has a roller that allows the belt to slide and provides a uniform and permanent tension. It maintains the correct level of tension of the distribution band for its correct synchronization with parts of the motor. **Application of GIRs 1 and 6**.
Adoption : 2019



8483.60

- Clutches and shaft couplings (including universal joints)
8483.90

- Toothed wheels, chain sprockets and other transmission elements presented separately; parts
Heading 8484

Gaskets and similar joints of metal sheeting combined with other material or of two or more layers of metal; sets or assortments of gaskets and similar joints, dissimilar in composition, put up in pouches, envelopes or similar packings; mechanical seals.

EXPLANATORY NOTES

84.84 - Gaskets and similar joints of metal sheeting combined with other material or of two or more layers of metal; sets or assortments of gaskets and similar joints, dissimilar in composition, put up in pouches, envelopes or similar packings; mechanical seals.

8484.10 - Gaskets and similar joints of metal sheeting combined with other material or of two or more layers of metal

8484.20 - Mechanical seals

8484.90 - Other

(A) GASKETS AND SIMILAR JOINTS OF METAL SHEETING COMBINED WITH OTHER MATERIAL OR OF TWO OR MORE LAYERS OF METAL

These are composed of :

(i) A core of asbestos (or sometimes felt, cardboard or other non-metallic material) sandwiched between two metal sheets.

or (ii) Asbestos or other non-metallic materials cut to shape, and with metal sheeting folded along the outer edges and around the edges of any holes punched in the gasket or joint.

or (iii) Layers or metal foil (of the same metal or of dissimilar metals) pressed together.

They are mainly used in certain motors or pumps, or for certain pipe joints.

But the heading **excludes** gaskets and joints of asbestos board reinforced with metal wire or metal gauze (**heading 68.12**), **unless** forming part of a set or assortment covered by the second part of this heading.

(B) SETS OR ASSORTMENTS OF GASKETS AND SIMILAR JOINTS

Such sets or assortments of any material (agglomerated cork, leather, rubber, textiles, paperboard, asbestos, etc.) are classified here when put up in pouches, envelopes, boxes, etc., **provided** that the gaskets or joints are **not** all of the same material.

To be classified here, the sets and assortments **must** contain at least two gaskets or joints of different material. Therefore a pouch, envelope, box, etc., containing, for example, five gaskets all made of

paperboard, is **not covered by the heading** but is classified in **heading 48.23**; but if the set also included a rubber gasket it would fall in this heading.

(C) MECHANICAL SEALS

Mechanical seals (e.g., sliding-ring seals and spring-ring seals) constitute mechanical assemblies which form a leakproof joint between flat, rotating surfaces to prevent high-pressure leakage in the machine or apparatus on which they are mounted, resisting the pressure and stress exerted on them by moving components or due to vibrations, etc.

The structure of these seals is generally fairly complex. They comprise :

(i) fixed parts which, when the seal is placed, become integral with the machine or apparatus; and

(ii) movable parts : rotating elements, spring elements, etc.

It is specifically on account of these movable parts that the articles are called “mechanical seals”.

These seals act as anti-vibration devices, bearings, actual seals and, in some cases, as unions. These seals have numerous applications, including in pumps, compressors, mixers, agitators and turbines; they are produced from a variety of materials and in various configurations.

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The heading **does not cover** :

(a) Gaskets or joints, other than the composite types incorporating metal sheeting or foil, which do not comply with the conditions set out in (B) above; these are generally classified according to their constituent material.

(b) Machinery packing (e.g., of asbestos cord **heading 68.12**).

(c) Oil seal rings of **heading 84.87**.

8484.10

- Gaskets and similar joints of metal sheeting combined with other material or of two or more layers of metal

8484.20

- Mechanical seals

8484.90

- Other

Heading 8485

Machines for additive manufacturing.

EXPLANATORY NOTES

84.85 - Machines for additive manufacturing.

8485.10 - By metal deposit

8485.20 - By plastics or rubber deposit

8485.30 - By plaster, cement, ceramics or glass deposit

8485.80 - Other

8485.90 - Parts

This heading covers machines of a kind used for additive manufacturing (also referred to as 3D printing) which is a process for the formation of physical objects based on a digital model. The machine creates the object, on the basis of a design file provided to the machine, by the successive addition and layering, and consolidation and solidification, of material. The machine uses selective application of an energy source, e.g., lasers, resistors, electron beams or UV light, to produce a 3-dimensional object out of materials such as metals, plastics, rubber, plaster, cement, ceramics, glass, wood, paper or seed cells. Depending on the type of machine and the material used, a wide variety of objects can be created in this fashion, including medical devices, prosthetics, art, firearms, buildings and parts thereof, clothes and parts.

This heading covers various types of additive manufacturing machines, for example :

(1) Binder jetting machines which use powder and a liquid binder to create objects. The powder (e.g., metal, plastics, rubber or glass) is spread in layers and each layer has a liquid binder added to glue the powder together. In this way the layers are hardened and joined to form the object, which is then cleaned and cured.

(2) Stereolithography machines layer liquid materials (e.g., photopolymer resins or plastics). The UV laser scans and hardens the first layer of plastics and then the platform rises, allowing the successive layers of plastics to be hardened.

(3) Material jetting machines layer plastics, such as Polypropylene (PP), High-density polyethylene (HDPE), Polystyrene (PS), Polymethyl methacrylate (PMMA), Polycarbonate (PC), Acrylonitrile Butadiene Styrene (ABS), High Impact Polystyrene (HIPS) and Environmentally Degradable Plastic (ED). The material drips out of a nozzle and is then hardened by a UV light.

(4) Material extrusion machines heat filaments inside an extrusion nozzle that moves in a vertical and horizontal motion, depositing the melted material which then hardens.

(5) Powder bed fusion machines use laser scans or electron beams to melt powder materials layer by layer in order to form an object.

(6) Additive manufacturing machines that layer sheets (commonly of plastics) and fuse those layers together according to a digital model to produce specific three-dimensional objects. These differ from sheet laminating machines, which bond two or more sheets together to form a composite material.

(7) Directed energy deposition machines, which use electron beams to melt materials as they are being deposited in order to form an object.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here**,** including printer cartridges specifically designed for containing materials and limited to use with a particular 3D printer, ***excluding*** those without electronic components or mechanical mechanisms.

8485.10

- By metal deposit

8485.20

- By plastics or rubber deposit

8485.30

- By plaster, cement, ceramics or glass deposit

8485.80

- Other

8485.90

- Parts

Heading 8486

Machines and apparatus of a kind used solely or principally for the manufacture of semiconductor boules or wafers, semiconductor devices, electronic integrated circuits or flat panel displays; machines and apparatus specified in Note 11 (C) to this Chapter; parts and accessories.

EXPLANATORY NOTES

84.86 - Machines and apparatus of a kind used solely or principally for the manufacture of semiconductor boules or wafers, semiconductor devices, electronic integrated circuits or flat panel displays; machines and apparatus specified in Note 11 (C) to this Chapter; parts and accessories.

8486.10 - Machines and apparatus for the manufacture of boules or wafers

8486.20 - Machines and apparatus for the manufacture of semiconductor devices or of electronic integrated circuits

8486.30 - Machines and apparatus for the manufacture of flat panel displays

8486.40 - Machines and apparatus specified in Note 11 (C) to this Chapter

8486.90 - Parts and accessories

This heading covers machines and apparatus of a kind used solely or principally for the manufacture of semiconductor boules or wafers, semiconductor devices, electronic integrated circuits or flat panel displays. However, this heading **excludes** machines and apparatus for measuring, checking, inspecting, chemical analysis, etc. (**Chapter 90**).

(A) MACHINES AND APPARATUS FOR THE MANUFACTURE OF

BOULES OR WAFERS

This group covers machines and apparatus for the manufacture of boules or wafers such as :

(1) **One-melt furnaces** for zone melting and refining of silicon rods, oxidation furnaces for oxidizing the surface of wafers and diffusion furnaces for doping the wafers with impurities.

(2) **Crystal growers and pullers** for the production of extremely pure monocrystalline semiconductor boules from which wafers can be sliced.

(3) **Crystal grinders**, which grind the crystal boule to precise diameter required for wafers and to grind the flats on the boule to indicate the conductivity type and resistivity of the crystal.

(4) **Wafer slicing saws**, which slice wafers from a boule of monocrystalline semiconductor material.

(5) **Wafer grinders, lappers and polishers,** which prepare the semiconductor wafer for the fabrication process. This involves bringing the wafer within dimensional tolerances. Especially critical is the flatness of its surface.

(6) **Chemical mechanical polishers (CMP)**, which flatten and polish a wafer by combining chemical removal with mechanical buffing.

(B) MACHINES AND APPARATUS FOR THE MANUFACTURE OF SEMICONDUCTOR DEVICES OR OF ELECTRONIC INTEGRATED CIRCUITS

This group covers machines and apparatus for the manufacture of semiconductor devices or of electronic integrated circuits such as :

(1) **Film formation equipment**, which apply or produce various films on the surface of the wafer during the fabrication process. These films serve as conductors, insulators and semiconductors on the finished device. They may include oxides and nitrides of the substrate surface, metals, and epitaxial layers. The processes and equipments listed below are not necessarily limited to the generation of a particular type of film.

(a) **Oxidation furnaces**, which form a “film” of oxide on the wafer. The oxide is formed by the chemical reaction of the top molecular layers of the wafer with the applied oxygen or steam under heat.

(b) **Chemical Vapour Deposition (CVD) equipment**, which deposit various types of films which are obtained by combining the appropriate gases in a reactant chamber at elevated temperatures. This constitutes a thermochemical vapor-phase reaction. Operations may take place at atmospheric or low pressure (LPCVD) and may use plasma enhancement (PECVD).

(c) **Physical Vapour Deposition (PVD) equipment**, which deposit various types of films which are obtained by vaporizing a solid. For example :

(1) **Evaporation equipment**, in which the film is generated by heating the source material.

(2) **Sputtering equipment**, in which the film is generated by bombarding the source material (target) with ions.

(d) **Molecular Beam Epitaxy (MBE) equipment**, which grow epitaxial layers on a heated monocrystalline substrate in an ultrahigh vacuum using beams of molecules. The process is similar to PVD.

(2) **Doping equipmen**t, which introduce dopants into the wafer surface in order to modify the conductivity or other characteristics of a semiconductor layer such as :

(a) **Thermal diffusion equipment**, in which the dopants are introduced into the surface of the wafer by the application of gases under high temperatures.

(b) **Ion Implantation**, in which the dopants are "driven" into the crystal lattice structure of the surface of the wafer in the form of a beam of accelerated ions.

(c) **Annealing furnaces**, which repair the crystal lattice structures of the wafer damaged by ion implantation.

(3) **Etching and stripping equipment** for etching or cleaning surfaces of the wafers such as :

(a) **Wet etching equipment**, in which chemical etching materials are applied by spraying or immersion. Spray etchers provide more uniform results than bath etchers, since they perform the operation on one wafer at a time.

(b) **Dry plasma etching**, in which etching materials are presented as gases within a plasma energy field, providing an anisotropic etch profile. Dry-etchers use several different methods for creating gaseous plasma which removes thin film materials from semiconductor wafers.

(c) **Ion beam milling equipment**, in which ionized gas atoms are accelerated toward the wafer surface. The impact results in the top layer being physically removed from the surface.

(d) **Strippers or ashers**, using techniques similar to etching this apparatus removes the spent photoresist from the surface of the wafer after it has served its purpose as a "stencil". This equipment may also remove nitrides, oxides, and polysilicon, with an isotropic etch profile.

(4) **Lithography equipment**, which transfer the circuit designs to the photoresist-coated surface of the semiconductor wafer such as :

(a) **Equipment for coating wafers with photoresist**. These include the photoresist spinners which apply liquid photoresist evenly over the surface of the wafer.

(b) **Equipment for exposing the photoresist coated wafer with the circuit design** (or a part thereof) :

(i) **Using a mask or reticle and exposing the photoresist to light** (generally ultraviolet) or, in some instances, X-rays :

(a) **Contact printers**, where the mask or reticle is in contact with the wafer during exposure.

(b) **Proximity aligners**, which are similar to contact aligners except actual contactdoes not take place between the mask or reticle and the wafer.

(c) **Scanning aligners**, which use projection techniques to expose a continuously moving slit across the mask and wafer.

(d) **Step and repeat aligners**, which use projection techniques to expose the wafer a portion at a time. Exposure can be by reduction from the mask to the wafer or 1 : 1. Enhancements include the use of an excimer laser.

(ii) **Direct write on wafer equipment**. These apparatus operate with no mask or reticle. They use an automatic data processing machine-controlled "writing beam" (such as an electron beam (E-beam), ion beam or laser) to "draw" the circuit design directly on the photoresist coated wafer.

(5) **Equipment for developing exposed wafers**. These include chemical baths similar to those used in photographic laboratory applications.

This heading also covers :

(i) **Centrifuges** for spin-coating insulating substrate or wafers with photoresist.

(ii) **Screen printers** for printing insulating substrate with etch-resisting ink.

(iii) **Laser scribing machines** for dividing wafers into chips (dicing).

(iv) **Wafer dicing saws**.

(C) MACHINES AND APPARATUS FOR THE MANUFACTURE OF FLAT PANEL DISPLAYS

This group covers the fabrication of substrates into a flat panel. However, it does not cover the manufacture of glass or the assembly of printed circuit boards or other electronic components onto the flat panel.

This heading covers machines and apparatus for the manufacture of flat panel displays such as :

(1) **Apparatus for etching, developing, stripping or cleaning**.

(2) **Apparatus for projection, drawing or plating circuit patterns**.

(3) **Centrifugal spin dryers and other drying appliances**.

(4) **Machines (spinners) designed to coat photographic emulsions**.

(5) **Ion implanters for doping**.

(6) **Furnaces, ovens and other equipment for diffusion, oxidation, annealing or rapid heating**.

(7) **Chemical Vapour Deposition and Physical Vapour Deposition apparatus**.

(8) **Machines for grinding and polishing**.

(9) **Machines for sawing, scribing or scoring**.

(D) MACHINES AND APPARATUS SPECIFIED IN

NOTE 11 (C) TO THIS CHAPTER

This group covers machines and apparatus solely or principally of a kind used for :

(1) **the manufacture or repair of masks and reticles** (e.g., appliances (photoplotters) for the photographic production of photomasks and ion milling machines for the repair of masks and reticles);

(2) **assembling semiconductor devices or electronic integrated circuits**, e.g. :

(a) **Laser engraving machines** for engraving the plastic casing of completed monolithic integrated circuits or discrete semiconductor components.

(b) **Encapsulation equipment such as presses** for making the plastic casings for chips by pressing plastic material around the chips.

(c) **Wire bonders** for welding gold wires to the contact points of monolithic integrated circuits by ultrasonic or electrical compression welding.

(d) **Wafer bumping** which is a process where connections are formed on an entire wafer before dicing.

(3) **lifting, handling, loading or unloading of boules, wafers, semiconductor devices, electronic integrated circuits and flat panel displays** (e.g., automated material handling machines for transport, handling and storage of semiconductor wafers, wafer cassettes, wafer boxes and other material for semiconductor devices).

(E) PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading includes parts and accessories for the machines and apparatus of this heading. Parts and accessories falling in this heading thus include, *inter alia*, work or tool holders and other special attachments which are solely or principally used for the machines and apparatus of this heading.

8486.10

- Machines and apparatus for the manufacture of boules or wafers

8486.20

- Machines and apparatus for the manufacture of semiconductor devices or of electronic integrated circuits

CLASSIFICATION OPINIONS

1. Modular system for physical vapour deposition of metal on semiconductor wafers, orming a whole and consisting essentially of a deposition module fitted with a magnetron, a turbomolecular vacuum pump, a robotic handling device, and a heating devi Once a wafer has entered the deposition chamber, a target disk of high-purity metal, e.g., aluminium, is bombarded with ions produced from argon gas (introduced into the chamber via a gas distribution system). This causes particles of metal to be removed from its surface and deposited onto the wafer ("sputtering"). The action of the gas hitting the target disk causes neutral (uncharged) atoms of metal to be "dislodged" from the target by the kinetic (physical) force of the bombarding ions. Once these atoms are "dislodged", they are deposited on the wafer to form a thin film of conductive material.
The system is used for coating semiconductor wafers used in the production of complex integrated circuits.

Application of Note 3 to Section XVI.

Adoption : 1998

8486.30

- Machines and apparatus for the manufacture of flat panel displays

8486.40

- Machines and apparatus specified in Note 11 (C) to this Chapter

8486.90

- Parts and accessories

Heading 8487

Machinery parts, not containing electrical connectors, insulators, coils, contacts or other electrical features, not specified or included elsewhere in this Chapter.

EXPLANATORY NOTES

84.87 - Machinery parts, not containing electrical connectors, insulators, coils, contacts or other electrical features, not specified or included elsewhere in this Chapter.

8487.10 - Ships' or boats' propellers and blades therefor

8487.90 - Other

This heading covers all **non-electrical** parts of machinery, **other than** :

(a) Those specially designed for use **solely or principally** with a **particular** machine (including a machine of **heading 84.79** or **85.43**, of **Section XVII**, **Chapter 90**, etc.) and therefore classified in the same heading as that particular machine (or, where a separate heading is provided, in that separate heading).

(b) Parts covered by **heading 84.81** to **84.84**.

(c) Parts covered more specifically by other headings of the Nomenclature or excluded by Note 1 to Section XVI or Note 1 to Chapter 84, for example, transmission or conveyor belts or belting, of plastics (**Chapter 39**); transmission or conveyor belts or belting, of vulcanised rubber

(**heading 40.10**), and other parts made of unhardened vulcanised rubber (**heading 40.16**); parts made of leather or of composition leather (**heading 42.05**); transmission or conveyor belts or belting, of textile material (**heading 59.10**), and other machinery parts made of textile material (**heading 59.11**); parts made of ceramics or of glass (**Chapter 69** or **70**); machinery parts made wholly of precious or semi-precious stones (natural, synthetic or reconstructed) (**Chapter 71**); screws, chains, springs and other parts of general use as defined in Note 2 to **Section XV**; brushes (**heading 96.03**).

In general, therefore, the goods of this heading are such as can be recognised as being parts of machines, but not as parts of any **particular** machine. **Subject** to these conditions, the heading includes non-automatic lubricating pots; greasing nipples; hand wheels, levers and hand grips; safety guards and baseplates; and oil seal rings. These rings, which are generally of circular cross-section, have a fairly simple structure (a flexible rubber ring and a metal reinforcement assembled by vulcanisation, for example), characterised by the absence of movable parts. They are used in a large number of machines or apparatus to prevent leaks of oil or gas or to prevent dust, etc., from entering, by sealing the surfaces to be joined.

The heading also covers propellers and paddle-wheels for ships or boats.

8487.10

- Ships' or boats' propellers and blades therefor

8487.90

- Other

CLASSIFICATION OPINIONS

1. Articulated bands, known as “cable drag chains”, provided with cross stays, whether or not running in a guiding channel, designed to carry and guide electrical cables or liquid or gas feed lines for machines or machine parts which move over small distances while working, but not identifiable as being designed for a particular machine.
Adoption : 1961

2. Ball bearing control cables :
Not identifiable as suitable for use solely or principally with a particular machine, apparatus or vehicle :

(i) Equally suitable for use on several types of machines of Ch. 84.

(ii) Equally suitable for use on the machines, apparatus, vehicles, aircraft, vessels, etc., of Sect. XVI and XVII.

Application of Note 2 (c) to Section XVI.
See also Opinions Sect. XVI/1, Sect. XVII/1 and 9033.00/1.
Adoption : 1962

3. Stirring attachments for agitators or mixers, consisting of stirring blades (fins, rake, cross-membered frame, etc.), whether or not fitted with a shank, presented separately : Equally suitable for use with appliances falling within different headings of Sect. XVI.
See also Opinion Sect. XVI/2.
Adoption : 1963

4. Track link assembly :
Equally suitable for tracks for a bulldozer or other machines of Sect. XVI or for vehicles of Sect. XVII.
See also Opinions 8431.49/1, 8708.99/1 and 8710.00/1
Adoption : 1965

5. Vibration absorbing mountings in the form of an iron or steel ring-shaped support, with a square base, consisting of two interlocking metal parts which grip a rubber diaphragm; a metal sleeve is moulded into the centre of the diaphragm for a bolt which holds the supporting member of the machine or appliance to be insulated against vibration and rubber pads protrude around the ring to act as overload stops.
See also Opinions 4016.99/1 and 7318.29/1.
Adoption : 1966

Chapter 85

Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Electrically warmed blankets, bed pads, foot-muffs or the like; electrically warmed clothing, footwear or ear pads or other electrically warmed articles worn on or about the person;

(b) Articles of glass of heading 70.11;

(c) Machines and apparatus of heading 84.86;

(d) Vacuum apparatus of a kind used in medical, surgical, dental or veterinary sciences (heading 90.18); or

(e) Electrically heated furniture of Chapter 94.

2.- Headings 85.01 to 85.04 do not apply to goods described in heading 85.11, 85.12, 85.40, 85.41 or 85.42.

However, metal tank mercury arc rectifiers remain classified in heading 85.04.

3.- For the purposes of heading 85.07, the expression “electric accumulators” includes those presented with ancillary components which contribute to the accumulator’s function of storing and supplying energy or protect it from damage, such as electrical connectors, temperature control devices (for example, thermistors) and circuit protection devices. They may also include a portion of the protective housing of the goods in which they are to be used.

4.- Heading 85.09 covers only the following electro-mechanical machines of the kind commonly used for domestic purposes :

(a) Floor polishers, food grinders and mixers, and fruit or vegetable juice extractors, of any weight;

(b) Other machines provided the weight of such machines does not exceed 20 kg.

The heading does not, however, apply to fans or ventilating or recycling hoods incorporating a fan, whether or not fitted with filters (heading 84.14), centrifugal clothes-dryers (heading 84.21), dish washing machines (heading 84.22), household washing machines (heading 84.50), roller or other ironing machines (heading 84.20 or 84.51), sewing machines (heading 84.52), electric scissors (heading 84.67) or to electrothermic appliances (heading 85.16).

5.- For the purposes of heading 85.17, the term "smartphones” means telephones for cellular networks, equipped with a mobile operating system designed to perform the functions of an automatic data processing machine such as downloading and running multiple applications

simultaneously, including thirdparty applications, and whether or not integrating other features such as digital cameras and navigational aid systems.

6.- For the purposes of heading 85.23 :

(a) “Solid-state non-volatile storage devices” (for example, “flash memory cards” or “flash electronic storage cards”) are storage devices with a connecting socket, comprising in the same housing one or more flash memories (for example, “FLASH E2PROM”) in the form of integrated circuits mounted on a printed circuit board. They may include a controller in the form of an integrated circuit and discrete passive components, such as capacitors and resistors;

(b) The term “smart cards” means cards which have embedded in them one or more electronic integrated circuits (a microprocessor, random access memory (RAM) or read-only memory (ROM)) in the form of chips. These cards may contain contacts, a magnetic stripe or an embedded antenna but do not contain any other active or passive circuit elements.

7.- For the purposes of heading 85.24, “flat panel display modules” refer to devices or apparatus for the display of information, equipped at a minimum with a display screen, which are designed to be incorporated into articles of other headings prior to use. Display screens for flat panel display modules include, but are not limited to, those which are flat, curved, flexible, foldable or stretchable in form. Flat panel display modules may incorporate additional elements, including those necessary for receiving video signals and the allocation of those signals to pixels on the display. However, heading 85.24 does not include display modules which are equipped with components for converting video signals (e.g., a scaler IC, decoder IC or application processer) or have otherwise assumed the character of goods of other headings.

For the classification of flat panel display modules defined in this Note, heading 85.24 shall take precedence over any other heading in the Nomenclature.

8.- For the purposes of heading 85.34 “printed circuits” are circuits obtained by forming on an insulating base, by any printing process (for example, embossing, plating-up, etching) or by the “film circuit” technique, conductor elements, contacts or other printed components (for example, inductances, resistors, capacitors) alone or interconnected according to a pre-established pattern, other than elements which can produce, rectify, modulate or amplify an electrical signal (for example, semiconductor elements).

The expression “printed circuits” does not cover circuits combined with elements other than those obtained during the printing process, nor does it cover individual, discrete resistors, capacitors or inductances. Printed circuits may, however, be fitted with non-printed connecting elements.

Thin- or thick-film circuits comprising passive and active elements obtained during the same technological process are to be classified in heading 85.42.

9.- For the purpose of heading 85.36, “connectors for optical fibres, optical fibre bundles or cables” means connectors that simply mechanically align optical fibres end to end in a digital line system. They perform no other function, such as the amplification, regeneration or modification of a signal.

10.- Heading 85.37 does not include cordless infrared devices for the remote control of television receivers or other electrical equipment (heading 85.43).

11.- For the purposes of heading 85.39, the expression “light-emitting diode (LED) light sources” covers :

(a) “Light-emitting diode (LED) modules” which are electrical light sources based on light-emitting diodes (LED) arranged in electrical circuits and containing further elements like electrical, mechanical, thermal or optical elements. They also contain discrete active elements, discrete passive elements, or articles of heading 85.36 or 85.42 for the purposes of providing power supply or power control. Lightemitting diode (LED) modules do not have a cap designed to allow easy installation or replacement in a luminaire and ensure mechanical and electrical contact.

(b) “Light-emitting diode (LED) lamps” which are electrical light sources containing one or more LED modules containing further elements like electrical, mechanical, thermal or optical elements. The distinction between light-emitting diode (LED) modules and light-emitting diode (LED) lamps is that lamps have a cap designed to allow easy installation or replacement in a luminaire and ensure mechanical and electrical contact.

12.- For the purposes of headings 85.41 and 85.42 :

(a)(i) “Electronic integrated circuits” are :

“Semiconductor devices” are semiconductor devices the operation of which depends on variations in resistivity on the application of an electric field or semiconductor-based transducers. Semiconductor devices may also include assembly of plural elements, whether or not equipped with active and passive device ancillary functions. “Semiconductor-based transducers” are, for the purposes of this definition, semiconductorbased sensors, semiconductorbased actuators, semiconductorbased resonators and semiconductor-based oscillators, which are types of discrete semiconductor-based devices, which perform an intrinsic function, which are able to convert any kind of physical or chemical phenomena or an action into an electrical signal or an electrical signal into any type of physical phenomenon or an action.

All the elements in semiconductorbased transducers are indivisibly combined, and may also include necessary materials indivisibly attached, that enable their construction or function. The following expressions mean :

(1) “Semiconductor-based” means built or manufactured on a semiconductor substrate or made of semiconductor materials, manufactured by semiconductor technology, in which the semiconductor substrate or material plays a critical and unreplaceable role of transducer function and performance, and the operation of which is based on semiconductor properties including physical, electrical, chemical and optical properties.

(2) “Physical or chemical phenomena” relate to phenomena, such as pressure, acoustic waves, acceleration, vibration, movement, orientation, strain, magnetic field strength, electric field strength, light, radioactivity, humidity, flow, chemicals concentration, etc.

(3) “Semiconductor-based sensor” is a type of semiconductor device, which consists of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of detecting physical or chemical quantities and converting these into electric signals caused by resulting variations in electric properties or displacement of a mechanical structure.

(4) “Semiconductor-based actuator” is a type of semiconductor device, which consists of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of converting electric signals into physical movement.

(5) “Semiconductor-based resonator” is a type of semiconductor device, which consists of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of generating a mechanical or electrical oscillation of a predefined frequency that depends on the physical geometry of these structures in response to an external input.

(6) “Semiconductor-based oscillator” is a type of semiconductor device, which consists of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of generating a mechanical or electrical oscillation of a predefined frequency that depends on the physical geometry of these structures.

(ii) “Light-emitting diodes (LED)” are semiconductor devices based on semiconductor materials which convert electrical energy into visible, infra-red or ultra-violet rays, whether or not electrically connected among each other and whether or not combined with protective diodes. Light-emitting diodes (LED) of heading 85.41 do not incorporate elements for the purposes of providing power supply or power control;

(b) “Electronic integrated circuits” are :

(i) Monolithic integrated circuits in which the circuit elements (diodes, transistors, resistors, capacitors, inductances, etc.) are created in the mass (essentially) and on the surface of a semiconductor or compound semiconductor material (for example, doped silicon, gallium arsenide, silicon germanium, indium phosphide) and are inseparably associated;

(ii) Hybrid integrated circuits in which passive elements (resistors, capacitors, inductances, etc.), obtained by thin- or thick-film technology, and active elements (diodes, transistors, monolithic integrated circuits, etc.), obtained by semiconductor technology, are combined to all intents and purposes indivisibly, by interconnections or interconnecting cables, on a single insulating substrate (glass, ceramic, etc.). These circuits may also include discrete components;

(iii) Multichip integrated circuits consisting of two or more interconnected monolithic integrated circuits combined to all intents and purposes indivisibly, whether or not on one or more insulating substrates, with or without leadframes, but with no other active or passive circuit elements.

(iv) Multi-component integrated circuits (MCOs) : a combination of one or more monolithic, hybrid, or multi-chip integrated circuits with at least one of the following components : silicon-based sensors, actuators, oscillators, resonators or combinations thereof, or components performing the functions of articles classifiable under heading 85.32, 85.33, 85.41, or inductors classifiable under heading 85.04, formed to all intents and purposes indivisibly into a single body like an integrated circuit, as a component of a kind used for assembly onto a printed circuit board (PCB) or other carrier, through the connecting of pins, leads, balls, lands, bumps, or pads.

For the purpose of this definition :

1. “Components” may be discrete, manufactured independently then assembled onto the rest of the MCO, or integrated into other components.

2. “Silicon based” means built on a silicon substrate, or made of silicon materials, or manufactured onto integrated circuit die.

3. (a) “Silicon based sensors” consist of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of detecting physical or chemical phenomena and transducing these into electric signals, caused by resulting variations in electric properties or displacement of a mechanical structure. “Physical or chemical phenomena” relates to real world phenomena, such as pressure, acoustic waves, acceleration, vibration, movement, orientation, strain, magnetic field strength, electric field strength, light, radioactivity, humidity, flow, chemicals concentration, etc.

(b) “Silicon based actuators” consist of microelectronic and mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of converting electrical signals into physical movement.

(c) “Silicon based resonators” are components that consist of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and have the function of generating a mechanical or electrical oscillation of a predefined frequency that depends on the physical geometry of these structures in response to an external input.

(d) “Silicon based oscillators” are active components that consist of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of generating a mechanical or electrical oscillation of a predefined frequency that depends on the physical geometry of these structures.

For the classification of the articles defined in this Note, headings 85.41 and 85.42 shall take precedenceover any other heading in the Nomenclature, except in the case of heading 85.23, which might cover them by reference to, in particular, their function.

Subheading Notes.

1.- Subheading 8525.81 covers only high-speed television cameras, digital cameras and video camera recorders having one or more of the following characteristics :
- writing speed exceeding 0.5 mm per microsecond;
- time resolution 50 nanoseconds or less;
- frame rate exceeding 225,000 frames per second.

2.- In respect of subheading 8525.82, radiationhardened or radiation-tolerant television cameras, digital cameras and video camera recorders are designed or shielded to enable operation in a high-radiation environment. These cameras are designed to withstand a total radiation dose of at least 50 × 103 Gy(silicon) (5 × 106 RAD (silicon)), without operational degradation.

3.- Subheading 8525.83 covers night vision television cameras, digital cameras and video camera recorders which use a photocathode to convert available light to electrons, which can be amplified and converted to yield a visible image. This subheading excludes thermal imaging cameras (generally subheading 8525.89).

4.- Subheading 8527.12 covers only cassette-players with built-in amplifier, without built-in loudspeaker, capable of operating without an external source of electric power and the dimensions of which do not exceed 170 mm x 100 mm x 45 mm.

5.- For the purposes of subheadings 8549.11 to 8549.19, “spent primary cells, spent primary batteries and spent electric accumulators” are those which are neither usable as such because of breakage, cutting-up, wear or other reasons, nor capable of being recharged.

EXPLANATORY NOTES

Chapter 85

Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles

Notes.

1.- This Chapter does not cover :

(a) Electrically warmed blankets, bed pads, foot-muffs or the like; electrically warmed clothing, footwear or ear pads or other electrically warmed articles worn on or about the person;

(b) Articles of glass of heading 70.11;

(c) Machines and apparatus of heading 84.86;

(d) Vacuum apparatus of a kind used in medical, surgical, dental or veterinary sciences (heading 90.18); or

(e) Electrically heated furniture of Chapter 94.

2.- Headings 85.01 to 85.04 do not apply to goods described in heading 85.11, 85.12, 85.40, 85.41 or 85.42.

However, metal tank mercury arc rectifiers remain classified in heading 85.04.

3.- For the purposes of heading 85.07, the expression “electric accumulators” includes those presented with ancillary components which contribute to the accumulator’s function of storing and supplying energy or protect it from damage, such as electrical connectors, temperature control devices (for example, thermistors) and circuit protection devices. They may also include a portion of the protective housing of the goods in which they are to be used.

4.- Heading 85.09 covers only the following electro-mechanical machines of the kind commonly used for domestic purposes :

(a) Floor polishers, food grinders and mixers, and fruit or vegetable juice extractors, of any weight;

(b) Other machines provided the weight of such machines does not exceed 20 kg.

The heading does not, however, apply to fans or ventilating or recycling hoods incorporating a fan, whether or not fitted with filters (heading 84.14), centrifugal clothes-dryers (heading 84.21), dish washing machines (heading 84.22), household washing machines (heading 84.50), roller or other

ironing machines (heading 84.20 or 84.51), sewing machines (heading 84.52), electric scissors (heading 84.67) or to electrothermic appliances (heading 85.16).

5.- For the purposes of heading 85.17, the term "smartphones" means telephones for cellular networks, equipped with a mobile operating system designed to perform the functions of an automatic data processing machine such as downloading and running multiple applications simultaneously, including thirdparty applications, and whether or not integrating other features such as digital cameras and navigational aid systems.

6.- For the purposes of heading 85.23 :

(a) "Solid-state non-volatile storage devices" (for example, "flash memory cards" or "flash electronic storage cards") are storage devices with a connecting socket, comprising in the same housing one or more flash memories (for example, "FLASH E2PROM") in the form of integrated circuits mounted on a printed circuit board. They may include a controller in the form of an integrated circuit and discrete passive components, such as capacitors and resistors;

(b) The term "smart cards" means cards which have embedded in them one or more electronic integrated circuits (a microprocessor, random access memory (RAM) or read-only memory (ROM)) in the form of chips. These cards may contain contacts, a magnetic stripe or an embedded antenna but do not contain any other active or passive circuit elements.

7.- For the purposes of heading 85.24, "flat panel display modules" refer to devices or apparatus for the display of information, equipped at a minimum with a display screen, which are designed to be incorporated into articles of other headings prior to use. Display screens for flat panel display modules include, but are not limited to, those which are flat, curved, flexible, foldable or stretchable in form. Flat panel display modules may incorporate additional elements, including those necessary for receiving video signals and the allocation of those signals to pixels on the display. However, heading 85.24 does not include display modules which are equipped with components for converting video signals (e.g., a scaler IC, decoder IC or application processer) or have otherwise assumed the character of goods of other headings.

For the classification of flat panel display modules defined in this Note, heading 85.24 shall take precedence over any other heading in the Nomenclature.

8.- For the purposes of heading 85.34 "printed circuits" are circuits obtained by forming on an insulating base, by any printing process (for example, embossing, plating-up, etching) or by the "film circuit" technique, conductor elements, contacts or other printed components (for example, inductances, resistors, capacitors) alone or interconnected according to a pre-established pattern, other than elements which can produce, rectify, modulate or amplify an electrical signal (for example, semiconductor elements).

The expression "printed circuits" does not cover circuits combined with elements other than those obtained during the printing process, nor does it cover individual, discrete resistors, capacitors or inductances. Printed circuits may, however, be fitted with non-printed connecting elements.

Thin- or thick-film circuits comprising passive and active elements obtained during the same technological process are to be classified in heading 85.42.

9.- For the purpose of heading 85.36, “connectors for optical fibres, optical fibre bundles or cables” means connectors that simply mechanically align optical fibres end to end in a digital line system. They perform no other function, such as the amplification, regeneration or modification of a signal.

10.- Heading 85.37 does not include cordless infrared devices for the remote control of television receivers or other electrical equipment (heading 85.43).

11.- For the purposes of heading 85.39, the expression “light-emitting diode (LED) light sources” covers :

(a) “Light-emitting diode (LED) modules” which are electrical light sources based on light-emitting diodes (LED) arranged in electrical circuits and containing further elements like electrical, mechanical, thermal or optical elements. They also contain discrete active elements, discrete passive elements, or articles of heading 85.36 or 85.42 for the purposes of providing power supply or power control. Lightemitting diode (LED) modules do not have a cap designed to allow easy installation or replacement in a luminaire and ensure mechanical and electrical contact.

(b) “Light-emitting diode (LED) lamps” which are electrical light sources containing one or more LED modules containing further elements like electrical, mechanical, thermal or optical elements. The distinction between light-emitting diode (LED) modules and light-emitting diode (LED) lamps is that lamps have a cap designed to allow easy installation or replacement in a luminaire and ensure mechanical and electrical contact.

12.- For the purposes of headings 85.41 and 85.42 :

(a)(i) “Electronic integrated circuits” are :

“Semiconductor devices” are semiconductor devices the operation of which depends on variations in resistivity on the application of an electric field or semiconductor-based transducers. Semiconductor devices may also include assembly of plural elements, whether or not equipped with active and passive device ancillary functions. “Semiconductor-based transducers” are, for the purposes of this definition, semiconductorbased sensors, semiconductorbased actuators, semiconductorbased resonators and semiconductor-based oscillators, which are types of discrete semiconductor-based devices, which perform an intrinsic function, which are able to convert any kind of physical or chemical phenomena or an action into an electrical signal or an electrical signal into any type of physical phenomenon or an action.

All the elements in semiconductorbased transducers are indivisibly combined, and may also include necessary materials indivisibly attached, that enable their construction or function. The following expressions mean :

(1) “Semiconductor-based” means built or manufactured on a semiconductor substrate or made of semiconductor materials, manufactured by semiconductor technology, in which the semiconductor substrate or material plays a critical and unreplaceable role of transducer function and performance, and the operation of which is based on semiconductor properties including physical, electrical, chemical and optical properties.

(2) “Physical or chemical phenomena” relate to phenomena, such as pressure, acoustic waves, acceleration, vibration, movement, orientation, strain, magnetic field strength, electric field strength, light, radioactivity, humidity, flow, chemicals concentration, etc.

(3) “Semiconductor-based sensor” is a type of semiconductor device, which consists of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of detecting physical or chemical quantities and converting these into electric signals caused by resulting variations in electric properties or displacement of a mechanical structure.

(4) “Semiconductor-based actuator” is a type of semiconductor device, which consists of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of converting electric signals into physical movement.

(5) “Semiconductor-based resonator” is a type of semiconductor device, which consists of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of generating a mechanical or electrical oscillation of a predefined frequency that depends on the physical geometry of these structures in response to an external input.

(6) “Semiconductor-based oscillator” is a type of semiconductor device, which consists of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of generating a mechanical or electrical oscillation of a predefined frequency that depends on the physical geometry of these structures.

(ii) “Light-emitting diodes (LED)” are semiconductor devices based on semiconductor materials which convert electrical energy into visible, infra-red or ultra-violet rays, whether or not electrically connected among each other and whether or not combined with protective diodes. Light-emitting diodes (LED) of heading 85.41 do not incorporate elements for the purposes of providing power supply or power control;

(b) “Electronic integrated circuits” are :

(i) Monolithic integrated circuits in which the circuit elements (diodes, transistors, resistors, capacitors, inductances, etc.) are created in the mass (essentially) and on the surface of a semiconductor or compound semiconductor material (for example, doped silicon, gallium arsenide, silicon germanium, indium phosphide) and are inseparably associated;

(ii) Hybrid integrated circuits in which passive elements (resistors, capacitors, inductances, etc.), obtained by thin- or thick-film technology, and active elements (diodes, transistors, monolithic integrated circuits, etc.), obtained by semiconductor technology, are combined to all intents and purposes indivisibly, by interconnections or interconnecting cables, on a single insulating substrate (glass, ceramic, etc.). These circuits may also include discrete components;

(iii) Multichip integrated circuits consisting of two or more interconnected monolithic integrated circuits combined to all intents and purposes indivisibly, whether or not on one or more insulating substrates, with or without leadframes, but with no other active or passive circuit elements.

(iv) Multi-component integrated circuits (MCOs) : a combination of one or more monolithic, hybrid, or multi-chip integrated circuits with at least one of the following components : silicon-based sensors, actuators, oscillators, resonators or combinations thereof, or components performing the functions of articles classifiable under heading 85.32, 85.33, 85.41, or inductors classifiable under heading 85.04, formed to all intents and purposes indivisibly into a single body like an integrated circuit, as a component of a kind used for assembly onto a printed circuit board (PCB) or other carrier, through the connecting of pins, leads, balls, lands, bumps, or pads.

For the purpose of this definition :

1. “Components” may be discrete, manufactured independently then assembled onto the rest of the MCO, or integrated into other components.

2. “Silicon based” means built on a silicon substrate, or made of silicon materials, or manufactured onto integrated circuit die.

3. (a) “Silicon based sensors” consist of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of detecting physical or chemical phenomena and transducing these into electric signals, caused by resulting variations in electric properties or displacement of a mechanical structure. “Physical or chemical phenomena” relates to real world phenomena, such as pressure, acoustic waves, acceleration, vibration, movement, orientation, strain, magnetic field strength, electric field strength, light, radioactivity, humidity, flow, chemicals concentration, etc.

(b) “Silicon based actuators” consist of microelectronic and mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of converting electrical signals into physical movement.

(c) “Silicon based resonators” are components that consist of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and have the function of generating a mechanical or electrical oscillation of a predefined frequency that depends on the physical geometry of these structures in response to an external input.

(d) “Silicon based oscillators” are active components that consist of microelectronic or mechanical structures that are created in the mass or on the surface of a semiconductor and that have the function of generating a mechanical or electrical oscillation of a predefined frequency that depends on the physical geometry of these structures.

For the classification of the articles defined in this Note, headings 85.41 and 85.42 shall take precedenceover any other heading in the Nomenclature, except in the case of heading 85.23, which might cover them by reference to, in particular, their function.

Subheading Notes.

1.- Subheading 8525.81 covers only high-speed television cameras, digital cameras and video camera recorders having one or more of the following characteristics :
- writing speed exceeding 0.5 mm per microsecond;
- time resolution 50 nanoseconds or less;
- frame rate exceeding 225,000 frames per second.

2.- In respect of subheading 8525.82, radiationhardened or radiation-tolerant television cameras, digital cameras and video camera recorders are designed or shielded to enable operation in a high-radiation environment. These cameras are designed to withstand a total radiation dose of at least 50 × 103 Gy(silicon) (5 × 106 RAD (silicon)), without operational degradation.

3.- Subheading 8525.83 covers night vision television cameras, digital cameras and video camera recorders which use a photocathode to convert available light to electrons, which can be amplified and

converted to yield a visible image. This subheading excludes thermal imaging cameras (generally subheading 8525.89).

4.- Subheading 8527.12 covers only cassette-players with built-in amplifier, without built-in loudspeaker, capable of operating without an external source of electric power and the dimensions of which do not exceed 170 mm x 100 mm x 45 mm.

5.- For the purposes of subheadings 8549.11 to 8549.19, “spent primary cells, spent primary batteries and spent electric accumulators” are those which are neither usable as such because of breakage, cutting-up, wear or other reasons, nor capable of being recharged.

GENERAL

(A) SCOPE AND STRUCTURE OF THE CHAPTER

This Chapter covers all electrical machinery and equipment, **other than** :

(a) Machinery and apparatus of a kind covered by **Chapter 84**, which remains classified there even if electric (see the General Explanatory Note to that Chapter).

and (b) Certain goods excluded from the Section as a whole (see the General Explanatory Note to Section XVI).

Contrary to the rules in Chapter 84, the goods of this Chapter remain classified here, even if they are of ceramic materials or glass, with the **exception** of glass envelopes (including bulbs and tubes) of **heading 70.11**.

This Chapter covers :

(1) Machines and apparatus for the production, transformation or storage of electricity, e.g., generators, transformers, etc. (headings 85.01 to 85.04) and primary cells (heading 85.06) and accumulators (heading 85.07).

(2) Certain domestic appliances (heading 85.09), and shavers, hair clippers and hair-removing appliances (heading 85.10).

(3) Certain machines and appliances which depend for their operation on the properties or effects of electricity, such as its electro-magnetic effects, heating properties, etc. (headings 85.05, 85.11 to 85.18, 85.25 to 85.31 and 85.43).

(4) Instruments and appliances for recording or reproducing sound; video recorders or reproducers; parts and accessories for such instruments and appliances (headings 85.19 to 85.22).

(5) Recording media for sound or similar recording of other phenomena (including video recording media, but **excluding** photographic or cinematographic films of **Chapter 37**) (heading 85.23).

(6) Flat panel display modules (heading 85.24).

(7) Certain electrical goods not generally used independently, but designed to play a particular role as components, in electrical equipment, e.g., capacitors (heading 85.32), switches, fuses, junction boxes, etc. (heading 85.35 or 85.36), lamps (heading 85.39), thermionic, etc., valves and tubes (heading 85.40), diodes, transistors and similar semiconductor devices (heading 85.41), electrical carbons (heading 85.45).

(8) Certain articles and materials which are used in electrical apparatus and equipment because of their conducting or insulating properties, such as insulated electric wire and assemblies thereof (heading 85.44), insulators (heading 85.46), insulating fittings and metal conduit tubing with an interior insulating lining (heading 85.47).

In addition to the electrical goods indicated above, the Chapter also covers permanent magnets, including those not yet magnetised, and permanent magnet work holders (heading 85.05).

It should, however, be noted that this Chapter covers **only certain types of electro-thermic apparatus**, e.g., furnaces, etc. (heading 85.14) and space heating equipment, domestic appliances, etc. (heading 85.16).

It should be further noted that certain electronic memory modules (e.g., SIMMs (Single In-line Memory Modules) and DIMMs (Dual In-line Memory Modules)) **which cannot be regarded as products of heading 85.23 or as multi-component integrated circuits (MCOs) of heading 85.42** (see Note 12 (b) (iv) to this Chapter), and **do not have another individual function** are to be classified by application of Note 2 to Section XVI as follows :

(a) modules suitable for use solely or principally with automatic data processing machines are to be classified in **heading 84.73** as parts of those machines,

(b) modules suitable for use solely or principally with other specific machines or with a number of machines of the same heading are to be classified **as parts of those machines or groups of machines**, and

(c) where it is not possible to determine principal use, the modules are to be classified in **heading 85.48**.

In general, however, electrically heated apparatus falls in other Chapters (mainly in **Chapter 84**), for example : steam generating boilers and super-heated water boilers (**heading 84.02**), air conditioning machines (**heading 84.15**), roasting, distilling or other apparatus of **heading 84.19**, calendering or other rolling machines and cylinders therefor (**heading 84.20**), poultry incubators and brooders (**heading 84.36**), general purpose branding machines for wood, cork, leather, etc. (**heading 84.79**), medical apparatus (**heading 90.18**).

(B) PARTS

As regards parts in general, see the General Explanatory Note to Section XVI.

Non-electrical parts of the machines or apparatus of this Chapter are classified as follows :

(i) Many are in fact articles falling in other Chapters (especially **Chapter 84**), for example, pumps and fans (**heading 84.13** or **84.14**), taps, cocks, etc. (**heading 84.81**), ball bearings (**heading 84.82**), transmission shafts, gearing, etc. (**heading 84.83**).

(ii) Other non-electrical parts suitable for use solely or principally with a particular kind of electrical machine of this Chapter (or with a number of machines falling in the same heading) are to be classified with that machine (or those machines) or, if appropriate, in **heading 85.03**, **85.22**, **85.29** or **85.38**.

(iii) Other non-electrical parts fall in **heading 84.87**.

CLASSIFICATION OPINIONS

1. Elements of soft ferrite, identifiable as parts of a machine or apparatus of Ch. 85.

See also Opinions 6909.19/1 and 8504.90/1.

Adoption : 1968

Heading 8501

Electric motors and generators (excluding generating sets).

EXPLANATORY NOTES

85.01 - Electric motors and generators (excluding generating sets).

8501.10 - Motors of an output not exceeding 37.5 W

8501.20 - Universal AC/DC motors of an output exceeding 37.5 W

- Other DC motors; DC generators, other than photovoltaic generators :

8501.31 - - Of an output not exceeding 750 W

8501.32 - - Of an output exceeding 750 W but not exceeding 75 kW

8501.33 - - Of an output exceeding 75 kW but not exceeding 375 kW

8501.34 - - Of an output exceeding 375 kW

8501.40 - Other AC motors, single-phase

- Other AC motors, multi-phase :

8501.51 - - Of an output not exceeding 750 W

8501.52 - - Of an output exceeding 750 W but not exceeding 75 kW

8501.53 - - Of an output exceeding 75 kW

- AC generators (alternators) :

8501.61 - - Of an output not exceeding 75 kVA

8501.62 - - Of an output exceeding 75 kVA but not exceeding 375 kVA

8501.63 - - Of an output exceeding 375 kVA but not exceeding 750 kVA

8501.64 - - Of an output exceeding 750 kVA

- Photovoltaic DC generators :

8501.71 - - Of an output not exceeding 50 W

8501.72 - - Of an output exceeding 50 W

8501.80 - Photovoltaic AC generators

(I) ELECTRIC MOTORS

Electric motors are machines for transforming electrical energy into mechanical power. This group includes rotary motors and linear motors.

(A) **Rotary motors** produce mechanical power in the form of a rotary motion. They are of many types and sizes according to whether they operate on DC or AC, and according to the use or purpose for which they are designed. The motor housing may be adapted to the circumstances in which the motor will operate (e.g., dust proof, drip proof or flame proof motors; non-rigid mountings for belt driven motors, or for motors which will be subject to much vibration).

Many motors may incorporate a fan or other device for keeping the motor cool during running.

With the **exception** of starter motors for internal combustion engines (**heading 85.11**), the heading covers electric motors of all types from low power motors for use in instruments, clocks, time switches, sewing machines, toys, etc., up to large powerful motors for rolling mills, etc.

Motors remain classified here even when they are equipped with pulleys, with gears or gear boxes, or with a flexible shaft for operating hand tools.

The heading includes “outboard motors”, for the propulsion of boats, in the form of a unit comprising an electric motor, shaft, propeller and a rudder.

Synchronous motors for clock movements are classified here even if equipped with gears; however such synchronous motors also associated with a clock train are **excluded** (**heading 91.09**).

(B) **Linear motors** produce mechanical power in the form of a linear motion.

Linear induction motors consist essentially of one or more primary members composed of magnetic circuits, generally laminated (stack of magnetic laminations), on which coils are arranged and of a secondary member, usually in the form of a plate or profile of copper or aluminium.

These motors generate a propulsive force when the primary member is energised by applying an alternating current in the presence of the secondary. The two members are separated by an airgap, and the translational motion (one member remaining stationary while the other moves) is produced without mechanical contact.

The characteristic features of linear induction motors vary according to the purpose for which they are designed : driving hovertrains (the primary members are carried in the vehicles and straddle a rail (secondary member) secured to the track); powering bulk-handling equipment (a secondary plate mounted underneath a wheeled trolley travels over a series of primary coils located between the rails); operating overhead conveyors (bogies fitted with primary members travel underneath a secondary profile); positioning vehicles in car parks or stores (secondary pallets are displaced by primary members set into the floor); controlling, e.g., piston pumps and valves (this function may be performed by "polysolenoid" linear motors in which the shaft (secondary member) moves to and fro inside an annular primary member); positioning on machine-tools; etc.

DC linear motors, whose operation uses the interaction of electro-magnets or of electro-magnets and permanent magnets, can be used as alternating or oscillating motors (e.g., for reciprocating pumps, weaving shuttle drives), stepper motors (e.g., small conveyors), etc.

This group also includes :

(1) **Servomotors**, presented separately, consisting essentially of an electric motor with speed-reducing gears and equipped with a power transmission device (e.g., lever, pulley) designed to adjust the variable position of a regulating control in a boiler, in a furnace or in other plant (and possibly provided with an emergency hand-wheel).

(2) **Self-synchronising units**, with a stator carrying three windings angled at 120° and a rotor carrying a single winding connected to two slip rings, for use in pairs (synchrotransmitter and synchroreceiver), e.g., in telemetering or remote control systems.

(3) **Valve actuators, electrical**, consisting of an electric motor with reducing gear and drive shaft and, in some cases, with various devices (electric starter, transformer, hand-wheel, etc.) to operate the valve plug.

(II) ELECTRIC GENERATORS

Machines that produce electrical power from various energy sources (mechanical, solar, etc.) are classified here, **provided** they are not more specifically covered by any other heading of the Nomenclature.

There are two main classes, direct current (DC) generators (**dynamos**), and alternating current (AC) generators (**alternators**). In general, both consist essentially of a stator mounted in a housing, and a rotating member (the rotor) mounted inside the stator on a shaft driven by the prime mover. In the case of DC generators a commutator with segments is mounted on the rotorshaft. The current produced is collected by a system of carbon brushes which rub the commutator segments, and is transferred to the external circuit. AC generators are in most cases brushless and the current which they produce is led off directly to the external circuit. In other AC generators the current is collected by slip rings mounted on a rotorshaft and is transferred by a system of carbon brushes which rub the slip rings.

The stator usually consists of a system of electromagnets, but for certain DC generators (magneto-electric generators) a system of permanent magnets is used. The rotor usually consists of a system of coils of wire mounted on a laminated iron core; this system is known as the armature. In some AC generators the revolving portion is the field system.

Electric generators may be hand- or pedal-operated, but usually they have prime movers (e.g., hydraulic turbines, steam turbines, wind engines, reciprocating steam engines, internal combustion piston engines). However, this heading only covers generators when presented without prime movers.

The heading also covers photovoltaic generators consisting of panels of photocells combined with other apparatus, e.g., storage batteries and electronic controls (voltage regulator, inverter, etc.) and panels or modules equipped with elements, however simple (for example, diodes to control the direction of the current), which supply the power directly to, for example, a motor, an electrolyser.

In these devices, electricity is produced by means of solar cells which convert solar energy directly into electricity (photovoltaic conversion).

The heading covers all electric generators including large generators for power stations; small auxiliary generators used for exciting the windings of other generators; generators of various sizes and types used for supplying current for a variety of purposes (e.g., on ships, on farms not connected to an external supply, in chemical industries for electrolysis, and in diesel-electric trains).

The heading also **excludes** :

(a) Drums or rollers incorporating an electric motor for belt or roller conveyors (**heading 84.31**).

(b) Vibrator motors and electro-magnetic vibrators of **heading 84.79** (see the Explanatory Note to that heading).

(c) Electric generators combined with prime movers (**heading 85.02**).

(d) High tension generators (**heading 85.04**).

(e) Primary cells and primary batteries (**heading 85.06**).

(f) Generators (dynamos and alternators) used in conjunction with internal combustion engines, or for electrical lighting or signalling equipment of a kind used for cycles or motor vehicles (**headings 85.11** and **85.12**, respectively).

(g) Solar cells whether or not assembled in modules or made up into panels but not equipped with elements, however simple, which supply the power directly to, for example, a motor, an electrolyser (**heading 85.41**).

(h) Certain electrical apparatus sometimes known as generators which do not in fact produce electric energy, e.g., signal generators (**heading 85.43**).

(ij) The generators of Chapter 90, for example, X-ray generators (**heading 90.22**); generators designed for demonstrational purposes and unsuitable for other uses (**heading 90.23**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading are classified in **heading 85.03**.

8501.10

- Motors of an output not exceeding 37.5 W

8501.20

- Universal AC/DC motors of an output exceeding 37.5 W

8501.3

- Other DC motors; DC generators, other than photovoltaic generators :

8501.31

-- Of an output not exceeding 750 W

8501.32

-- Of an output exceeding 750 W but not exceeding 75 kW

8501.33

-- Of an output exceeding 75 kW but not exceeding 375 kW

8501.34

-- Of an output exceeding 375 kW

8501.40

- Other AC motors, single-phase

8501.5

- Other AC motors, multi-phase :

8501.51

-- Of an output not exceeding 750 W

8501.52

-- Of an output exceeding 750 W but not exceeding 75 kW

8501.53

-- Of an output exceeding 75 kW

8501.6

- AC generators (alternators), other than photovoltaic generators :

8501.61

-- Of an output not exceeding 75 kVA

8501.62

-- Of an output exceeding 75 kVA but not exceeding 375 kVA

CLASSIFICATION OPINIONS

1. Solid oxide fuel cell (SOFC), used for generating electric power, with criteria of 480V, 3-phase, 60Hz, with apparent power output of 210 kVA.

The product consists of an electric reactor, a device which removes the sulphur and the hydrogen sulphide or organic sulphur in the fuel, the electrical power management system that converts the direct current (DC) electric inverse into the alternating current (AC) output, the control circuit for the detection of gas safety, the pipeline of the fuel, the water treatment system and the heat preservation box. The electric reactor is the component where the electrochemical reaction occurs.

Application of GIRs 1 and 6.

Adoption : 2021

8501.63

-- Of an output exceeding 375 kVA but not exceeding 750 kVA

8501.64

-- Of an output exceeding 750 kVA

8501.7

- Photovoltaic DC generators :

8501.71

-- Of an output not exceeding 50 W

8501.72

-- Of an output exceeding 50 W

8501.80

- Photovoltaic AC generators

Heading 8502

Electric generating sets and rotary converters.

EXPLANATORY NOTES

85.02 - Electric generating sets and rotary converters.

- Generating sets with compression-ignition internal combustion piston engines (diesel or semi-diesel engines) :

8502.11 - - Of an output not exceeding 75 kVA

8502.12 - - Of an output exceeding 75 kVA but not exceeding 375 kVA

8502.13 - - Of an output exceeding 375 kVA

8502.20 - Generating sets with spark-ignition internal combustion piston engines

- Other generating sets :

8502.31 - - Wind-powered

8502.39 - - Other

8502.40 - Electric rotary converters

(I) ELECTRIC GENERATING SETS

The expression “generating sets” applies to the combination of an electric generator and any prime mover **other than an electric motor** (e.g., hydraulic turbines, steam turbines, wind engines, reciprocating steam engines, internal combustion engines). Generating sets consisting of the generator and its prime mover which are mounted (or designed to be mounted) together as one unit or on a common base (see the General Explanatory Note to Section XVI), are classified here **provided** they are presented together (even if packed separately for convenience of transport).

Electric generating sets for welding equipment are classified in this heading when presented separately, without their welding heads or welding appliances. However, they are **excluded** (**heading 85.15**) when presented together with their welding heads or welding appliances.

(II) ELECTRIC ROTARY CONVERTERS

These consist essentially of a combination of an electric generator and a prime mover consisting of an electric motor permanently mounted on a common base, though in certain cases the two functions are combined in one unit with certain windings in common. They are used to transform the nature of the current (to convert from AC to DC or vice versa) or to change certain characteristics such as the voltage, frequency or phase of alternating current (to convert, for example, the frequency of 50 to 200 cycles or to transform single phase to three phase current). Another type of rotary converter (sometimes known as a rotary transformer) is used to convert DC from one voltage to another.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the machines of this heading are classified in **heading 85.03**.

8502.1

- Generating sets with compression-ignition internal combustion piston engines (diesel or semi-diesel engines) :

8502.11

-- Of an output not exceeding 75 kVA

8502.12

-- Of an output exceeding 75 kVA but not exceeding 375 kVA

8502.13

-- Of an output exceeding 375 kVA

CLASSIFICATION OPINIONS

1. Electric generating set, composed of an alternating current (AC) electric generator and a diesel engine which are mounted together as one unit, with dual power ratings: 375 kVA for prime power and 410 kVA for standby power.

Application of GIRs 1 and 6. *Adoption : 2021*



8502.20

- Generating sets with spark-ignition internal combustion piston engines

8502.3

- Other generating sets :

8502.31

-- Wind-powered

8502.39

-- Other

CLASSIFICATION OPINIONS

1. Electric generating set consisting of a steam turbine, an alternating current (AC) electric generator and a coupling device, which are presented together, but packed separately. The steam turbine spouts high-pressure heated steam and converts it into rotary motion of an output of 200 MW. The generator produces electrical power of an output of 230 MVA from the rotary motion of the steam turbine.

The steam turbine and electric generator are designed to be mounted on the floor of an electric power generating facility, and the rotors of each are to be coupled together by the coupling device. The steam turbine and electric generator work in conjunction with each other to convert the thermal energy of pressurised steam into electric energy.

Application of GIRs 1 and 6.

Adoption : 2013

8502.40

- Electric rotary converters

Heading 8503

Parts suitable for use solely or principally with the machines of heading 85.01 or 85.02.

EXPLANATORY NOTES

85.03 - Parts suitable for use solely or principally with the machines of heading 85.01 or 85.02.

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI) this heading covers parts of the machines of the two preceding headings. The very wide range of parts classified here includes :

(1) **Shells and cases, stators, rotors, collector rings, collectors, brush-holders, excitation coils**.

(2) **Electrical sheets** and plates in shapes other than square or rectangular.

8503.00

Parts suitable for use solely or principally with the machines of heading 85.01 or 85.02.

Heading 8504

Electrical transformers, static converters (for example, rectifiers) and inductors.

EXPLANATORY NOTES

85.04 - Electrical transformers, static converters (for example, rectifiers) and inductors.

8504.10 - Ballasts for discharge lamps or tubes

- Liquid dielectric transformers :

8504.21 - - Having a power handling capacity not exceeding 650 kVA

8504.22 - - Having a power handling capacity exceeding 650 kVA but not exceeding 10,000 kVA

8504.23 - - Having a power handling capacity exceeding 10,000 kVA

- Other transformers :

8504.31 - - Having a power handling capacity not exceeding 1 kVA

8504.32 - - Having a power handling capacity exceeding 1 kVA but not exceeding 16 kVA

8504.33 - - Having a power handling capacity exceeding 16 kVA but not exceeding 500 kVA

8504.34 - - Having a power handling capacity exceeding 500 kVA

8504.40 - Static converters

8504.50 - Other inductors

8504.90 - Parts

(I) ELECTRICAL TRANSFORMERS

Electrical transformers are apparatus which, without having any moving parts, transform, by means of induction and using a preset or adjustable system, an alternating current into another alternating current of different voltage, impedance, etc. These usually consist of two or more coils of insulated wire wound in various configurations on laminated iron cores, although in some cases (e.g., radio-frequency transformers) there may be no magnetic core, or the core may be of agglomerated iron dust, ferrite, etc. An AC in one coil (the primary circuit) induces an AC usually at different values of current and voltage in the others (the secondary circuit). In certain cases (auto transformers) there is only a single coil, part of the winding of which is common to the primary and secondary circuits. In shell type transformers, there is a shell of laminated iron round the transformer.

Certain transformers are designed for particular purposes, e.g., matching transformers for matching the impedance of one circuit with that of another, and instrument transformers (current or voltage transformers, combined instrument transformers) used to step down or step up voltages or currents to the level of the connected equipment, e.g., measuring instruments, electricity meters or protective relays.

The heading covers all transformers. They vary from ballasts for the control of the amount of current that flows through discharge lamps or tubes, small types used in wireless sets, instruments, toys, etc., to large types enclosed in oil tanks or equipped with radiators, fans, etc., for cooling purposes. The large types are used in electricity stations, stations for interconnecting mains, distributing stations or sub-stations. The frequency may vary from mains frequencies up to very high radio frequencies. The heading includes baluns (balancing units) which reduce electro-magnetic interference by balancing the impedance in paired lines.

The power-handling capacity of a transformer is the kilovolt-ampere (kVA) output based on continual use at the rated secondary voltage (or amperage, when applicable) and at the rated frequency without exceeding the rated temperature limitations.

Transformers for electric welding equipment presented separately without their welding heads or welding appliances are classified in this heading. However, they are **excluded** (**heading 85.15**) when presented together with their welding heads or welding appliances.

The heading also covers **induction coils**, a kind of transformer in which an intermittent or fluctuating direct current in the primary induces a corresponding current in the secondary. They can be used either to step up the voltage to a higher value or, in the case of telephony, to reproduce in the secondary circuits a small fluctuating current corresponding to the fluctuation imposed on a steady DC in the primary. The heading covers induction coils of all kinds, **other than** ignition equipment for internal combustion engines (**heading 85.11**).

(II) ELECTRICAL STATIC CONVERTERS

The apparatus of this group are used to convert electrical energy in order to adapt it for further use. They incorporate converting elements (e.g., valves) of different types. They may also incorporate

various auxiliary devices (e.g., transformers, induction coils, resistors, command regulators, etc.). Their operation is based on the principle that the converting elements act alternately as conductors and non-conductors.

The fact that these apparatus often incorporate auxiliary circuits to regulate the voltage of the emerging current does not affect their classification in this group, nor does the fact that they are sometimes referred to as voltage or current regulators.

This group includes :

(A) **Rectifiers** by which alternating current (single or polyphase) is converted to direct current, generally accompanied by a voltage change.

(B) **Inverters** by which direct current is converted to alternating current.

(C) **Alternating current converters and cycle converters** by which alternating current (single or polyphase) is converted to a different frequency or voltage.

(D) **Direct current converters** by which direct current is converted to a different voltage.

Electrical static converters may be divided into the following principal categories according to the type of converting element with which they are equipped :

(1) **Semiconductor converters** based on the one-way conductivity between certain crystals. Such converters consist of a semiconductor as the converting element and various other devices (e.g., coolers, tape conductors, drives, regulators, control circuits).

These include :

(a) Monocrystalline semiconductor rectifiers using, as a converting element, a device containing silicon or germanium crystals (diode, thyristor, transistor).

(b) Polycrystalline semiconductor rectifiers using a selenium disc.

(2) **Gas discharge converters**, such as :

(a) Mercury arc rectifiers. Their converting element consists of a glass envelope or a metal tank having a vacuum and containing a mercury cathode and one or more anodes through which the current to be rectified passes. They are equipped with auxiliary devices, e.g., for priming, charging, cooling, and sometimes to maintain the vacuum.

There are two categories of gas discharge rectifiers identifiable according to the mechanism of the primer, viz., “excitrons” (with charging anodes) and “ignitrons” (with igniters).

(b) Thermo-ionic rectifiers with incandescent cathodes. Their converting element (e.g., a thyratron) is similar to that of mercury arc rectifiers except that it contains an incandescent cathode in place of the mercury cathode.

(3) **Converters with a mechanical converting element** based on the one-way conductivity of various contacts, such as :

(a) Contact rectifiers (e.g., those using camshafts) with a device whose metal contacts open and close in synchronisation with the frequency of the alternating current to be rectified.

(b) Mercury-jet turbine rectifiers with a rotating jet of mercury, synchronised with the frequency of the alternating current, which strikes a fixed contact.

(c) Vibrator rectifiers with a thin metal tongue, oscillating at the frequency of the alternating current, which touches a contact so placed that the current is drawn from the source.

(4) **Electrolytic rectifiers** based on the principle that the combination of certain products used as electrodes in combination with certain liquids used as electrolytes will only allow current to flow in a single direction.

Electrical static converters may be used for different purposes, e.g. :

(1) Converters to supply electricity to drive stationary machines or electric traction vehicles (e.g., locomotives).

(2) Supply converters, such as accumulator chargers (which consist essentially of rectifiers with associated transformer and current control apparatus), converters for galvanising and electrolysis, emergency power packs, converters for installations which supply high-tension direct current, converters for heating purposes and for the current supply to electro-magnets.

Also classified here are converters known as high-tension generators (used particularly with radio apparatus, emission tubes, microwave tubes, ion-beam tubes) which convert the current from any source, usually the mains, into the direct high-tension current necessary for feeding the equipment concerned by means of rectifiers, transformers, etc.

This heading also includes stabilised suppliers (rectifiers combined with a regulator), e.g., uninterruptible power supply units for a range of electronic equipment.

However, high-tension generators (or transformers) specifically designed for supplying radiological apparatus fall in **heading 90.22**. Automatic voltage regulators are classified in **heading 90.32**.

(III) INDUCTORS

These consist essentially of a single coil of wire which, inserted in an AC circuit, limits or prevents by its self-induction the flow of the AC. They vary from small chokes used in wireless circuits, instruments, etc., to large coils often mounted in concrete, used in power circuits (e.g., for limiting the flow of current in the event of a short circuit).

Inductors or inductances obtained in the form of individual components by a printing process remain classifiable in this heading.

Deflection coils for cathode-ray tubes are classified in **heading 85.40**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here. In particular, metal tank mercury arc rectifiers, with or without a pump, are always classified as parts.

However, most of the electric components of the devices of this heading are to be found in other headings of the Chapter, for example :

(a) Various switches of **heading 85.36** (for example, those used with multiple contact transformers).

(b) Vacuum or mercury vapour rectifying tubes and valves (**other than** the metal tank type) and thyratrons (**heading 85.40**).

(c) Semiconductor diodes, transistors, and thyristors (**heading 85.41**).

(d) Articles of **heading 85.42**.

8504.10

- Ballasts for discharge lamps or tubes

8504.2

- Liquid dielectric transformers :

8504.21

-- Having a power handling capacity not exceeding 650 kVA

8504.22

-- Having a power handling capacity exceeding 650 kVA but not exceeding 10,000 kVA

8504.23

-- Having a power handling capacity exceeding 10,000 kVA

8504.3

- Other transformers :

8504.31

-- Having a power handling capacity not exceeding 1 kVA

8504.32

-- Having a power handling capacity exceeding 1 kVA but not exceeding 16 kVA

8504.33

-- Having a power handling capacity exceeding 16 kVA but not exceeding 500 kVA

8504.34

-- Having a power handling capacity exceeding 500 kVA

8504.40

- Static converters

CLASSIFICATION OPINIONS

1. **Uninterruptible power supply apparatus** which supplies a range of electronic equipment with stable alternating current (AC) by rectification and conversion of an electric current. In the case of failure or serious disruption of the mains electricity supply, the apparatus ensures a continuous supply of stabilized alternating current for ten minutes; it includes the following components forming a single unit:

(i) A rectifier (AC to DC inverter);

(ii) A battery charger;

(iii) A sealed lead acid battery, maintenance free;

(iv) An inverter from DC to AC;

(v) A static by-pass switch;

(vi) An anti-noise filter;

(vii) Digital display for input volt/ampere, output volt/ampere, battery volt and output frequency.

Adoption : 1995

2. Packaged insulated gate bipolar transistor (IGBT) module, consisting of 6 switches in which an IGBT and a Free Wheeling Diode (FWD) are connected in parallel, and 3 NTC (Negative Temperature Coefficient) Thermistors. The module is used in hybrid, electric or fuel cell vehicles to convert DC power to AC power. **Application of GIRs 1 (Note 2 (a) to Section XVI) and 6.** *Adoption : 2018*

3. Electronic speed controller for asynchronous electric motors, consisting primarily of a mains rectifier, the direct current (DC) link and an inverter at the output. The mains rectifier converts the alternating current (AC) voltage into DC voltage. The DC link is used for voltage ripple smoothing and protection of the circuit. They are mostly designed to be installed in electrical enclosures and are for various applications**.** They come in the form of a shell, the size of which depends on their power**,** and they generally have:

- a dialogue interface
- a control/command terminal block
- a power terminal block
- a communication port
- an optional slot for a memory card

To enable parameter setting, diagnostics and drive optimisation, the device can be connected to a computer via a communication port. **Application of GIRs 1 and 6.** *See also Opinion 9032.89/2. Adoption : 2022*

8504.50

- Other inductors

8504.90

- Parts

CLASSIFICATION OPINIONS

1. Elements of soft ferrite, identifiable as parts of transformers.

See also Opinions 6909.19/1 and Ch. 85/1.

Adoption : 1968

Heading 8505

Electro-magnets; permanent magnets and articles intended to become permanent magnets after magnetisation; electro-magnetic or permanent magnet chucks, clamps and similar holding devices; electro-magnetic couplings, clutches and brakes; electro-magnetic lifting heads.

EXPLANATORY NOTES

85.05 - Electro-magnets; permanent magnets and articles intended to become permanent magnets after magnetisation; electro-magnetic or permanent magnet chucks, clamps and similar holding devices; electro-magnetic couplings, clutches and brakes; electro-magnetic lifting heads.

- Permanent magnets and articles intended to become permanent magnets after magnetisation :

8505.11 - - Of metal

8505.19 - - Other

8505.20 - Electro-magnetic couplings, clutches and brakes

8505.90 - Other, including parts

This heading covers electro-magnets, those electro-magnet operated appliances specially listed in the heading, permanent magnets and permanent magnet work holders.

(1) **Electro-magnets**.

These are of various sizes and shapes according to the use for which they are intended. They consist essentially of a coil of wire wound around a core of soft iron, this core being either in one piece or laminated. The passing of electric current in the coil confers magnetic properties on the core, which can then be used either for attraction or repulsion.

(2) **Permanent magnets and articles intended to become permanent magnets after magnetisation**.

Permanent magnets consist of pieces of hard steel, special alloys or other materials (e.g., barium ferrite agglomerated with plastics or synthetic rubber) which have been rendered permanently magnetic. Their shape varies according to the use for which they are designed. To reduce the tendency to de-magnetise, horseshoe-shaped magnets are often furnished with a bar of iron (the keeper) adhering to the two poles. Permanent magnets remain classified here whatever their use, including small magnets used, *inter alia*, as toys.

Articles intended to become permanent magnets after magnetisation are recognisable as such by their shape and composition, generally being cubes or discs (tags) of metal or of agglomerated ferrite (e.g., barium ferrite).

(3) **Electro-magnetic or permanent magnet chucks, clamps and similar holding devices**.

These are mainly devices of various types in which magnets are used to hold work pieces in place while they are being worked. This group also covers holding devices for machines other than machine-tools (for example, magnetic devices for holding printing plates in printing machinery).

(4) **Electro-magnetic clutches and couplings**.

These may be of various types. Certain types consist of a fixed coil around a movable armature, the latter being pulled into the coil when current passes and pulled out again by a spring when the current is cut off. The heading also covers variable speed couplings, some of which are based on the principle of an asynchronous motor.

(5) **Electro-magnetic brakes**.

These generally consist of shoes which, under the influence of electro-magnets, act on the rim of a wheel or on the rail. Others are based on the principle of electro-magnetic induction, a soft steel disc mounted on the shaft being braked by the action of eddy currents induced in it by electro-magnets. The heading **does not**, however, **cover** mechanical hydraulic or pneumatic brakes controlled by electro-magnetic devices.

(6) **Electro-magnetic lifting heads**.

These consist essentially of electro-magnets, generally circular, and are usually used in conjunction with cranes (e.g., for the lifting of scrap iron). Certain types are designed for special purposes (e.g., on salvage vessels for the recovery of metal objects from wrecks).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here.

*

* *

The heading **does not cover** :

(a) Magnetic ferrite with a binder, in the form of powder or pellets (**heading 38.24**).

(b) Electro-magnets, permanent magnets or magnetic devices of this heading, when presented with machines, apparatus, toys, games, etc., of which they are designed to form part (classified with those machines, apparatus, etc.).

(c) Media for magnetic recording such as cards composed of unmagnetised magnetic material laminated between two plastic sheets and used, in particular, for opening magnetic locks (**heading 85.23**).

(d) Electro-magnets designed for use by oculists or surgeons (**heading 90.18**).

8505.1

- Permanent magnets and articles intended to become permanent magnets after magnetisation :

8505.11

-- Of metal

8505.19

-- Other

CLASSIFICATION OPINIONS

1. Magnetic rods, whether or not cut to length, consisting of magnetised barium fer-rite agglomerated with plastics or rubber, for fitting to doors of certain appliances (e.g., refrigerators) in order to ensure closing.

Application of Note 2 (a) to Section XVI.

See also Opinions Sect. XVI/3 and 8418.99/1.

Adoption : 1968

8505.20

- Electro-magnetic couplings, clutches and brakes

8505.90

- Other, including parts

Heading 8506

Primary cells and primary batteries.

EXPLANATORY NOTES

85.06 - Primary cells and primary batteries (+).

8506.10 - Manganese dioxide

8506.30 - Mercuric oxide

8506.40 - Silver oxide

8506.50 - Lithium

8506.60 - Air-zinc

8506.80 - Other primary cells and primary batteries

8506.90 - Parts

These generate electrical energy by means of chemical reactions.

A primary cell consists basically of a container holding an alkaline or a non-alkaline electrolyte (e.g., potassium or sodium hydroxide, ammonium chloride or a mixture of lithium chloride, ammonium chloride, zinc chloride and water) in which two electrodes are immersed. The anode is generally of zinc, magnesium or of lithium and the cathode (depolarising electrode) is, for example, of manganese dioxide (mixed with carbon powder), of mercuric oxide or of silver oxide. In lithium primary cells, the anode is of lithium and the cathode is, for example, of thionyl chloride, of sulphur dioxide, manganese dioxide or of iron sulphide. A nonaqueous electrolyte is used because of the solubility and reactivity of lithium in aqueous solutions. In air-zinc primary cells, an alkaline or neutral electrolyte is generally used. The zinc is used as the anode, oxygen diffuses into the cell and is used as the cathode. Each electrode is provided with a terminal or other arrangement for connection to an external circuit. The principal characteristic of a primary cell is that it is not readily or efficiently recharged.

Primary cells are used for supplying current for a number of purposes (for bells, telephones, hearing aids, cameras, watches, calculators, heart pacemakers, radios, toys, portable lamps, electric prods for cattle, etc.). Cells may be grouped together in batteries, either in series or in parallel or a combination of both. Cells and batteries remain classified here irrespective of the use for which they are intended (e.g., standard cells for laboratory work producing a constant known voltage fall in the heading).

The various types of cells include :

(1) **Wet cells**, in which the electrolyte is a liquid, and is not restrained from flowing. Wet cells are therefore sensitive to orientation.

(2) **Dry cells**, in which the electrolyte is immobilised in absorbent materials or gels (e.g., mixed with a thickener such as agar-agar or flour to form a paste). The electrolyte used may be liquid but it is restrained from flowing. Dry cells are used mainly for portable devices.

(3) **Inert cells**, or reserve cells or batteries to which water or all or part of the electrolyte must be added before they can be used, or in which the electrolyte must be heated to become ionically conductive.

(4) **Concentration cells**, the electrolyte being at a different degree of concentration at each electrode.

Primary cells and batteries may be manufactured to various shapes and sizes. Common types are those having a cylindrical or button shape.

Certain cells (e.g., wet cells and some inert cells) are usually presented without their electrolyte, but remain classified here.

This heading **does not cover** rechargeable cells and batteries, as these are classified in **heading 85.07** as electric accumulators.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading covers parts of primary cells or batteries, including containers.

*

* *

The heading **does not cover** :

(a) Terminals (**heading 85.36**).

(b) Solar cells (**heading 85.41**).

(c) Carbon electrodes (**heading 85.45**).

(d) Spent primary cells and spent primary batteries and waste and scrap thereof (**heading 85.49**).

(e) Thermocouples (e.g., **headings 85.03**, **85.48**, **90.33**).

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° °

Subheading Explanatory Notes.

Subheadings 8506.10, 8506.30 and 8506.40

Classification in these subheadings is determined by the composition of the cathode (depolarising electrode). **However**, primary cells with cathode of manganese dioxide and anode of lithium are classified in **subheading 8506.50** as lithium primary cells (see the Explanatory Note to that subheading below).

Subheading 8506.50

Classification in this subheading is determined by the composition of the anode.

8506.10

- Manganese dioxide

8506.30

- Mercuric oxide

8506.40

- Silver oxide

8506.50

- Lithium

8506.60

- Air-zinc

8506.80

- Other primary cells and primary batteries

8506.90

- Parts

Heading 8507

Electric accumulators, including separators therefor, whether or not rectangular (including square).

EXPLANATORY NOTES

85.07 Electric accumulators, including separators therefor, whether or not rectangular (including square).

8507.10 - Lead-acid, of a kind used for starting piston engines

8507.20 - Other lead-acid accumulators

8507.30 - Nickel-cadmium

8507.50 - Nickel-metal hydride

8507.60 - Lithium-ion

8507.80 - Other accumulators

8507.90 - Parts

Electric accumulators (storage batteries or secondary batteries) are characterised by the fact that the electrochemical action is reversible so that the accumulator may be recharged. They are used to store electricity and supply it when required. A direct current is passed through the accumulator producing certain chemical changes (charging); when the terminals of the accumulator are subsequently connected to an external circuit these chemical changes reverse and produce a direct current in the external circuit (discharging). This cycle of operations, charging and discharging, can be repeated for the life of the accumulator.

Accumulators consist essentially of a container holding the electrolyte in which are immersed two electrodes fitted with terminals for connection to an external circuit. In many cases the container may be subdivided, each subdivision (cell) being an accumulator in itself; these cells are usually connected together in series to produce a higher voltage. A number of cells so connected is called a battery. A number of accumulators may also be assembled in a larger container. Accumulators may be of the wet or dry cell type.

The main types of accumulators are :

(1) **Lead-acid accumulators**, in which the electrolyte is sulphuric acid and the electrodes lead plates or lead grids supporting active material.

(2) **Alkaline accumulators**, in which the electrolyte is usually potassium, or lithium hydroxide or thionyl chloride and the electrodes are, for example :

(i) Positive electrodes of nickel or nickel compounds and negative electrodes of iron, cadmium or metal hydride;

(ii) Positive electrodes of lithiated cobalt oxide and negative electrodes of a blend of graphite;

(iii) Positive electrodes of carbon and negative electrodes of metallic lithium or lithium alloy;

(iv) Positive electrodes of silver oxide and negative electrodes of zinc.

The electrodes may consist of simple plates, grids, rods, etc., or of grids or tubes covered or filled with a special paste of the active material. The containers for lead-acid accumulators are usually made of glass or, in the case of car batteries, are moulded from plastic, hard rubber or composition material. In big stationary accumulators, glass or lead lined, plastic or wood boxes are used, while containers for alkaline accumulators are usually of steel or plastics. Alkaline accumulators may be of a specific size and shape, so designed to fit the device for which they are the source of electricity. They may be within waterproof containers. Many alkaline accumulators may have the external appearance of primary cells or batteries of heading 85.06.

Accumulators are used for supplying current for a number of purposes, e.g., motor vehicles, golf carts, fork-lift trucks, power hand-tools, cellular telephones, portable automatic data processing machines, portable lamps.

Some lead-acid accumulators are fitted with a hydrometer, which measures the specific gravity of the electrolyte and so indicates roughly the degree of charge of the accumulator.

Electric accumulators remain classified here even if presented without their electrolyte.

Accumulators containing one or more cells and the circuitry to interconnect the cells amongst themselves, often referred to as “battery packs”, are covered by this heading, whether or not they include any ancillary components which contribute to the accumulator’s function of storing and supplying energy, or protect it from damage, such as electrical connectors, temperature control devices (e.g., thermistors), circuit protection devices, and protective housings. They are classified in this heading even if they are designed for use with a specific device.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), the heading also covers parts of accumulators, e.g., containers and covers; lead plates and grids, whether or not coated with paste; separators of any material (except of unhardened vulcanised rubber or of textile material), including those in the form of flat plates merely cut into rectangles (including squares), meeting very precise technical specifications (porosity, dimensions, etc.) and hence ready for use.

The heading **does not cover** :

(a) Terminals (**heading 85.36**).

(b) Spent electric accumulators and waste and scrap thereof (**heading 85.49**).

8507.10

- Lead-acid, of a kind used for starting piston engines

8507.20

- Other lead-acid accumulators

8507.30

- Nickel-cadmium

CLASSIFICATION OPINIONS

1. Nickel cadmium rechargeable accumulator comprised of the following components assembled into a "battery pack" for a particular brand of cellular telephone :

- 3 nickel cadmium accumulators,

- conductive strips which join the accumulators,

- printed circuit board which connects the battery pack to the circuitry of a cellular telephone,

- circuit board, containing a resistor and a capacitor, which serves to control the recharging of the accumulators,

- outer plastic casing which houses the electrical components of the battery pack and is specially designed to form part of the exterior shell of the telephone.

The battery pack serves as the source of power for a cellular telephone. It has no other function.

Application of GIRs 1 (Note 3 to Chapter 85) and 6.
Adoption : 2003

8507.50

- Nickel-metal hydride

CLASSIFICATION OPINIONS

1. Nickel hydride rechargeable accumulator comprised of the following components assembled into a "battery pack" for a particular brand of cellular telephone :

- 3 or 6 nickel hydride accumulators,

- electrical connectors to the telephone,

- thermistor which prevents the temperature of the battery pack from exceeding a safe maximum temperature,

- positive temperature coefficient (PTC) circuit which increases resistance in order to protect against a short circuit from an abnormally high current,

- inner plastic cover,

- rear outer casing designed to form part of the exterior of the telephone.

The battery pack serves as the source of power for a cellular telephone. It has no other function.

Application of GIRs 1 (Note 3 to Chapter 85) and 6
Adoption : 2003

8507.60

- Lithium-ion
8507.80

- Other accumulators
8507.90

- Parts
Heading 8508

Vacuum cleaners.
EXPLANATORY NOTES
85.08 - Vacuum cleaners.

- With self-contained electric motor :

8508.11 - - Of a power not exceeding 1,500 W and having a dust bag or other receptacle capacity not exceeding 20 l

8508.19 - - Other

8508.60 - Other vacuum cleaners

8508.70 - Parts

Subject to Note 1 (d) to Chapter 85, this heading covers vacuum cleaners of all kinds, whether or not hand-held, including dry and wet vacuum cleaners, whether or not presented with accessories such as rotary brushes, carpet beating devices, multiple-function suction heads, etc.

Vacuum cleaners perform two functions : the suction of material, including dust, and the filtering of the air stream. Suction is effected by means of a turbine fixed directly onto the shaft of the motor, turning at high velocity. The dust and other material are collected in an internal or external dust bag or other receptacle, whereas the air sucked in and filtered is also used to cool the motor.

The heading includes*, inter alia*, vacuum cleaner type grooming apparatus for horses or cattle.

Excluded from this heading are appliances for cleaning carpets in situ by injecting a liquid cleaning solution into the carpet, the solution then being extracted by suction, which are not combination dry and wet vacuum cleaners (**heading 84.51** or **85.09**).

This heading also **excludes** vacuum apparatus of a kind used in medical, surgical, dental or veterinary sciences (**heading 90.18**).

EQUIPMENT PRESENTED WITH THE APPLIANCES

OF THIS HEADING

Vacuum cleaners of this heading may be presented with auxiliary devices (accessories) (for brushing, polishing, insecticide spraying, etc.) or interchangeable parts (carpet devices, rotary brushes, multiple-function suction heads, etc.). Such an appliance is classified here together with the parts and accessories presented with it, **provided** they are of a kind and number commonly used with the appliance. When presented separately, they are classified by reference to their nature.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Notes to Section XVI), parts of appliances of this heading are also classified here.

8508.1

- With self-contained electric motor :

8508.11

-- Of a power not exceeding 1,500 W and having a dust bag or other receptacle capacity not exceeding 20 l

CLASSIFICATION OPINIONS

1. Dry and wet vacuum cleaning machine consisting of a power unit (electric motor) and a water basin, mounted on a base with adjustable castors. To perform various functions, it is presented with accessories, such as a set of nozzles, brushes and an upholstery tool for vacuuming, a special hose and sprayer assembly for spraying liquid solutions (e.g., insecticides) and an inflator nozzle. The bottom of the machine also contains a high speed centrifuge which, if a few drops of fragrance are put into the water, permits the machine to disperse home fragrance or air freshener. The water also acts as a filter for collecting both dust and other impurities.

Application of Note 3 to Section XVI.

Adoption : 1998

8508.19

-- Other

CLASSIFICATION OPINIONS

1. Dry and wet vacuum cleaning machine consisting of a power unit (electric motor) and a water basin, mounted on a base with adjustable castors. To perform various functions, it is presented with accessories, such as a set of nozzles, brushes and an upholstery tool for vacuuming, a special hose and sprayer assembly for spraying liquid solutions (e.g., insecticides) and an inflator nozzle. The bottom of the machine also contains a high speed centrifuge which, if a few drops of fragrance are put into the water, permits the machine to disperse home fragrance or air freshener. The water also acts as a filter for collecting both dust and other impurities.
Application of Note 3 to Section XVI.
Adoption : 1998

1. Dry and wet vacuum cleaner with self-contained electric motor, mounted on castors and designed for industrial and commercial use (hotels, restaurants, shops, offices, industrial premises, workshops, etc.) with the following technical characteristics : maximum engine

power : 1,500 W; electrical connection : 230 V - 50 Hz; air flow : 3,600 l/min; vacuum pressure : 23,000 Pa; tank capacity : 38-50 l; weight : 11-12 kg; size : 445 x 450 x 505 mm. The appliance is presented with certain standard accessories but may be fitted with other (optional) accessories; it is designed to vacuum dry matter (dust and other larger materials such as paper waste, wood chips, leaves, waste of glass or other minerals, mud, waste of plastics, etc.) and liquids.
Adoption : 1999



8508.60

- Other vacuum cleaners

8508.70

- Parts

Heading 8509

Electro-mechanical domestic appliances, with self-contained electric motor, other than vacuum cleaners of heading 85.08.

EXPLANATORY NOTES

85.09 - Electro-mechanical domestic appliances, with self-contained electric motor, other than vacuum cleaners of heading 85.08.

8509.40 - Food grinders and mixers; fruit or vegetable juice extractors

8509.80 - Other appliances

8509.90 - Parts

This heading covers a number of domestic appliances in which an electric motor is **incorporated**. The term “domestic appliances” in this heading means appliances normally used in the household. These appliances are identifiable, according to type, by one or more characteristic features such as overall dimensions, design, capacity, volume. The yardstick for judging these characteristics is that the appliances in question must not operate at a level in excess of household requirements.

Subject to the exclusions and in appropriate cases the limitations of weight given in Chapter Note 4, the heading covers apparatus which fulfil the above criteria. The heading **does not cover** appliances driven by a **separate** electric motor (whether by means of a flexible shaft, transmission belts or other transmission equipment), nor appliances which, though similar in construction and use, are clearly intended solely for industrial use (e.g., in the food industries, in

chimney sweeping, machine cleaning or road cleaning); these are classified, in general, in **heading 82.10** or in **Chapter 84**.

The appliances of this heading are of two groups (see Chapter Note 4) :

(A) **A limited class of articles are classified here irrespective of their weight**.

This group consists of the following only :

(1) **Floor polishers** (whether or not with a waxing attachment, and whether or not with a heating element for liquefying the wax).

(2) **Food grinders and mixers**, e.g., grinders for meat, fish, vegetables or fruit; multi-purpose grinders (for coffee, rice, barley, split peas, etc.); milk shakers; ice cream mixers; sorbet mixers; dough kneaders; mayonnaise beaters; other similar grinders and mixers (including those which, by means of interchangeable parts, can also be used for cutting or other manipulations).

(3) **Fruit or vegetable juice extractors**.

(B) **A non-limited class of articles are classified in this heading provided their weight is 20 kg or less**.

This group includes, *inter alia* :

(1) **Floor scrubbing, scraping or scouring appliances, and appliances for sucking up dirty water or soap suds after scrubbing**.

(2) **Appliances for spraying polish on to floors** before polishing. These are usually fitted with heating elements to liquefy the wax.

(3) **Kitchen waste disposers**. These devices are designed to be attached to the kitchen sink and are used to grind kitchen waste.

(4) **Peelers, chippers, cutters, etc., for potatoes or other vegetables**.

(5) **Slicers of all kinds** (e.g., for meat, sausages, bacon, cheese, bread, fruit or vegetables).

(6) **Knife sharpeners and cleaners**.

(7) Electric **tooth brushes**.

(8) **Air humidifiers and dehumidifiers**.

EQUIPMENT PRESENTED WITH THE APPLIANCES OF THIS HEADING

Many of the appliances listed above may be presented with interchangeable parts or auxiliary devices to make them suitable for various purposes. For example, food mixers which can be used for cutting, grinding, whipping, mincing, etc.; slicers with honing and sharpening devices; floor scrubbers with a

polishing brush set; scrubbers with a soap feeder and suction device for removing dirty water or soap suds. Such an appliance is classified here together with the parts and accessories presented with it, **provided** they are of a kind and number commonly used with the appliance. The weight of the extra interchangeable parts or detachable auxiliary devices is to be ignored in determining whether the appliance falls in the heading under the terms of paragraph (B) above.

The appliances of this heading may be mounted on runners, castors or similar devices to facilitate use.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the appliances of this heading are also classified here.

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* *

The heading **does not cover** :

(a) Fans or ventilating or recycling hoods incorporating a fan, whether or not fitted with filters (**heading 84.14**).

(b) Refrigerators (**heading 84.18**).

(c) Roller or other ironing machines (**heading 84.20** or **84.51**).

(d) Centrifugal clothes-dryers (**heading 84.21**) and household washing machines (**heading 84.50**).

(e) Dish washing machines (**heading 84.22**).

(f) Grass mowers (**heading 84.33**).

(g) Dairy type butter churns (**heading 84.34**).

(h) Fruit or vegetable juice extractors, food grinders and mixers, or the like, for industrial or commercial use, of the type used in restaurants or similar establishments (**heading 84.35** or **84.38**, respectively).

(ij) Appliances for cleaning carpets in situ by injecting a liquid cleaning solution into the carpet, the solution then being extracted by suction, designed for use in establishments (other than domestic premises) such as hotels, motels, hospitals, offices, restaurants and schools (**heading 84.51**).

(k) Sewing machines (**heading 84.52**).

(l) Hair-removing appliances (**heading 85.10**).

(m) Electro-thermic domestic appliances (**heading 85.16**).

(n) Massage appliances (**heading 90.19**).

8509.40

- Food grinders and mixers; fruit or vegetable juice extractors

8509.80

- Other appliances

CLASSIFICATION OPINIONS

1. Handheld machine, operated by a small electric motor, used for prewashing clothes to remove stains. The machine subjects the stains to a combination of water and detergent, followed by a patting action. Dimensions (W x D x H) 46 x 46 x 166 mm, weight 200 g. **Application of GIRs 1 (Note 4 (b) to Chapter 85) and 6.** *Adoption : 2017*



8509.90

- Parts

Heading 8510

Shavers, hair clippers and hair-removing appliances, with self-contained electric motor.

EXPLANATORY NOTES

85.10 - Shavers, hair clippers and hair-removing appliances, with self-contained electric motor.

8510.10 - Shavers

8510.20 - Hair clippers

8510.30 - Hair-removing appliances

8510.90 - Parts

This heading covers electric shavers and hair clippers which have a built-in electric motor or vibrator, whether for use on human beings, or for shearing sheep or for grooming horses, clipping cattle, etc.

In electric shavers (dry shavers) rotating or reciprocating cutters or knife blades slide along the inside of a perforated or slotted plate, thus cutting those hairs which protrude through the perforations or slots. In the case of hair clippers, a comb-like cutter blade slides to and fro over a fixed metal comb thus cutting the hair or wool which is caught between the teeth of the combs. Hair clippers for barbers' use operate on a similar principle to those for sheep shearers, grooms, etc., but differ in size.

This heading also covers electro-mechanical hair-removing appliances with self-contained electric motor; these appliances, which grip the hair and pluck it out at the root, may operate with either a micro-roller, or a metal spiral which rotates around its own axis, or a guard, a depilating head and a set of depilating wheels.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of electric shavers, hair clippers or hair-removing appliances are also classified here. These include, *inter alia*, cutter heads, cutter blades, knife blades and comb blades.

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* *

Hair clippers operated by a flexible shaft driven by a separate electric motor are classified in **heading 82.14**, the electric motor (whether or not equipped with the flexible shaft) being classified in **heading 85.01**.

8510.10

- Shavers

8510.20

- Hair clippers

8510.30

- Hair-removing appliances

8510.90

- Parts

Heading 8511

Electrical ignition or starting equipment of a kind used for spark-ignition or compression-ignition internal combustion engines (for example, ignition magnetos, magneto-dynamos, ignition coils, sparking plugs and glow plugs, starter motors); generators (for example, dynamos, alternators) and cut-outs of a kind used in conjunction with such engines.

EXPLANATORY NOTES

85.11 - Electrical ignition or starting equipment of a kind used for spark-ignition or compression-ignition internal combustion engines (for example, ignition magnetos, magneto-dynamos, ignition coils, sparking plugs and glow plugs, starter motors); generators (for example, dynamos, alternators) and cut-outs of a kind used in conjunction with such engines.

8511.10 - Sparking plugs

8511.20 - Ignition magnetos; magneto-dynamos; magnetic flywheels

8511.30 - Distributors; ignition coils

8511.40 - Starter motors and dual purpose starter-generators

8511.50 - Other generators

8511.80 - Other equipment

8511.90 - Parts

This heading covers electrical starting or ignition equipment and appliances for internal combustion engines of any kind (piston or other types), whether for use in motor cars, aircraft, boats or the like, or for stationary engines. It also covers generators and cut-outs for use in conjunction with such internal combustion engines.

The heading includes :

(A) **Sparking plugs**.

These consist of a central insulated electrode and a point (or points) attached to the casing. The casing is partly threaded at its base for screwing it into the cylinder-head, and there is a terminal at the top of the central electrode for connection to the source of current. When a high voltage is applied to the central electrode a spark jumps between that electrode and the point or points and is used for igniting the explosive mixture in the cylinder.

(B) **Ignition magnetos (including magneto-dynamos)**.

These are used to provide the necessary high tension voltage to be applied to the sparking plugs of an internal combustion engine; they are used mainly for racing cars, tractors, aircraft, motor-boat or motor-cycle engines. They are of the following main types :

(1) **Revolving armature magnetos**. These incorporate a form of AC generator in which an armature, wound with a primary low tension coil, rotates between the poles of a permanent magnet. This primary coil is connected to a contact breaker and capacitor, and the sudden making and breaking of the current in this coil induces very high voltage in a secondary winding. The whole is usually built in one housing, on the top of which a distributor arm is mounted to distribute the voltage to the sparking plugs in turn.

(2) **Stationary armature magnetos**. These are of two types. In both the armature winding, contact breaker and capacitor are stationary; but in one type the magnets revolve, whereas

in the other type, the magnets are also stationary and soft iron inductors revolve between the magneto and the armature winding.

(3) **Magneto-dynamos**. These comprise a magneto and a dynamo combined into a single unit with a common drive; they are normally used on motor-cycles.

(C) **Magnetic flywheels**.

These consist of a magnetic device fitted to a flywheel to produce a low tension current for ignition purposes.

(D) **Distributors**.

These distribute the ignition current to the sparking plugs in turn, and also incorporate an interrupter to make and break the circuit in the primary winding of the ignition coil; both functions are synchronised with the strokes of the pistons in the cylinders by means of a cam driven by the engine.

(E) **Ignition coils**.

These consist of specially modified induction coils, usually in a cylindrical container. By connecting the primary via an interrupter to the battery, a high voltage is produced in the secondary and is led to the sparking plugs via a distributor.

In some ignition systems a double-spark ignition coil is connected directly to two sparking plugs and the coil generates an ignition spark in each plug simultaneously, with the spark from one plug producing its cylinder power stroke and the spark from the other plug having no effect on its cylinder because it is on the exhaust stroke. Such systems do not require a distributor as the ignition coil is connected directly to the sparking plugs. In these systems the coils are energised by an electronic (semiconductor) coil module.

(F) **Starter motors**.

These are small electric motors, usually of the DC series wound type. They are fitted with a small pinion capable of travelling up and down a screwed shaft, or with some other mechanical device for coupling them temporarily to the internal combustion engine to be started.

(G) **Generators (dynamos and alternators)**.

These are driven by the engine, and serve to charge the batteries and to supply current to the lighting, signalling, heating and other electrical equipment of motor vehicles, aircraft, etc. Alternators are used with a rectifier.

(H) **Booster coils**.

These are small induction coils used, mainly on aircraft, when the turning speed at starting is too low for the engine magnetos to function.

(IJ) **Glow plugs**.

These are similar to sparking plugs, but in place of the electrode and points for producing a spark, they have a small resistor which, when current is passed, becomes heated. They are used to heat the air in the cylinders of diesel engines before and during starting.

(K) **Heating coils**.

These are intended for mounting in the air intake of diesel engines for starting purposes.

(L) **Dynamo cut-out apparatus**.

These prevent the dynamo from being driven as a motor, at the expense of the battery, when the engine is stationary or turning at low speed.

Cut-outs combined, in a single housing, with a voltage regulator or a current regulator are also classified here. In addition to protecting the battery and the dynamo, these devices ensure a constant flow of charge current or limit the intensity of this current.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here.

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* *

The heading **excludes** :

(a) Engine starters as used on airfields, bus stations, etc., for starting internal combustion engines and consisting essentially of a transformer and rectifier (**heading 85.04**).

(b) Electric accumulators (**heading 85.07**).

(c) Dynamos for use on bicycles for lighting purposes only (**heading 85.12**).

8511.10

- Sparking plugs

8511.20

- Ignition magnetos; magneto-dynamos; magnetic flywheels

8511.30

- Distributors; ignition coils

8511.40

- Starter motors and dual purpose starter-generators

8511.50

- Other generators

8511.80

- Other equipment

8511.90

- Parts

Heading 8512

Electrical lighting or signalling equipment (excluding articles of heading 85.39), windscreen wipers, defrosters and demisters, of a kind used for cycles or motor vehicles.

EXPLANATORY NOTES

85.12 - Electrical lighting or signalling equipment (excluding articles of heading 85.39), windscreen wipers, defrosters and demisters, of a kind used for cycles or motor vehicles.

8512.10 - Lighting or visual signalling equipment of a kind used on bicycles

8512.20 - Other lighting or visual signalling equipment

8512.30 - Sound signalling equipment

8512.40 - Windscreen wipers, defrosters and demisters

8512.90 - Parts

This heading covers electrical apparatus and appliances specialised for use on cycles or motor vehicles for lighting or signalling purposes. It **does not**, however, **cover**, dry batteries (**heading 85.06**), electric accumulators (**heading 85.07**) or dynamos and magneto-dynamos of **heading 85.11**. The heading also includes electrical windscreen wipers, defrosters and demisters for motor vehicles.

The heading includes, *inter alia* :

(1) **Dynamos** for generating electric current by means of a friction wheel running on one of the tyres or wheel rims of a bicycle or, in some rare cases, of a motor-cycle.

(2) **Battery holders**, equipped with a switch, terminals, contacts, etc., for cycle lighting equipment; **battery-operated lamps**, designed for mounting on cycles.

(3) **Headlamps of all kinds** including lamps fitted with dimming or dipping attachments; diffused driving lamps; anti-fog lamps; spot-lights; search-lamps of a kind used on police cars or the like (including those which, attached to a length of cable, can be used as hand lamps or can be placed on the road).

(4) **Side lamps; tail lamps; parking lamps; licence plate lamps**.

(5) **Braking lights, direction indication lights, reversing lamps and the like**.

(6) **Combinations of some of the above-mentioned lamps, assembled in one casing**.

(7) **Interior lighting lamps**, such as dome lamps, wall lamps, step indicating lamps, door frame lamps and instrument panel lamps.

(8) **Luminous overtaking signals**, transmitting to the driver automatically (sometimes by means of a photoelectric cell) a signal indicating the presence of an overtaking vehicle.

(9) Other **electrical visual signalling apparatus**, e.g., illuminated triangles for vehicles with trailers , illuminated indicators (of the revolving dome type or the "lightbar" type) for taxis, police vehicles, fire engines, etc.

(10) **Parking equipment** operated by means of external feelers, which, when they touch the curb or other object, cause a light or other signal to warn the driver.

(11) **Anti-theft alarms** which emit visual or audio signals to warn of attempts to break in to a vehicle.

(12) **Horns, sirens and other electrical sound signalling appliances**.

(13) **Electrical apparatus which emit audio signals** to warn the driver of the proximity of vehicles or other objects behind the vehicle when reversing. These apparatus usually comprise ultrasonic sensors, an electronic control unit, a buzzer or beeper and associated wiring.

(14) **Electrical apparatus of a kind used in a motor vehicle** to warn the driver, by visual or audio signals, that a speed detection device, such as a radar gun or a laser gun, is operating in the vicinity.

(15) **Windscreen wipers**, including dual windscreen wipers, driven by an electric motor.

(16) **Defrosters and demisters**. These consist of a resistance wire mounted in a frame for fitting to the windscreen.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here.

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* *

The heading also **excludes** :

(a) Glass lenses (**heading 70.14**).

(b) Air conditioning machinery or apparatus (**heading 84.15**).

(c) Electric sound amplifier sets, consisting of a microphone, audio-frequency amplifier and loudspeaker, used for transmitting to the driver of a towing vehicle the warning hoot or other road sounds behind his trailer (**heading 85.18**).

(d) Boards, panels and other bases, equipped with two or more apparatus of heading 85.36 (e.g., an assembly of switches for mounting on the steering column) (**heading 85.37**).

(e) Electric lamps, including sealed beam lamp units, of **heading 85.39**.

(f) Insulated electric wire and cable, whether or not cut to length or fitted with connectors or made up in sets (e.g., ignition wiring sets) (**heading 85.44**).

(g) Non-electric car heating apparatus which also acts as defroster or demister (**heading 73.22** or **87.08**).

8512.10

- Lighting or visual signalling equipment of a kind used on bicycles

8512.20

- Other lighting or visual signalling equipment

8512.30

- Sound signalling equipment

CLASSIFICATION OPINIONS

1. Electrical apparatus of a kind used in a motor vehicle to warn the driver that a speed detection device, such as a "radar gun" or a "laser gun", is operating in the vicinity. The apparatus emits distinct visual and audio signals when it detects microwaves emitted by a speed detection device. As presented, it is comprised of the radar/laser detector, windshield clip, straight power cord, fuses and spare parts, printed material and operating guide. **Application of GIRs 1 and 6, classification at subheading level being based on GIR 3 (b).** *Adoption : 2000*



8512.40

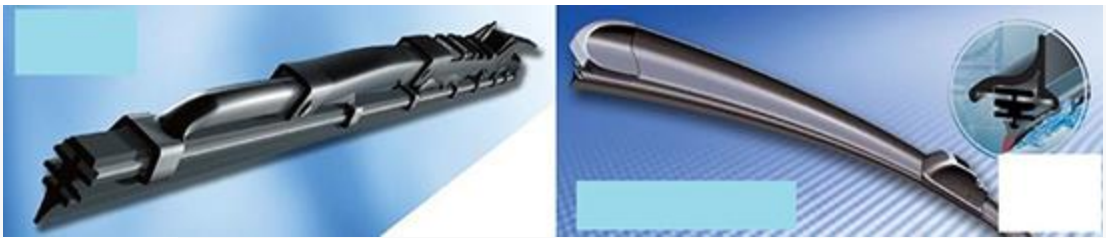
- Windscreen wipers, defrosters and demisters

8512.90

- Parts

CLASSIFICATION OPINIONS

1. Windscreen (windshield) wiper blades, tmade of synthetic or natural rubber, metal brackets as well as pre-assembled universal adapters. They are used in electrical windscreen wipers for motor vehicles.
Application of GIRs 1 (Note 2 (b) to Section XVI) and 6. *Adoption : 2018*



Heading 8513

Portable electric lamps designed to function by their own source of energy (for example, dry batteries, accumulators, magnetos), other than lighting equipment of heading 85.12.

EXPLANATORY NOTES

85.13 - Portable electric lamps designed to function by their own source of energy (for example, dry batteries, accumulators, magnetos), other than lighting equipment of heading 85.12.

8513.10 - Lamps

8513.90 - Parts

This heading covers portable electric lamps designed to function by means of a self-contained source of electricity (e.g., dry cell, accumulator or magneto).

They comprise two elements (i.e., the lamp proper and the source of electricity) which are usually mounted and directly connected together, often in a single case. In some types, however, these elements are separate and are connected by wires.

The term “portable lamps” refers **only** to those lamps (i.e., both the lamp and its electricity supply) which are designed for use when carried in the hand or on the person, or are designed to be attached to a portable article or object. They usually have a handle or a fastening device and may be recognised by their particular shapes and their light weight. The term therefore **excludes** lighting equipment for motor vehicles or cycles (**heading 85.12**), and lamps which are connected to a fixed installation (**heading 94.05**).

The lamps of this heading include :

(1) **Pocket lamps**. Some (“dynamo lamps”) are operated by a magneto, hand driven by means of a spring-loaded lever.

(2) **Other hand lamps** (including those with an adjustable beam). Hand lamps are often fitted with a simple device for hanging them temporarily on a wall, etc., while others are designed so that they can be placed on the ground.

(3) **Lamps, torches or flashlights** in the shape of pens, often fitted with a clip for securing the lamp to the user’s pocket when not in use.

(4) **Morse signalling lamps**.

(5) **Miners’ safety lamps**; the lighting device is usually designed for fitting to the miners’ helmet, while the source of electricity (accumulator) is usually hooked on to the belt.

(6) **Examination lamps for general use**, fixed to a headband (which usually consists of a curved strip of metal). Such lamps are classified here **only** if they have their own source of current (dry battery in user's pocket, for example). The lamps of this heading are used by doctors, watchmakers, jewellers, etc. Specialised medical inspection lamps (e.g., for throat or ear inspection) are **excluded** (**heading 90.18**).

(7) **Fancy torches** in the shape of pistols, lipsticks, etc. Composite articles composed of a lamp or torch and a pen, screwdriver, key ring, etc., remain classified here **only** if the principal function of the whole is the provision of light.

(8) **Reading lamps** fitted with a clip or the like for attachment to a book or magazine.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the lamps of this heading are also classified here.

*

* *

The heading **excludes** :

(a) Photographic flash-light apparatus (**heading 90.06**).

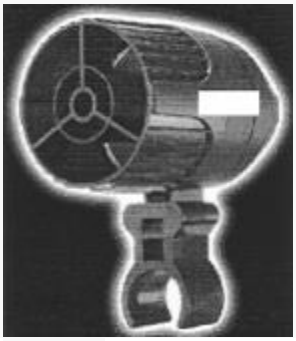
(b) Laser pointers incorporating a laser diode (**heading 90.13**).

8513.10

- Lamps

CLASSIFICATION OPINIONS

1. Portable lamp to be mounted on the telescopic sight of a hunting rifle, consisting of a cylindrical housing incorporating a halogen lamp, a reflector and a device for attaching the lamp to the telescopic sight, connected by an electric cable to a control box which is fitted to the butt of the weapon, and which contains a switch and an accumulator. **Application of GIRs 1 and 6.** *Adoption : 2006*



8513.90

- Parts

Heading 8514

Industrial or laboratory electric furnaces and ovens (including those functioning by induction or dielectric loss); other industrial or laboratory equipment for the heat treatment of materials by induction or dielectric loss.

EXPLANATORY NOTES

85.14 - Industrial or laboratory electric furnaces and ovens (including those functioning by induction or dielectric loss); other industrial or laboratory equipment for the heat treatment of materials by induction or dielectric loss.

- Resistance heated furnaces and ovens :

8514.11 - - Hot isostatic presses

8514.19 - - Other

8514.20 - Furnaces and ovens functioning by induction or dielectric loss

- Other furnaces and ovens :

8514.31 - - Electron beam furnaces

8514.32 - - Plasma and vacuum arc furnaces

8514.39 - - Other

8514.40 - Other equipment for the heat treatment of materials by induction or dielectric loss

8514.90 - Parts

This heading covers a number of industrial or laboratory type electro-thermic machines, apparatus and appliances in which the heat is obtained electrically (e.g., by the heating effect of a current in a conductor; from an electric arc). The heading includes furnaces and ovens functioning by induction or dielectric loss and other industrial or laboratory equipment for the heat treatment of materials by induction or dielectric loss (e.g., industrial microwave furnaces, ovens and equipment). The heading **excludes** electro-thermic appliances of a kind used for domestic purposes (**heading 85.16**).

(I) INDUSTRIAL OR LABORATORY ELECTRIC FURNACES AND OVENS (INCLUDING THOSE FUNCTIONING BY INDUCTION OR DIELECTRIC LOSS)

Electric furnaces and ovens consist essentially of a more or less closed space or vessel in which a relatively high temperature is obtained. They are used for many purposes (melting, annealing, tempering, enamelling, welding, heat treatment of welds, etc.). The principal types include retort furnaces, bell-type furnaces, trough furnaces, crucible furnaces, tunnel furnaces, etc. Some of these furnaces may have special tilting attachments, or be provided with an inner vessel for the treatment of metals in a particular gas to prevent oxidation.

The furnaces and ovens covered by this group include, *inter alia* :

(A) **Resistance heated furnaces and ovens** in which the heat is produced by the passage of a current through heating resistors. These heating elements (resistors) transfer heat to the stock or charge by radiation and convection.

(B) **Resistance furnaces for heating bars of metal or granular materials** where the material to be heated serves as the resistor. These consist of a container in which current is passed through the material itself; the electrical resistance of the material produces the necessary heat.

(C) **Liquid resistance furnaces** consisting of baths furnished with electrodes. In operation the bath contains molten metal, molten salts or special oil, maintained at the required temperature by the passage of electricity, via the electrodes, through the liquid; the object is heated by being plunged in the bath of liquid.

(D) **Electrolytic furnaces for smelting or refining metals.** These are also liquid resistance furnaces fitted with electrodes immersed in a molten bath electrolyte. The bath contains the metal bearing constituent of the ore dissolved in a molten salt. Electrolytic dissociation which is caused by the passage of electricity through the electrolyte via the electrodes results in pure molten metal collecting at the cathode while a gas is given off at the anode.

(E) **Low frequency induction furnaces**. Low frequency AC in a primary coil is linked magnetically by a soft iron core with the charge to be heated, and induces current in that charge thus causing it to be heated. In certain furnaces of this type, the molten charge circulates from the main crucible through vertical looped piping in which the heating currents are induced from the primary circuit.

(F) **High frequency induction furnaces**. An AC of high frequency (often of radio frequency) in the primary coil induces eddy currents in the charge to be heated. This type of furnace has no iron core.

(G) **Dielectric capacitance furnaces and ovens**. The charge, which must be electrically non-conducting, is placed between two metal plates connected to a source of AC. In effect the arrangement operates as a capacitor, and dielectric loss in the charge causes heat to be developed within it. This group includes **industrial microwave ovens**, in which dielectric products to be heated are subjected to the action of electromagnetic waves. By dielectric loss, the energy from the waves is converted simultaneously into heat throughout the mass of the product, ensuring very uniform heating. These ovens are used for drying, defrosting, moulding of plastics, firing ceramics, etc.

(H) **Arc furnaces** in which the heat is generated by an electric arc, struck between electrodes or between an electrode and the charge to be heated. These furnaces are used for the production of pig iron, various ferro-alloys, calcium carbide, for reducing iron ore, for the fixation of nitrogen from the air, etc. Certain low temperature arc furnaces are also used for distilling materials of relatively low boiling point (e.g., zinc or phosphorus); if, however, they are equipped with condensers to collect the distillate, the whole is **excluded** (**heading 84.19**).

(IJ) **Infra-red radiation ovens** heated by a number of infra-red lamps or radiation plates.

Certain furnaces or ovens use more than one method of heating (e.g., high and low frequency induction or resistance for melting and heating metals, etc.; infra-red and high frequency biscuit baking ovens; infra-red, resistance and dielectric capacitance (microwave) ovens for heating objects).

The furnaces and ovens described in this heading include, *inter alia* :

(1) **Ovens for bread, pastry or biscuit making**.

(2) **Dental ovens**.

(3) **Crematorium furnaces**.

(4) **Furnaces for incinerating waste**.

(5) **Furnaces or ovens for annealing or tempering glass**.

This heading **excludes** electrically heated apparatus for drying, sterilising or similar operations (**heading 84.19**).

(II) OTHER INDUSTRIAL OR LABORATORY EQUIPMENT FOR THE HEAT TREATMENT OF MATERIALS BY INDUCTION OR DIELECTRIC LOSS

The heading also includes electric induction or dielectric heating equipment (for example, microwave equipment), even if not in the form of a furnace or oven. This equipment (used mainly for the heat treatment of small articles) consists essentially of electrical equipment for producing high-frequency oscillations, mounted together with the appropriate plates or coils, often of special design for the particular articles to be treated.

These include, *inter alia* :

(1) Machines with induction coils for heating by induction objects made up of materials which are good conductors of electricity, by means of low, medium or high-frequency power (e.g., machines used for superficial hardening of crankshafts, cylinders, cog wheels or other metal parts; machines for melting, sintering, annealing, tempering or preheating metal parts).

(2) Machines with electrodes serving as a capacitor (e.g., in the form of plates, bars) for dielectric (capacitive) heating of objects made up of materials which are non-conductors or bad conductors of electricity, by means of high frequency power (e.g., wood-drying machines; machines for preheating thermohardenable moulding materials in the form of pellets or powder, etc.).

Some special types of equipment are designed for the progressive heat-treatment of a bar passed through the coil, or for the repetitive treatment of a series of articles.

Rotary converters and high-frequency generators when presented together with heat-treatment equipment are also classified in this heading. When presented separately, they fall in **heading 85.02** or **85.43**, as the case may be.

However, machines for induction treatment used for soldering or brazing metals and machines for heat-treatment by dielectric loss used for welding plastics or other materials (e.g., high-frequency pressing machines for welding and high-frequency line welding machines) fall in **heading 85.15**. Presses incorporating heating devices are also **excluded** (**Chapter 84**).

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* *

This heading also covers furnaces and other appliances specially designed for the separation, by pyrometallurgical processes, of irradiated nuclear fuels, appliances for the treatment of radioactive waste (e.g., for the firing of clays or glass containing radioactive residues or for the combustion of graphite or radioactive filters) or those for the sintering or heat-treatment of fissile material recovered for recycling. However, appliances for isotopic separation are classified in **heading 84.01**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here (e.g., armatures, doors, inspection holes, panels and domes, electrode holders and metal electrodes).

*

* *

However, the heading also **excludes** :

(a) Bricks, blocks and similar refractory or ceramic goods for the construction or lining of electric furnaces (**Chapter 69**).

(b) Electric furnaces and ovens for manufacturing semiconductor wafers or flat panel displays (**heading 84.86**).

(c) Electric heating resistors (**heading 85.16** or **85.45**, as the case may be).

(d) Electrodes of graphite or other carbon, with or without metal (**heading 85.45**).

8514.1

- Resistance heated furnaces and ovens :
8514.11

-- Hot isostatic presses
8514.19

-- Other
8514.20

- Furnaces and ovens functioning by induction or dielectric loss
8514.3

- Other furnaces and ovens :
8514.31

-- Electron beam furnaces
8514.32

-- Plasma and vacuum arc furnaces

8514.39

-- Other

8514.40

- Other equipment for the heat treatment of materials by induction or dielectric loss

8514.90

- Parts

Heading 8515

Electric (including electrically heated gas), laser or other light or photon beam, ultrasonic, electron beam, magnetic pulse or plasma arc soldering, brazing or welding machines and apparatus, whether or not capable of cutting; electric machines and apparatus for hot spraying of metals or cermets.

EXPLANATORY NOTES

85.15 - Electric (including electrically heated gas), laser or other light or photon beam, ultrasonic, electron beam, magnetic pulse or plasma arc soldering, brazing or welding machines and apparatus, whether or not capable of cutting; electric machines and apparatus for hot spraying of metals or cermets.

- Brazing or soldering machines and apparatus :

8515.11 - - Soldering irons and guns

8515.19 - - Other

- Machines and apparatus for resistance welding of metal :

8515.21 - - Fully or partly automatic

8515.29 - - Other

- Machines and apparatus for arc (including plasma arc) welding of metals :

8515.31 - - Fully or partly automatic

8515.39 - - Other

8515.80 - Other machines and apparatus

8515.90 - Parts

(I) SOLDERING, BRAZING OR WELDING MACHINES AND APPARATUS

This group covers certain soldering, brazing or welding machines and apparatus, whether portable or fixed. They are also classified here when they are capable of cutting.

Welding operations may be performed manually or be fully or partly automatic.

These include :

(A) **Brazing or soldering machines and apparatus**.

The heat is normally generated by induction or conduction using electrical power sources.

Brazing and soldering are operations in which metal parts are joined by means of a filler metal with a lower melting point that wets the parent metal(s). The parent metal(s) does(do) not participate by fusion in making the joint. The filler metal is usually distributed between the surfaces of the joint by capillary attraction. Brazing can be distinguished from soldering by the melting point temperature of filler metals used. In brazing it is generally above 450 °C, whereas in soldering the melting point is achieved at a lower temperature.

Only machines and apparatus which, by reason of their special equipment (for example, a system for feeding in solder wire), are identifiable as solely or principally intended for brazing or soldering belong to this group. Other appliances are to be considered as furnaces, ovens or heating equipment within the meaning of **heading 85.14**.

This heading also covers electrically heated hand soldering irons and guns.

(B) **Machines and apparatus for resistance welding of metal**.

The heat required for forming welded joints is produced by the resistance to the flow of an electric current through the parts to be joined (Joule heat). During welding the parts are held together under pressure and fluxes or filler metals are not used.

These machines are of many kinds varying according to the type of article to be welded. They include, for example, butt welding or flash butt welding machines; single-spot welding machines comprising guns with or without built-in power sources; multispot machines and associated equipment; projection welding machines; seam welding machines; high-frequency resistance welding apparatus.

(C) **Machines and apparatus for arc or plasma arc welding of metals, whether or not capable of cutting**.

(1) **Arc welding**.

The source of heat is an electric arc struck either between two electrodes or between one such electrode and the work piece.

There are many machines of this kind, e.g., for manual metal arc welding with coated electrodes; for gas-shielded arc welding; for welding or cutting with consumable or non-consumable electrodes or with covered arc (inert-gas metal arc welding (MIG- Metal Inert Gas); active-gas metal arc welding (MAG- Metal Active Gas); inert-gas tungsten arc welding (TIG-Tungsten Inert Gas); submerged arc welding (SA), electro-slag or electro-gas welding, etc.).

(2) **Plasma arc welding**.

The source of heat is a constricted arc which, by ionisation and dissociation, converts auxiliary gas into a plasma (plasma jet). The gas may be inert (argon, helium), polyatomic (nitrogen, hydrogen) or a mixture of the two.

(D) **Machines and apparatus for induction welding of metals**.

The heat is produced by passing a current through one or more inductor coils.

(E) **Machines and apparatus for electron beam welding, whether or not capable of cutting**.

The heat is produced in the piece(s) to be welded or cut by impact of the electrons of a focussed electron beam generated in vacuum.

(F) **Machines and apparatus for vacuum diffusion welding**.

The heat is generally produced by induction but may be produced by electron beam or resistance.

The apparatus consists essentially of a vacuum chamber, vacuum pump, means of exerting pressure and heating equipment.

(G) **Machines and apparatus for photon beam welding, whether or not capable of cutting**.

Photon beam welding may be divided into :

(1) **Laser beam welding**.

The heat is derived from a source of essentially **coherent**, monochromatic radiation, which can be focussed into a high-intensity beam. It is produced by the impact of this beam on the piece to be welded.

(2) **Light beam welding**.

The heat is produced by impact of a **non-coherent** focussed light beam.

(H) **Machines and apparatus for welding thermoplastic materials**.

(1) **Welding with electrically heated gas (hot gas welding)**.

The surfaces to be joined are warmed by electrically heated gas (generally air) and joined under pressure with or without additives.

(2) **Welding with electrically heated elements (heating element welding)**.

The surfaces to be joined are warmed by means of electrically heated elements and joined under pressure with or without additives.

(3) **High-frequency welding**.

Surfaces of thermoplastic materials (e.g. acrylic polymers, polyethylene, poly(vinyl-chloride), polyamide (e.g. nylon)) with reasonably high dielectric losses are heated in a high-frequency alternating field and then joined under pressure. Additives may be used.

(IJ) **Machines and apparatus for ultrasonic welding**.

The parts to be joined are held together and subjected to ultrasonic vibrations. This process makes it possible to join metals or alloys which do not respond to ordinary welding techniques, and to weld metallic foils, parts of two or more different metals, or plastic films.

*

* *

Electric soldering, welding or brazing machines are usually fed with low-voltage DC from a DC generator, or with low-voltage AC from a step-down transformer. The transformer, etc., is usually incorporated in the machine, but in some cases (e.g., in certain mobile machines), the welding head or welding appliance is connected to the transformer, etc., by electric cable. Even in the latter case the heading covers the whole apparatus **provided** the transformer, etc., is presented with its associated welding head or welding appliance; presented separately, the transformer or generator is classified in its own appropriate heading (**heading 85.02** or **85.04**).

This heading also covers industrial robots specially designed for welding purposes.

The heading also **excludes** :

(a) Packaging machines fitted with electric welding appliances (**heading 84.22**).

(b) Fusing presses (**heading 84.51**).

(c) Machines designed exclusively for cutting (generally **heading 84.56**).

(d) Friction welding machines (**heading 84.68**).

(e) Soldering, brazing or welding machines and apparatus of a kind solely or principally used for the assembly of semiconductors (**heading 84.86**).

(II) ELECTRIC MACHINES AND APPARATUS FOR HOT SPRAYING OF METALS OR CERMETS

These are electric arc apparatus which melt down metals or cermets and at the same time spray them by means of compressed air.

The heading **does not cover** separately presented metal spraying pistols of **heading 84.24**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here.

These include, *inter alia*, soldering heads and tongs, electrode holders and metal contact electrodes (for example, contact points, rollers and jaws) as well as torch points and sets of nozzles for atomic hydrogen hand welding equipment.

The following, however, are **excluded** from this heading :

(a) Consumable electrodes made of base metal or metal carbides (classified according to constituent material or in **heading 83.11**, as the case may be).

(b) Electrodes of graphite or other carbon, with or without metal (**heading 85.45**).

8515.1

- Brazing or soldering machines and apparatus :
8515.11

-- Soldering irons and guns
8515.19

-- Other
8515.2

- Machines and apparatus for resistance welding of metal :
8515.21

-- Fully or partly automatic
8515.29

-- Other
8515.3

- Machines and apparatus for arc (including plasma arc) welding of metals :
8515.31

-- Fully or partly automatic
8515.39

-- Other
8515.80

- Other machines and apparatus
8515.90

- Parts

Heading 8516

Electric instantaneous or storage water heaters and immersion heaters; electric space heating apparatus and soil heating apparatus; electro-thermic hair-dressing apparatus (for example, hair dryers, hair curlers, curling tong heaters) and hand dryers; electric smoothing irons; other electro-thermic appliances of a kind used for domestic purposes; electric heating resistors, other than those of heading 85.45.

EXPLANATORY NOTES

85.16 - Electric instantaneous or storage water heaters and immersion heaters; electric space heating apparatus and soil heating apparatus; electro-thermic hair-dressing apparatus (for example, hair dryers, hair curlers, curling tong heaters) and hand dryers; electric smoothing irons; other electro-thermic appliances of a kind used for domestic purposes; electric heating resistors, other than those of heading 85.45.

8516.10 - Electric instantaneous or storage water heaters and immersion heaters

- Electric space heating apparatus and electric soil heating apparatus :

8516.21 - - Storage heating radiators

8516.29 - - Other

- Electro-thermic hair-dressing or hand-drying apparatus :

8516.31 - - Hair dryers

8516.32 - - Other hair-dressing apparatus

8516.33 - - Hand-drying apparatus

8516.40 - Electric smoothing irons

8516.50 - Microwave ovens

8516.60 - Other ovens; cookers, cooking plates, boiling rings, grillers and roasters

- Other electro-thermic appliances :

8516.71 - - Coffee or tea makers

8516.72 - - Toasters

8516.79 - - Other

8516.80 - Electric heating resistors

8516.90 - Parts

(A) ELECTRIC INSTANTANEOUS OR STORAGE WATER HEATERS AND IMMERSION HEATERS

This group includes :

(1) **Geysers** in which the water is heated as it flows through.

(2) **Storage water heaters** (whether or not of the pressure type), i.e., heat-insulated tanks with immersion heating elements. In these heaters water is heated gradually.

(3) **Dual-system heaters** in which the water is heated either electrically or by connection to a fuel-heated hot water system; they are often equipped with a thermostatic control to operate them electrically only when the alternative means is insufficient.

(4) **Electrode hot water boilers**, in which an AC passes through the water between two electrodes.

(5) **Immersion heaters** of different shapes and forms depending on their use, are generally used in tanks, vats, etc., for heating liquids, semi-fluid (other than solid) substances or gases. They are also designed to be used in pots, pans, tumblers, cups, baths, beakers, etc., usually with a heat-insulated handle and a hook for hanging the heater in the vessel.

They have a reinforced protective sheath which is highly resistant to mechanical stress and to seepage from liquids, semi-fluid (other than solid) substances and gases. A powder (usually magnesium oxide) with good dielectric and thermal properties holds the wire resistor (resistance) in place within the sheath and insulates it electrically.

Assemblies consisting of immersion heaters permanently incorporated in a tank, vat or other vessel are classified in **heading 84.19 unless** they are designed for water heating only or for domestic use, in which case they remain in this heading. Solar water heaters are also classified in heading 84.19.

(6) **Electric equipment for producing boiling water**.

Electric central heating boilers are classified in **heading 84.03**.

(B) ELECTRIC SPACE HEATING APPARATUS AND SOIL HEATING APPARATUS

This group includes :

(1) **Electric storage heating apparatus**, in which electric elements heat up a solid (e.g., bricks) or a liquid which stores the heat produced and subsequently releases it, when required, to the surrounding atmosphere.

(2) **Electric fires (fan heaters and radiant heaters)**, including portable types with parabolic reflectors and sometimes with built-in fans. Many of these fires are fitted with coloured lamps and flicker devices to imitate a coal or wood fire.

(3) **Electric radiators**. These are apparatus in which electric elements heat up a liquid (for example, oil) which circulates in the radiator and which then radiates the heat to the surrounding atmosphere.

(4) **Convection heaters**. These circulate air by convection currents, sometimes assisted by a fan.

(5) **Heating panels** for mounting in the ceiling or to a wall including panels producing infra-red radiation for heating public places, streets, etc.

(6) **Heating units for motor cars, railway coaches, aircraft, etc.**, other than defrosters and demisters.

(7) **Road heating equipment** to prevent the formation of frost and **soil heating equipment**, especially used to encourage plant growth, the elements of which are usually buried in the ground.

(8) **Engine heaters** for placing beneath a car to facilitate starting.

Electric central heating boilers are classified in **heading 84.03**.

(C) ELECTRO-THERMIC HAIR-DRESSING APPARATUS AND HAND DRYERS

These include :

(1) **Hair dryers**, including drying hoods and those with a pistol grip and built-in fan.

(2) **Hair curlers and electrical permanent waving apparatus**.

(3) **Curling tong heaters**.

(4) **Hand dryers**.

(D) ELECTRIC SMOOTHING IRONS

This group covers smoothing irons of all kinds, whether for domestic use or for tailors, dressmakers, etc., including cordless irons. These cordless irons consist of an iron incorporating a heating element and a stand which can be connected to the mains. The iron makes contact with the current only when placed in this stand. This group also includes electric steam smoothing irons whether they incorporate a water container or are designed to be connected to a steam pipe.

(E) OTHER ELECTRO-THERMIC APPLIANCES OF A KIND USED FOR DOMESTIC PURPOSES

This group includes all electro-thermic machines and appliances **provided** they are **normally used in the household**. Certain of these have been referred to in previous parts of this Explanatory Note (e.g., electric fires, geysers, hair dryers, smoothing irons, etc.). Others include :

(1) Microwave ovens.

(2) Other ovens and cookers, cooking plates, boiling rings, grillers and roasters (e.g., convection type, resistance type, infra-red, high frequency induction and combined gas-electric appliances).

(3) Coffee or tea makers (including percolators).

(4) Toasters, including toaster-ovens which are designed essentially for toasting bread but can also bake small items such as potatoes.

(5) Kettles, saucepans, steamers; jacketed urns for heating milk, soup or the like.

(6) Crepe makers.

(7) Waffle irons.

(8) Plate warmers and food warmers.

(9) Sauté pans and chip pans (deep fryers).

(10) Coffee roasting appliances.

(11) Bottle heaters.

(12) Yogurt and cheese makers.

(13) Sterilising apparatus for preparing preserves.

(14) Popcorn cookers.

(15) Face dryers and the like.

(16) Facial saunas incorporating a face mask in which water is vaporised for facial skin treatment.

(17) Towel airers and heated towel rails.

(18) Bed warmers.

(19) Perfume or incense heaters, and heaters for diffusing insecticides.

(20) Non-mechanical wash boilers.

This group **excludes** :

(a) Electrically warmed blankets, bed pads, footmuffs or the like; electrically warmed clothing, footwear or ear pads or other electrically warmed articles worn on or about the person (classified in their appropriate heading, see Chapter Note 1).

(b) Roller type ironing machines (**heading 84.20**) and clothes ironing or pressing machines (**heading 84.51**).

(c) Counter-type coffee percolators, tea or milk urns, sauté pans and chip pans used, for example, in chip shops and other thermo-electric appliances which are not normally used in the household (**heading 84.19**, etc.).

(d) Industrial microwave furnaces, ovens and equipment (for example, microwave ovens of a type designed to be used in restaurants) (**heading 85.14**).

(e) Electronic cigarettes and similar personal electric vaporising devices (**heading 85.43**).

(f) Furniture (e.g., linen cupboards and serving trollies) equipped with heating elements (**Chapter 94**).

(g) Cigarette lighters, gas lighters and the like (**heading 96.13**).

(F) ELECTRIC HEATING RESISTORS

With the **exception** of those of carbon (**heading 85.45**), all electrical heating resistors are classified here, irrespective of the classification of the apparatus or equipment in which they are to be used.

They consist of bars, rods, plates, etc., or lengths of wire (usually coiled), of special material which becomes very hot when current is passed through it. The material used varies (special alloys, compositions based on silicon carbide, etc.). They may be obtained in the form of individual components by a printing process.

Wire resistors are usually mounted on insulating formers (e.g., of ceramics, steatite, mica or plastics) or on soft insulating core (e.g., of glass fibres or asbestos). If not mounted, wire of this kind is classified here **only** if cut to length and coiled or otherwise formed to a shape identifying it as a heating resistor element. The same applies to bars, rods and plates which, to be classified here, **must** be cut to length or size ready for use.

Resistors remain classified here even if specialised for a particular machine or apparatus, but if assembled with parts other than a simple insulated former and electrical connections they are classified as parts of the machines or apparatus in question (e.g., base plates for smoothing irons and plates for electric cookers).

The heading also **excludes** defrosters and demisters. These consist of a resistance wire mounted in a frame for fitting to the windscreen (**heading 85.12**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here.

8516.10

- Electric instantaneous or storage water heaters and immersion heaters

CLASSIFICATION OPINIONS

1. Apparatus for heating liquids and maintaining them at constant temperature, consisting of an electric immersion heater, controlled by a thermostat, and an agitator operated by an electric motor.

Adoption : 1964

8516.2

- Electric space heating apparatus and electric soil heating apparatus :

8516.21

-- Storage heating radiators

8516.29

-- Other

CLASSIFICATION OPINIONS

1. Combined gas-electric space heating appliance, incorporating three gas heating plates and one electric heating tube.

Application of GIRs 1 and 6.

Adoption : 2012

8516.3

- Electro-thermic hair-dressing or hand-drying apparatus :

8516.31

-- Hair dryers

8516.32

-- Other hair-dressing apparatus

8516.33

-- Hand-drying apparatus

8516.40

- Electric smoothing irons

8516.50

- Microwave ovens

8516.60

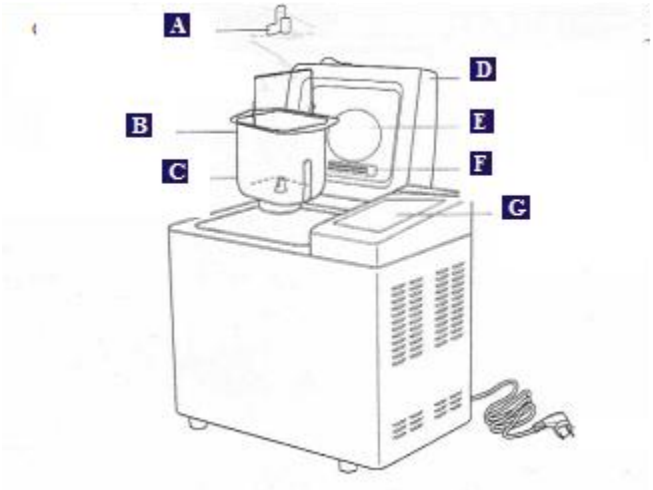
- Other ovens; cookers, cooking plates, boiling rings, grillers and roasters

CLASSIFICATION OPINIONS

1. **Domestic cooker** consisting of four gas burners with electronic lighter and a gas convection oven, incorporating a stainless steel electric grill for limited cooking operations. The grill functions by means of an electrical resistor in the upper part of the oven. *Adoption : 1999*

2. **Electric household type machine for making bread** (dimensions : approximately 36 x 22 x 27 cm; weight : approximately 5.9 kg), consisting of a housing comprising a removable container ("bread pan") in which the ingredients for bread dough can be mixed and baked. The bread pan has a rotating shaft for the removable kneading blade, which is connected to an electric motor once it is placed inside the machine. Electric heaters surrounding the container area are used to heat the ingredients to the proper temperature to make the dough, keep the dough at the correct temperature while it rises and bake the bread. The machine has automatic programmes (which can be operated from a control panel on top of the machine) for kneading and baking and for kneading only. In the latter case, the prepared dough can be taken out in order to be baked in another appliance. **Application of GIRs 1, 3 (c) and 6.** *Adoption : 2003*

A Kneading Blade**B** Bread Pan**C** Rotating Shaft for Kneading Blade**D** Lid**E** Window**F** Steam Vent**G** Control Panel



8516.7

- Other electro-thermic appliances :

8516.71

-- Coffee or tea makers

8516.72

-- Toasters

8516.79

-- Other

CLASSIFICATION OPINIONS

1. “**Home Sauna**” **apparatus,** comprising an infra-red radiator of enamelled sheet steel for use as a stool, and a cylindrical cabin consisting of four separate parts (viz., a shutter made of slats of wood or plastics or of imitation leather, a carpet cover, a cabin top of imitation leather and a thermometer in a wooden casing); the various components are put together, before use, to take heat baths at home.

Adoption : 1964

8516.80

- Electric heating resistors

CLASSIFICATION OPINIONS

1. Heating surfaces, consisting of heating resistors (wires), electrically insulated by glass fibre or by glass/asbestos rovings fixed on a glass fibre fabric and provided with electrical leads.

See also Opinions 8419.89/1 and 8419.89/2.

Adoption : 1965

8516.90

- Parts

Heading 8517

Telephone sets, including smartphones and other telephones for cellular networks or for other wireless networks; other apparatus for the transmission or reception of voice, images or other data, including apparatus for communication in a wired or wireless network (such as a local or wide area network), other than transmission or reception apparatus of heading 84.43, 85.25, 85.27 or 85.28.

EXPLANATORY NOTES

85.17 - Telephone sets, including smartphones and other telephones for cellular networks or for other wireless networks; other apparatus for the transmission or reception of voice, images or other data, including apparatus for communication in a wired or wireless network (such as a local or wide area network), other than transmission or reception apparatus of heading 84.43, 85.25, 85.27 or 85.28 (+).

- Telephone sets, including smartphones and other telephones for cellular networks or for other wireless networks :

8517.11 - - Line telephone sets with cordless handsets

8517.13 - - Smartphones

8517.14 - - Other telephones for cellular networks or for other wireless networks

8517.18 - - Other

- Other apparatus for transmission or reception of voice, images or other data, including apparatus for communication in a wired or wireless network (such as a local or wide area network) :

8517.61 - - Base stations

8517.62 - - Machines for the reception, conversion and transmission or regeneration of voice, images or other data, including switching and routing apparatus

8517.69 - - Other

- Parts :

8517.71 - - Aerials and aerial reflectors of all kinds; parts suitable for use therewith

8517.79 - - Other

This heading covers apparatus for the transmission or reception of speech or other sounds, images or other data between two points by variation of an electric current or optical wave flowing in a wired network or by electro-magnetic waves in a wireless network. The signal may be analogue or digital. The networks, which may be interconnected, include telephony, telegraphy, radio-telephony, radio-telegraphy, local and wide area networks.

(I) TELEPHONE SETS, INCLUDING TELEPHONES

FOR CELLULARNETWORKS OR

FOR OTHER WIRELESS NETWORKS

This group includes :

(A) **Line telephone sets**.

Line telephone sets are communication apparatus that convert voice into signals for transmission to another device. Upon receipt of a signal, a line telephone set will convert the signal back to voice. They consist of :

(1) The **transmitter**, a microphone which converts sound waves into a modulated current.

(2) The **receiver** (headphone or earphone), which reconverts the modulated current into sound waves. In most cases, the transmitter and receiver are incorporated in a single moulding known as a hand-set. In other cases the transmitter and receiver are a combined headphone and microphone, designed to be worn on the user’s head.

(3) The **anti-sidetone circuit**, which prevents sound introduced in the transmitter from being reproduced in the receiver of the same hand-set.

(4) The **ringer**, which gives warning of a call. These may be tone ringers which produce their sound electronically or mechanical ringers such as a bell or a buzzer. Some telephone sets incorporate a light or lamp which operates in conjunction with the ringer to provide a visual signal indicating an incoming call.

(5) The **switching device** or "**switchhook**", which interrupts or permits the flow of current from the network. It is usually operated by the hand-set being removed from or returned to a cradle.

(6) The **dialling selector**, which enables the caller to obtain a connection. The selector may be of the push-button or keypad (tone) type or of the drum or rotary (pulse) type.

When separately presented, microphones and receivers (whether or not combined as hand-sets), and loudspeakers are classified in **heading 85.18** while bells and buzzers are classified in **heading 85.31**.

Telephone sets may incorporate or have fitted : a memory for storing and recalling telephone numbers; a visual display for showing the number dialled, incoming caller's number, date and time, and duration of a call; an extra loudspeaker and microphone to enable communication without using the hand-set; devices for automatically answering calls, transmitting a recorded message, recording incoming messages and playing back the recorded message on command; devices for holding a connection on line while communicating with a person on another telephone. Telephone sets incorporating these devices may also have keys or push-buttons which enable their operation, including a switching key which enables the telephone to be operated without removing the hand-set from the cradle. Many of these devices utilise a microprocessor or digital integrated circuits for their operation.

The heading covers all kinds of telephone sets including :

(i) Cordless telephone sets which comprise a battery powered radio frequency transceiver hand-set which incorporates a dialling selector, switching key and a radio frequency transceiver base unit which is connected by line to the telephone network (other cordless telephone sets may not have hand-set but comprise a combined headphone and microphone which is connected to a portable combined battery powered radio frequency transceiver, dialling selector and switching key).

(ii) Telephone sets which comprise a combined dialling selector and switching key unit (which is connected by line to the telephone network) and a combined headphone and microphone, presented together.

(B) **Telephones for cellular networks or for other wireless networks**.

This group covers telephones for use on any wireless network. Such telephones receive and emit radio waves which are received and retransmitted, e.g., by base stations or satellites.

These include, *inter alia* :

(1) Cellular phones or mobile phones.

(2) Satellite phones.

(II) OTHER APPARATUS FOR TRANSMISSION OR RECEPTION OF VOICE, IMAGES OR OTHER DATA, INCLUDING APPARATUS FOR COMMUNICATION IN A WIRED OR WIRELESS NETWORK (SUCH AS A LOCAL OR WIDE AREA NETWORK)

(A) **Base stations**.

The most common types of base stations are those for cellular networks, which receive and transmit radio waves to and from cellular telephones or to other wired or wireless networks. Each base station covers a geographical area (a cell). If the user moves from one cell to another while telephoning, the call is automatically transferred from one cell to another without interruption.

(B) **Entry-phone systems**.

These systems usually consist of a telephone handset and keypad or a loudspeaker, a microphone and keys. These systems are usually mounted at the entrance of buildings housing a number of tenants. With these systems, visitors can call certain tenants, by pressing the appropriate keys and talk to them.

(C) **Videophones**.

Videophones for buildings, which are a combination consisting principally of a telephone set for line telephony, a television camera and a television receiver (transmission by line).

(D) **Apparatus for telegraphic communication other than facsimile machines of heading 84.43**.

These apparatus are essentially designed for converting characters, graphics, images or other data into appropriate electrical impulses, for transmitting those impulses, and at the receiving end, receiving these impulses and converting them either into conventional symbols or indications representing the characters, graphics, images or other data or into the characters, graphics, images or other data themselves.

Examples are :

(1) **Apparatus for transmitting messages**, such as dial or keyboard transmitters and automatic transmitters (e.g., teleprinter or teletypewriter transmitters).

(2) **Apparatus for receiving messages** (e.g., teletypewriter receivers). In some cases the receiver and the transmitter apparatus are combined into one receiver-transmitter.

(3) **Picture telegraphic apparatus**. The ancillary photographic equipment used with this apparatus (e.g., developing equipment) falls in **Chapter 90**.

(E) **Telephonic or Telegraphic Switching Apparatus**.

(1) **Automatic switchboards and exchanges**.

These are of many types. The key feature of a switching system is the ability to provide, in response to coded signals, an automatic connection between users. Automatic switchboards and exchanges may operate by means of circuit switching, message switching or packet switching which utilize microprocessors to connect users by electronic means. Many automatic switchboards and exchanges incorporate analogue to digital converters, digital to analogue converters, data compression/decompression devices (codecs), modems, multiplexors, automatic data processing machines and other devices that permit the simultaneous transmission of both analogue and digital signals over the network, which enables the integrated transmission of speech, other sounds, characters, graphics, images or other data.

Some types of automatic switchboards and exchanges consist essentially of **selectors**, which select the line corresponding to the impulses received from the calling sets and establish the connection. They are operated automatically, either directly by the impulses from the calling set or via auxiliary apparatus such as **directors**.

The different types of selectors (pre-selectors, intermediate selectors, final selectors) and, where used, the directors, are often assembled in series and in groups of the same type on chassis which are then incorporated into the exchange on metal racks. Particularly in smaller-sized installations they may, however, all be mounted on a single rack to form a self-contained automatic exchange.

Automatic switchboards and exchanges may also incorporate such facilities as abbreviated dialling, call waiting, call forwarding, multi-party calling, voice mail, etc. These facilities are accessed from the user's telephone set through the telephone network.

They are used for the public network or for private networks that utilise a private branch exchange (PBX) which is connected to the public network. Automatic switchboards and exchanges may also be equipped with consoles similar to telephone sets for when intervention or service by an operator is required.

(2) **Non-automatic switchboards and exchanges**.

These consist of a frame on which are mounted the various manual switching devices. They require an operator to manually connect each call received by the switchboard or exchange. They comprise "call" or "clear" indicators for signalling that a call is being made or is completed; operators' telephone sets (sometimes specially mounted); switching devices (mounted jacks or sockets and plugs connected to a cord); and key switches electrically connected to the plugs and cords to enable the operator to answer the caller, supervise the progress of the call and note its completion.

(F) **Transmitting and receiving apparatus for radio-telephony and radio-telegraphy**.

This group includes :

(1) Fixed apparatus for radio-telephony and radio-telegraphy (transmitters, receivers and transmitter-receivers). Certain types, used mainly in large installations, include special devices such as secrecy devices (e.g., spectrum inverters), multiplex devices (used for sending more than two messages simultaneously) and certain receivers, termed "diversity receivers", using multiple receiver technique to overcome fading.

(2) Radio transmitters and radio receivers for simultaneous interpretation at multilingual conferences.

(3) Automatic transmitters and special receivers for distress signals from ships, aircraft, etc.

(4) Transmitters, receivers or transmitter/receivers of telemetric signals.

(5) Radio-telephony apparatus, including radio-telephony receivers, for motor vehicles, ships, aircraft, trains, etc.

(6) Portable receivers, usually battery operated, for example, portable receivers for calling, alerting or paging.

(G) **Other communication apparatus**.

This group includes apparatus which allows for the connection to a wired or wireless communication network or the transmission or reception of speech or other sounds, images or other data within such a network.

Communication networks include, *inter alia*, carrier-current line systems, digital-line systems and combinations thereof. They may be configured, for example, as public switched telephone networks, Local Area Networks (LAN), Metropolitan Area Networks (MAN) and Wide Area Networks (WAN), whether proprietary or open architecture.

This group includes :

(1) Network interface cards (e.g., Ethernet interface cards).

(2) Modems (combined modulators-demodulators).

(3) Routers, bridges, hubs, repeaters and channel to channel adaptors.

(4) Multiplexers and related line equipment (e.g., transmitters, receivers or electro-optical converters).

(5) Codecs (data compressors/decompressors) which have the capability of transmission and reception of digital information.

(6) Pulse to tone converters which convert pulse dialled signals to tone signals.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the apparatus of this heading are also classified here.

*

* *

The heading also **excludes** :

(a) Facsimile machines (**heading 84.43**).

(b) Perforating machines, whether or not electric, used to perforate paper bands ready for use in automatic telegraphic apparatus (**heading 84.72**).

(c) Induction coils for insertion in telephone or telegraph line circuits (**heading 85.04**).

(d) Cells, batteries and accumulators (**heading 85.06** or **85.07**).

(e) Telephone answering machines designed to operate with a telephone set but not forming an integral part of the set (**heading 85.19**).

(f) Apparatus for the transmission or reception of radio-broadcasting or television signals (**headings 85.25, 85.27 or 85.28**).

(g) Electric bells or indicators (e.g., luminous indicators operated by the dial of a telephone) (**heading 85.31**).

(h) Relays and switching equipment, such as selectors for automatic telephone exchanges, of **heading 85.36**.

(ij) Insulated electric wire, cable, etc., as well as optical fibre cables, made up of individually sheathed fibres, whether or not fitted with connectors, including cords with plugs for switchboards (**heading 85.44**).

(k) Telecommunication satellites (**heading 88.02)**.

(l) Telephone call registers and counters (**Chapter 90**).

(m) Carrier-current and other transmitters and receivers which form a single unit with analogue or digital telemetering instruments or apparatus, or which, together with the latter, constitute a functional unit within the meaning of Note 3 to Chapter 90 (**Chapter 90**).

(n) Calculographs (time recorders) (**heading 91.06**).

(o) Monopods, bipods, tripods and similar articles (**heading 96.20**).

°

° °

Subheading Explanatory Note.

Subheading 8517.62

This subheading includes cordless handsets or base units, when presented separately.

8517.1

- Telephone sets, including smartphones and other telephones for cellular networks or for other wireless networks :

8517.11

-- Line telephone sets with cordless handsets

CLASSIFICATION OPINIONS

1. Base unit retail bundle, consisting of (1) a base unit, (2) a cordless telephone handset capable of connecting wirelessly to the base unit, and (3) a combination charger/stand for the handset. The base unit connects by wire to an ISDN (Integrated Services Digital Network) and contains an integrated ISDN modem. The base unit can communicate wirelessly with up to 8 DECT (Digital European Cordless Telecommunications) handsets or other compatible DECT input devices, and can simultaneously communicate by cable with the USB (Universal Serial Bus) port of an automatic data processing machine. The base unit further incorporates two analogue sockets for connecting two analogue devices such as a line telephone set, fax machine or telephone answering machine.

Application of GIRs 1 and 6.

Adoption : 2006

8517.13

-- Smartphones

CLASSIFICATION OPINIONS

1. Multifunctional apparatus known as "smartphone". Its technical specifications are as follows: capacity of 32 GB to 128 GB; 138.3 mm long, 143 grams, HD widescreen display (1334 x 750 pixel resolution at 326 ppi) with touch screen function, 12 mega-pixel camera. The product performs several functions, such as making and receiving telephone calls, sending and receiving e-mails and text messages, social networking, data processing, internet use, camera (still and video), GPS, playing music, and electronic games.
Application of GIRs 1 and 6
Adoption : 2018

2. Radio frequency identification (RFID)/barcode reader is an apparatus with a mobile operating system capable of scanning radio-frequency identification and barcodes, and consisting of two main parts: a main console and a grip. Its characteristics include, among others, the following :

Dimensions : 164.2 x 80.0 x 24.3 mm

Touch Panel Display : 5.2" (132.08 mm)

Audio :1 speaker, 2 microphones

Keypad : 4 front keys, 1 power key, 2 scan keys, 1 multifunctional key

The main console has the specifications and physical appearance of a typical smartphone, equipped with a connector to support connection with the grip, and cellular connection capabilities.

It is also equipped with a camera to scan and take regular pictures and a pre-installed application for scanning. The apparatus can be used to make phone calls, to run applications, and to

communicate with the server after scanning the RFID / barcode.

It can also be used for scanning without the grip, but with a limited distance coverage. The grip is in the shape of a pistol grip, equipped with a connector to support connection with the main console, and a trigger to start the scanning.

Application of GIRs 1 (Note 3 to Section XVI) and 6. *Adoption : 2021*



8517.14

-- Other telephones for cellular networks or for other wireless networks

8517.18

-- Other

8517.6

- Other apparatus for transmission or reception of voice, images or other data, including apparatus for communication in a wired or wireless network (such as a local or wide area network) :

8517.61

-- Base stations

8517.62

-- Machines for the reception, conversion and transmission or regeneration of voice, images or other data, including switching and routing apparatus

CLASSIFICATION OPINIONS

1. **Communications controllers or routers (including "LAN bridges"),** consisting of a main processor, internal memory and multiple input/output ports. In an automatic data processing (ADP) system network these apparatus are located between two ADP machines or between groups of ADP machines or networking apparatus in a local area network (LAN). They route data traffic that is specific to the system architecture in LANs and enable the conversion, exchange or delivery of data or information between two ADP machines or groups of ADP machines that use different system protocols. These apparatus are aware of network structure and can identify the destination and appropriate connection for data transmissions. Some of the communications connections or ports on the apparatus connect ADP machines, some connect to other controllers (routers or bridges) and some connect to other networking

equipment. A mesh of communications controllers provides the backbone for a network to which all other network and data processing devices are attached. **Application of GIRs 1 (Note 6 (D) (ii) to Chapter 84) and 6.** *Adoption : 2000*

2. **Synchronous-Network-Architecture (SNA) cluster controllers (including remote control units),** comprising apparatus which function as terminal concentrators within a local area network (LAN) using an SNA network protocol. They manage the interaction between mainframe data processing equipment and multiple data processing peripherals, such as remote terminals, printers or disk drives, within the network. **Application of GIRs 1 (Note 6 (D) (ii) to Chapter 84) and 6.** *Adoption : 2000*

3. **Multistation access units,** which are passive local area network (LAN) hubs. They are termed "passive" since they do not need any direct power supply. They are used to provide wiring concentration for up to eight token-ring LAN workstations or ADP units so that the physical star-wired configuration is used to form an electrical ring. Multistation access units can be connected together to increase the number of workstations that can attach to any one token-ring, up to a maximum of 260 devices. The hub operates as a physical relay to which all machines in the token-ring are connected and operates to detect when a machine or unit is not functioning in order to maintain the flow of data to the other machines. **Application of GIRs 1 (Note 6 (D) (ii) to Chapter 84) and 6.** *Adoption : 2000*

4. **Optical fibre converters,** which convert the limited-distance token-ring or other local area network (LAN) digital signals on copper wire cable into optical digital signals. These converters are used, for example, when optical fibre cable is used in a token-ring LAN in order to extend it over a campus environment or where the replacement of copper cable with optical fibre cable is important to reduce interference. **Application of GIRs 1 (Note 6 (D) (ii) to Chapter 84) and 6.** *Adoption : 2000*

5. **Control and adapter unit** in the form of a slot-in card comprising essentially a printed circuit on which are mounted various electronic components. It is designed to be placed within the housing of an automatic data processing (ADP) machine. It connects to the system bus of a central processing unit and functions to accept and deliver data as it manages the data exchanges between the ADP unit in which it is installed and the other units in a Local Area Network (LAN). It uses the CSMA/CD information standard protocol in order to regulate data exchanges and prevent data collisions solely within a LAN. **Application of GIRs 1 (Note 6 (D) (ii) to Chapter 84) and 6.** *Adoption : 2001*

6. **Multimode fibreoptic repeater** designed solely for Local Area Network (LAN) systems. It transmits data circulating within a LAN system by regenerating and retiming the complete data signal (full-signal). It has two standard Ethernet port connections for multimode optical fibre connectors. It generates the signals (jam patterns) to stop data transmissions when a collision of signals from different units is detected at either port of the repeater. **Application of GIRs 1 (Note 6 (D) (ii) to Chapter 84) and 6.** *Adoption : 2002*

7. **Single-mode fibreoptic repeater** designed solely for Local Area Network (LAN) systems. It transmits data circulating within a LAN system by regenerating and retiming the complete data

signal (full-signal). It has two standard Ethernet port connections for a BNC connector and a single-mode optical fibre connector. It generates the signals (jam patterns) to stop data transmissions when a collision of signals from different units is detected at either port of the repeater.
Application of GIRs 1 (Note 6 (D) (ii) to Chapter 84) and 6.
Adoption : 2002

8. Voice processing system, consisting of a central processing unit (DOS operated) with a hard disk and a floppy disk drive, a keyboard, a monitor (CRT), with built-in call detection board(s), software and a modem. It is dedicated to enhancing the processing of telephone calls from a PBX (private branch exchange) by routing calls to the selected destination in an office, placing a caller on hold, making a paging announcement for the intended party, notifying users of messages received, and informing a caller of the number of callers queued before him. No modem is used in this process. The call detection boards are used to recognize the analogue signal and convert it to digital format. The modem is used only for remote dial-in for the purpose of diagnostics.
Application of GIR 1.
Adoption : 1999

9. Apparatus for linking an automatic data processing machine to a telephone line. It converts digital automatic data processing machine signals into analogue signals, and vice versa, thus permitting communication with another automatic data processing machine through the telephone line system. This apparatus enables an automatic data processing machine, combined with a scanner and a printer, to send and receive faxes. It also incorporates a microphone and a speaker and can be used as a hands-free telephone.
See also Opinions 8517.62/10 and 8517.62/11.
Adoption : 1998

10. Apparatus for linking an automatic data processing machine to a telephone line. It converts digital automatic data processing machine signals into other digital signals to be transmitted through the Integrated Services Digital Network (ISDN), and vice versa, thus permitting communication with another automatic data processing machine through the ISDN telephone line system. It also incorporates two analogue ports for connecting a telephone, a fax machine or a modem.
See also Opinions 8517.62/9 and 8517.62/11.
Adoption : 1998

11. Card designed to be inserted into an automatic data processing machine (slot-in card). This card converts digital automatic data processing machine signals into analogue signals, and vice versa, thus permitting communication with another automatic data processing machine through the telephone line system. It also enables the automatic data processing machine to send and receive faxes and e-mail, permitting those operations to be achieved even via a cellular (mobile) telephone.
See also Opinions 8517.62/9 and 8517.62/10.
Adoption : 1998

12. Base unit capable of connecting by wire to an ISDN (Integrated Services Digital Network) and containing an integrated ISDN modem. The base unit can communicate wirelessly with up to 8 DECT (Digital European Cordless Telecommunications) handsets or other compatible DECT input devices, and can simultaneously communicate by cable with the USB (Universal Serial Bus) port of an automatic data processing machine. The base unit further incorporates two analogue sockets for connecting two analogue devices such as a line telephone set, fax

machine or telephone answering machine.
Application of GIRs 1 and 6.
Adoption : 2006

13. Radio equipment (transmitter/receiver) comprising the following three modules :

- a central unit comprising four radio signal transmitters and four receivers,

- a switching system module which compensates for deficiencies in any of the receivers,

- a transmitter/receiver network management module, consisting of MCF ("Message Communication Function") interface cards which are connected to the other units by the "backplane" printed circuits with which the module is equipped. The integrated circuits on the MCFs are activated by appropriate software.

The transmitter/receiver module and the switching module are each housed in a bay, and the bays are connected to each other by cables. The equipment is of a kind designed to provide wireless communication in a digital telecommunications network, which may also incorporate communications by means of optical fibres or wires.

Application of GIRs 1 (Note 4 to Section XVI) and 6.
Adoption : 2002 + 2007

14. Digital encoder, which converts analogue or digital video, audio and data signals of the source information (such as CATV (Cable television) programming) into digital signals by means of compressing and encoding techniques in compliance with the MPEG-2 standard.
Application of GIRs 1 and 6.
See also Opinions 8517.62/15 to 8517.62/19.
Adoption : 2010

15. Digital multiplexer, which combines several input MPEG-2°transport stream signals into a single MPEG-2 transport stream, using multiplexing technologies, in order to increase efficiency in transmission. The apparatus is capable of receiving up to 24 input MPEG-2 transport stream signals and integrating and reproducing those input transport stream signals into a MPEG-2 transport stream signal compliant with the DVB-ASI (Digital Video Broadcasting - Asynchronous Serial Interface) standard. It can integrate multiple video, audio (including multi-channel audio) and data signals in the same multiplexed output signal.
Application of GIRs 1 and 6.
See also Opinions 8517.62/14 and 8517.62/16 to 8517.62/19.
Adoption : 2010

16. Remultiplexer, which combines up to 16 ASI (Asynchronous Serial Interface) input signals into a transport stream output signal compliant with the DVB-ASI (Digital Video Broadcasting - Asynchronous Serial Interface) standard, reshapes the bit rate of incoming transport streams, and enables local programming to be inserted into the data stream. The apparatus can convert a CBR (Constant Bit Rate) stream into a VBR (Variable Bit Rate) signal and performs real time statistical multiplexing for dynamic bandwidth allocation. The system operator can choose desired programmes from the incoming transport streams, discard one or more unwanted programmes, and switch programming line-ups dynamically.
Application of GIRs 1 and 6.

See also Opinions 8517.62/14, 8517.62/15 and 8517.62/17 to 8517.62/19. Adoption : 2010

17. **Modulator**, which converts MPEG-2 transport stream signals into standard wireless transmission signals (QPSK (Quadrature Phase Shift Keying), 8 PSK (8 Phase Shift Keying) or 160 QAM (160 Quadrature Amplitude Modulation)). The apparatus offers a frequency-agile IF (intermediate frequency) output from 50 to 90, 100 to 180, or 950 to 1750 MHz in 100 Hz steps. Variable data rates from 1 to 238 megabits per second can be set in 1 bit per second steps.
Application of GIRs 1 and 6.
See also Opinions 8517.62/14 to 8517.62/16, 8517.62/18 and 8517.62/19. Adoption : 2010

18. **Modulator**, which converts MPEG-2 transport stream signals into standard wireless transmission signals (QPSK (Quadrature Phase Shift Keying) or BPSK (Binary Phase Shift Keying)). The apparatus offers an IF (intermediate frequency) output from 50 to 90, or 100 to 180 MHz in 100 Hz steps. Variable data rates from 1 to 78.75°megabits per second can be set in 1°bit per second steps. The apparatus complies with ETS (European Telecom Standard), DVB (Digital Video Broadcasting) and MPEG-2 standards.
Application of GIRs 1 and 6.
See also Opinions 8517.62/14 to 8517.62/17 and 8517.62/19. Adoption : 2010

19. **Modulator**, which converts input MPEG-2 transport stream signals into DVB-T (standard terrestrial digital video broadcast) transmission signals employing OFDM (Orthogonal frequency-division multiplexing).
Application of GIRs 1 and 6.
See also Opinions 8517.62/14 to 8517.62/18. Adoption : 2010

20. **Wireless headset** with an AC charger and two ear-hooks of different sizes (headset dimensions : 41.5 mm (L) x 18.9 mm (W) x 25.9 mm (H); weight : 8 grams), consisting of a single (monaural) over-the-ear earphone combined in the same housing with a microphone, a radio transceiver, a rechargeable lithium polymer battery, a power input, a LED (light emitting diode) indicator light and controls.

The radio transceiver utilizes an open wireless technology standard (wireless protocol for exchanging data within a Personal Area Network (PAN) using short length radio waves over short distances (up to 10 meters)) with Enhanced Data Rate (EDR) technology, which enables the headset to communicate wirelessly with fixed and mobile devices, such as a mobile telephone for cellular networks.

The indicator light provides information on transmission/reception status and state of the battery charge. The power input is designed to accept a 5-pin, B-type plug, permitting recharging from a charger, a USB port on an automatic data processing machine or a motor vehicle accessory plug charger. The controls are used for powering the apparatus on and off, voice dialing, answering and ending incoming calls, rejecting calls, placing calls on hold, call waiting, redial of the last number, if supported by the apparatus with which it is "paired" (transmitting to and receiving from).

The product is put up in a set for retail sale in a box with a quick start manual.

Application of GIRs 1 (Note 3 to Section XVI), 3 (b) and 6.
Adoption : 2011



21. Wearable battery-operated device, also known as a "smart watch", (57 mm long x 37 mm wide x 11 mm thick), capable of receiving and transmitting data and designed to be worn on the wrist, incorporating a 1.63 inch (41.4 mm) touch-sensitive, active-matrix organic light-emitting diode (AMOLED) display, 512 MB RAM, 4 GB internal memory, a 800 MHz processor, a 315 mAh battery, a 1.9 MP digital camera, a speaker and two microphones, a gyro-sensor and an accelerometer.

The device has a radio transceiver which utilizes an open wireless technology standard (such as Bluetooth® communication wireless protocol for exchanging data within a Personal Area Network (PAN) using short length waves over short distances (up to 10 metres)), which enables the device to communicate wirelessly with other devices, such as mobile telephones for cellular networks or tablet computers.

Once paired to a host device, the wearable device is capable of performing a variety of functions including : displaying time and date information, recording and reproducing sound, taking and recording digital photographs and videos, alarm, timer, and stopwatch, pedometer, making and receiving phone calls over the host device by speaking directly into the wearable device, receiving and viewing e-mails, notifications, receiving and sending SMS messages via voice commands, and operating the music player functions of the host device.
Application of GIRs 1, 3 (b) and 6.
Adoption : 2015



22. **Wearable battery-operated device**, also known as a "smart watch", available in two sizes (39 mm long x 33 mm wide x 11 mm thick and 42 mm long x 36 mm wide x 11 mm thick, respectively), capable of receiving and transmitting data and voice and designed to be worn on the wrist, incorporating a 1.34 inch (34 mm) or 1.53 inch (39 mm) touch sensitive display, respectively, a microphone, a speaker, an accelerometer, a gyroscope, a photoplethysmogram (PPG) sensor, a rechargeable lithium-ion polymer battery and a custom-designed chip that integrates processing, graphics, memory, and wireless communications functionality in a single module and is covered with resin to protect electronic components.

    The device utilizes an open wireless technology standard (such as Bluetooth® wireless protocol for exchanging data within a Personal Area Network (PAN) using short length waves over short distances (up to 10 metres)), which enables the device to communicate wirelessly with other devices, such as mobile telephones for cellular networks. The device also has Near Field Communication (NFC) and Wi-Fi capabilities.

    Once paired to a host device, the wearable device is capable of performing a variety of functions including : accepting phone calls over the host device, recording and reproducing digital audio, accessing media (pictures, videos, and music) stored on the host device, displaying time and date information, viewing and replying to SMS and email messages, displaying notifications from the host device, employing a point-of-service (PoS) payment system using NFC technology, and accessing health and fitness information. **Application of GIRs 1, 3 (b) and 6.**
    Adoption : 2015



23. **Wearable battery-operated device**, also known as a "smart watch", (51 mm long x 36 mm wide x 10 mm thick), capable of receiving and transmitting data and designed to be worn on the wrist, incorporating a touch-sensitive 1.6 inch (41 mm) transflective display, 512 MB RAM, 4 GB internal memory, a 1.2 GHz processor, a 420 mAh battery, an accelerometer, a compass, a gyro and GPS.

    The device has a radio transceiver which utilizes an open wireless technology standard (such as Bluetooth® wireless protocol for exchanging data within a Personal Area Network (PAN) using short length waves over short distances (up to 10 metres)), which enables the device to

communicate wirelessly with other devices, such as mobile telephones for cellular networks. The device also has Near Field Communication (NFC) capability.

Once paired to a host device, the wearable device is capable of performing a variety of functions including : displaying time and date information, alarm, stopwatch, and timer, pedometer, viewing incoming e-mails and notifications, sending pre-defined replies thereto, and operating music player functions of the host device.
Application of GIRs 1, 3 (b) and 6.
Adoption : 2015



24. **Wearable battery-operated device**, also known as a "smart watch", (24 mm wide x 10 mm thick), capable of receiving and transmitting data and designed to be worn on the wrist as a bracelet, incorporating a 1.4 inch (36 mm) black-and-white display, an accelerometer and an altimeter.

    The device utilizes an open wireless technology standard (such as Bluetooth® wireless protocol for exchanging data within a Personal Area Network (PAN) using short length waves over short distances (up to 10 metres)), which enables the device to communicate wirelessly with other devices, such as mobile telephones for cellular networks.

    Once paired to a host device, the wearable device is capable of performing a variety of functions including : making and receiving calls over the host device, viewing incoming emails and notifications from the host device, alarm, viewing date and time, operating the music player functions of the host device, operating the camera functions of the host device, and pedometer.
    Application of GIRs 1, 3 (b) and 6.
    Adoption : 2015



8517.69

-- Other

CLASSIFICATION OPINIONS

1. Paging alert devices designed to emit a sound (or a visual) signal on the reception of a pre-set radio signal. This signal only permits communication with a specific receiver in order to activate its sound signal (or visual signal). These devices are very simple and cannot convey messages.
Adoption : 1998

2. Paging alert devices designed to emit a sound signal and a visual signal on receiving a pre-set radio signal, permitting the reception of messages, for example, telephone numbers or stock quotations.
Adoption : 1998

8517.7

- Parts :

8517.71

-- Aerials and aerial reflectors of all kinds; parts suitable for use therewith

CLASSIFICATION OPINIONS

1. Antenna for base station, which is a directional dual-polarized plate antenna with a width of 0.3 m and a length of 1.4 m. The antenna works at 1.7-2.7 GHz frequency band and is part of a base station for mobile communication. Used in a mobile communication system, the base station antenna receives and transmits electromagnetic waves in the base station system. Its main features are as follows :
(i) Directivity: horizontal beam width of 65 degrees for cellular sector networking;
(ii) High gain: 18 dBi;
(iii) Vertical beam pointing adjustment function; and
(iv) Unique 4.3-10 connector for communication.
Application of GIRs 1 (Note 2 (b) to Section XVI) and 6.
Adoption : 2019

2. Microwave antenna, which is an ultra-high performance, dual-polarized antenna that operates in the 14.4-15.35 GHz frequency band. The microwave antenna receives and transmits electromagnetic waves in a microwave communication device. Its main features are as follows :
(i) High gain, reaching 42.9 dBi;
(ii) The antenna diameter is 1.2 m;
(iii) The beam width is 1.2 degrees; and
(iv) XPD (Cross Polarization Discrimination) is 30.
Application of GIRs 1 (Note 2 (b) to Section XVI) and 6.
Adoption : 2019

8517.79

-- Other

CLASSIFICATION OPINIONS

1. Transparent capacitive touch screen for a mobile phone (dimensions : 56 mm (W) x 109 mm (H) x 1.3 mm (D)), consisting of two thin transparent indium tin oxide (ITO) conductive layers and a top protective layer of tempered glass, which are attached together by optical

clear adhesive layers. It is also equipped with a flexible printed circuit board (FPCB) with a mounted touch integrated circuit (IC). In reacting to the natural electrical charge of the human body, a touch of the screen distorts the electrostatic field created by the ITO conductive layers. The touch IC senses the distortion of the electrostatic field, calculates where the touch occurred and sends that information to the application processor of the mobile phone. It has no displaying capabilities itself.
The screen is used with a liquid crystal display (LCD) or an active-matrix organic light-emitting diode (AMOLED) display of a mobile phone. It has four rounded edges, and is cut to conform to the front face of the mobile phone with holes for the main button, a camera lens and a loudspeaker.
Application of GIRs 1 (Note 2 (b) to Section XVI) and 6.
Adoption : 2014



2. **Touch-sensitive, active-matrix organic light-emitting diode (AMOLED) display module** (dimensions (L x W x H) : 123 x 76 x 1 mm), designed for incorporation into a mobile phone. The AMOLED module functions as a capacitive touch-sensitive operator panel for the phone as well as a display, with a diagonal screen measurement of 5.3 inch (134 mm) and a resolution of 1200 × 800 pixels.
The AMOLED module consists of :

   - a cover glass (tempered glass) for the protection of the article;
   - an AMOLED display panel, consisting of a layer of organic compound sandwiched between upper glass (featuring a transparent conductive layer formed as indium tin oxide (ITO) patterns inside of its cell) and lower glass; and
   - a flexible printed board assembly, which provides the interface between the principal apparatus (mobile phone) and the display by controlling touch operations.

Application of GIRs 1 (Note 2 (b) to Section XVI) and 6.
Adoption : 2014

A Cover glass
B Rear view of the module



A B

3. **Electro-conductive tempered cover glass**, for the manufacture of a touchscreen mobile phone, with the following dimensions (L x W x H) : 165 mm x 86 mm x 0.55 mm. In addition to being tempered and cut to shape (including holes punched and edges rounded), the glass is subjected to the following printing process :

(i) printing the company logo and electro-conductive dots using electro-conductive inks;
(ii) printing the non electro-conductive border using non electro-conductive and heat-resistant shielding ink, to prevent the touchscreen operation from malfunctioning or failing to function and to block out the light from the backlighting unit of liquid crystal displays (LCDs);
(iii) printing two infrared ink spots which, once the telephone has been assembled, ensure the passage of light to the infrared sensor; and
(iv) printing the touch icons, using non electro-conductive and heat-resistant ink.

Application of GIRs 1 (Note 2 (b) to Section XVI) and 6.

Adoption : 2014



A B

4. **Assembly designed to be mounted into a cellular (mobile) phone**, consisting of a plastic frame incorporating the following components :

(i) gesture sensor for capturing movement of hands without touching the phone screen, which is a chip-shaped article comprised of a light-emitting diode (light emitting area) and a sensor (light receiving area). The light-emitting diode (LED) emits infrared (IR) rays, and the sensor receives IR rays reflecting from a hand and recognizes a user's gesture;

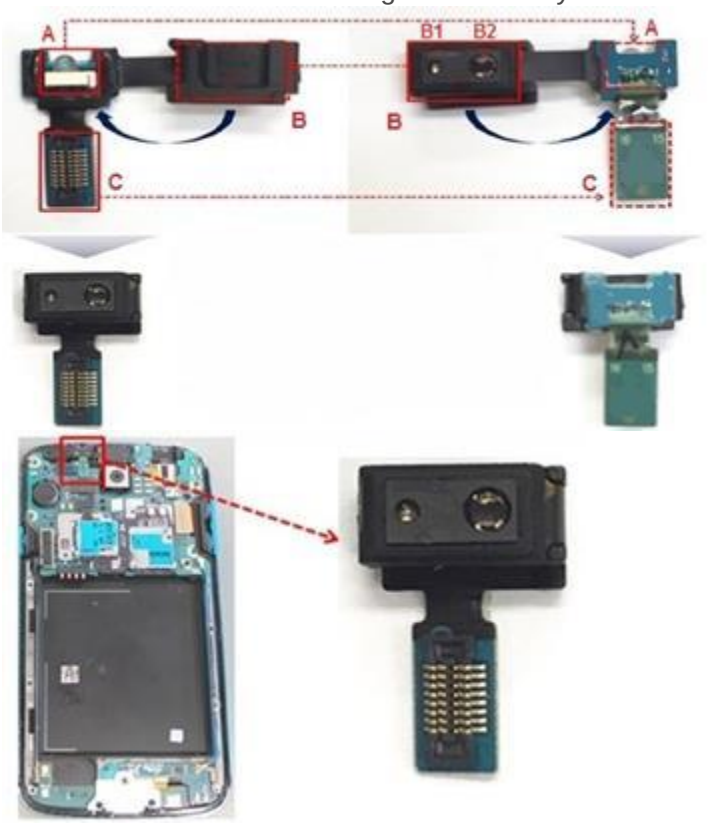
(ii) IR LED for generating IR signal to remote control functions of external apparatus, such as a television, set-top box, etc.;
(iii) connector for interconnecting the assembly with the main board of the phone;
(iv) flexible printed circuit board (FPCB) to support and electrically connect the components of the assembly.

The gesture sensor and IR LED perform their functions independently.

Application of GIRs 1 (Note 2 (b) to Section XVI) and 6.

Adoption : 2016

A IR LED
B Gesture sensor :
B1 Light-emitting diode (light emitting area)
B2 Sensor (light receiving area)
C Connector for interconnecting the assembly with the main board of the phone



5. **Assembly designed to be mounted into a cellular (mobile) phone**, incorporating the following components :

(i) linear vibration motor comprised of coils and magnets, for generating mechanical vibration while turned on; it is used in “silent” mode;
(ii) loudspeaker (or receiver) (dimensions : 12.1 mm x 7.1 mm x 3.5 mm; effective frequency band : 300 Hz ~ 3.4 kHz), reproducing sound from the voice of the other party during a telephone conversation by converting an input electrical signal into an audio signal (other sound and signal, such as, bell sound, music, etc. are reproduced through another loudspeaker);
(iii) microphone for converting surrounding sound, for example, when taking videos, into an electrical signal to be used by the phone (another microphone, mounted at the bottom of the telephone, is used for telephone communication);

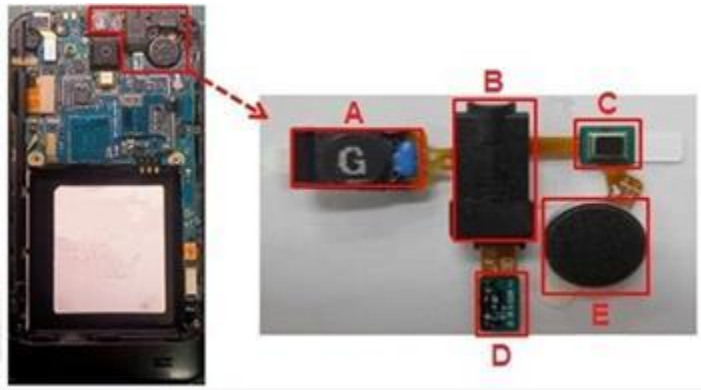
(iv) connector for plugging in external headphones and earphones;
(v) connector for interconnecting the assembly with the main board of the phone;
(vi) flexible printed circuit board (FPCB) to support and electrically connect the components of the assembly.

The vibration motor, loudspeaker, microphone and connector for external headphones and earphones perform their functions independently.

Application of GIRs 1 (Note 2 (b) to Section XVI) and 6.

Adoption : 2016

A Loudspeaker
B Connector for external headphones and earphones
C Microphone
D Connector for interconnecting the assembly with the main board of the phone
E Vibration motor



Heading 8518

Microphones and stands therefor; loudspeakers, whether or not mounted in their enclosures; headphones and earphones, whether or not combined with a microphone, and sets consisting of a microphone and one or more loudspeakers; audio-frequency electric amplifiers; electric sound amplifier sets.

EXPLANATORY NOTES

85.18 - Microphones and stands therefor; loudspeakers, whether or not mounted in their enclosures; headphones and earphones, whether or not combined with a microphone, and sets consisting of a microphone and one or more loudspeakers; audio-frequency electric amplifiers; electric sound amplifier sets.

8518.10 - Microphones and stands therefor

- Loudspeakers, whether or not mounted in their enclosures :

8518.21 - - Single loudspeakers, mounted in their enclosures

8518.22 - - Multiple loudspeakers, mounted in the same enclosure

8518.29 - - Other

8518.30 - Headphones and earphones, whether or not combined with a microphone, and sets consisting of a microphone and one or more loudspeakers

8518.40 - Audio-frequency electric amplifiers

8518.50 - Electric sound amplifier sets

8518.90 - Parts

This heading covers microphones, loudspeakers, headphones, earphones and audio-frequency electric amplifiers of all kinds presented separately, regardless of the particular purpose for which such apparatus may be designed (e.g., telephone microphones, headphones and earphones, and radio receiver loudspeakers).

The heading also covers electric sound amplifier sets.

(A) MICROPHONES AND STANDS THEREFOR

Microphones convert sound vibrations into corresponding variations or oscillations of electric current, thus enabling them to be transmitted, broadcast or recorded. According to their working principle, they include :

(1) **Carbon microphones**. These depend on the variations in the electrical resistance of carbon granules, caused by differences in the pressure exerted upon them when the diaphragm is displaced by sound waves. The carbon granules (or powder) are packed in a container between two electrodes, one of which constitutes or is fixed to the diaphragm.

(2) **Piezo-electric microphones**, in which the pressure of the sound waves, transmitted by means of a diaphragm, sets up strains in a specially cut piece of crystal (e.g., quartz or rock crystal), thus causing the production of electric charges on the crystal. This type of element is often used in the "contact" microphone that is used in the pick-up of acoustic musical instruments such as guitars, pianos, brass and string orchestral instruments etc.

(3) **Moving coil or ribbon microphones** (also known as dynamic microphones), in which the sound vibrations are brought to bear on a coil or an aluminium ribbon situated in a magnetic field, thus producing electric impulses by induction.

(4) **Capacitance or electrostatic (condenser) microphones,** containing two plates (or electrodes), one fixed (the backplate) and one able to vibrate (the diaphragm), with an air gap between the two. The sound waves produce differences in capacity between the two plates.

(5) **Thermal or hot wire microphones**, containing a heated resistance wire, the temperature of which, and therefore the resistance, is varied by the effect of the sound waves.

This heading also covers wireless microphone sets, each set consisting of one or more wireless microphones and a wireless receiver. The wireless microphone transmits a signal representing the sound waves it receives, by means of radio-transmission circuitry and an internal or external aerial. The receiver has one or more aerials to receive the transmitted radio waves and internal circuitry to convert the radio waves to an electrical audio signal, and may have one or more volume controls and output plugs.

There are many varied applications of microphones (e.g., in public address equipment; telephony; sound recording; aircraft or submarine detectors; trench listening devices; study of heart beats).

Generally the electric current output from microphones is in the form of an analogue signal, however some microphones incorporate an analogue to digital converter where the output is in the form of a digital signal. Microphones are sometimes rendered more sensitive by the addition of amplifiers (usually referred to as pre-amplifiers). Capacitors are sometimes fitted for tone correction. Some microphones require an electrical power supply for their operation. This power supply may be supplied from a mixing console or the sound recording apparatus or it may be in the form of a separate power pack. Power packs presented separately are not classified in this heading (**generally heading 85.04**). Microphones are also sometimes fitted with devices for concentrating the sound waves, and may have, as in the case of public address microphones, special **stands** for placing on a table, a desk, etc., or on the ground, or from which the microphones are suspended. Such stands or devices fall in this heading, even if presented separately, **provided** they are of a kind specially designed for use with or for fitting to microphones.

On the other hand, monopods, bipods, tripods and similar articles are **excluded** (**heading 96.20**).

(B) LOUDSPEAKERS, WHETHER OR NOT MOUNTED IN THEIR ENCLOSURES

The function of loudspeakers is the converse of that of microphones : they reproduce sound by converting electrical variations or oscillations from an amplifier into mechanical vibrations which are communicated to the air. They include the following types :

(1) **Moving iron or moving coil loudspeakers**. In the moving iron loudspeaker an armature or reed of soft iron is placed in the field of a permanent magnet and under the influence of the coils in which the current passes. The field varies in accordance with this current, and a diaphragm fixed to the armature or reed sets up corresponding vibrations in the air. Moving coil loudspeakers consist essentially of a coil which is placed in the field of a permanent or electro-magnet and which is energised by the varying current. The coil is rigidly connected to a diaphragm.

(2) **Piezo-electric loudspeakers**, based on the principle that certain natural or artificial crystals are subject to mechanical distortion when an electric current is applied to them. Such loudspeakers are usually known as “crystal loudspeakers”.

(3) **Electrostatic loudspeakers** (also known as **condenser-type loudspeakers**). These depend on the electrostatic reactions between two plates (or electrodes), one plate serving as a diaphragm.

Matching transformers and amplifiers are sometimes mounted together with loudspeakers. Generally the electrical input signal received by loudspeakers is in analogue form, however in some cases the input signal is in digital format. Such loudspeakers incorporate digital to analogue converters and amplifiers from which the mechanical vibrations are communicated to the air.

Loudspeakers may be mounted on frames, chassis or in cabinets of different types (often acoustically designed), or even in articles of furniture. They remain classified in this heading **provided** the main function of the whole is to act as a loudspeaker. Separately presented frames, chassis, cabinets, etc., also fall in this heading **provided** they are identifiable as being mainly designed for mounting loudspeakers; articles of furniture of Chapter 94 designed to receive loudspeakers in addition to their normal function remain classified in **Chapter 94**.

The heading includes loudspeakers designed for connection to an automatic data processing machine, when presented separately.

(C) HEADPHONES AND EARPHONES, WHETHER OR NOT COMBINED WITH A MICROPHONE, AND SETS CONSISTING OF A MICROPHONE AND ONE OR MORE LOUDSPEAKERS

Headphones and earphones are electroacoustic receivers used to produce low-intensity sound signals. Like loudspeakers, described above, they transform an electrical effect into an acoustic effect; the means used are the same in both cases, the only difference being in the powers involved.

The heading covers headphones and earphones, whether or not combined with a microphone, for telephony or telegraphy; headsets consisting of a special throat microphone and permanently-fixed earphones (used, for example, in aviation); line telephone handsets which are combined microphone/speaker sets for telephony and which are generally used by telephone operators; headphones and earphones for plugging into radio or television receivers, sound reproducing apparatus or automatic data processing machines.

The heading also covers sets consisting of a microphone and one or more loudspeakers which may be fitted together. A headphone or earphone may be included with the set for private listening. These sets are designed to be plugged into or connected to a central control system which includes an amplifier. These units may be used by participants at meetings or conferences.

The heading also includes prenatal listening apparatus which generally consist of a microphone, a headphone, a loudspeaker, a listening cone, on/off/volume control and battery compartment. This apparatus makes it possible to hear the sounds of a foetus as well as the mother’s heartbeat. This apparatus does not include a sound recording device. The apparatus is designed for non-medical use.

However, electro-diagnostic apparatus of a type designed for use by professionals in medical, surgical or veterinary sciences is classified in **heading 90.18**.

(D) AUDIO-FREQUENCY ELECTRIC AMPLIFIERS

Audio-frequency amplifiers are used for the amplification of electrical signals of frequencies falling within the range of the human ear. The great majority are based on transistors or integrated circuits, but some are still based on thermionic valves. They are generally powered by a built-in power pack which may be fed from the mains or, particularly in the case of portable amplifiers, from electric accumulators or batteries.

The input signals to audio-frequency amplifiers may be derived from a microphone, a laser optical disc reader, a pick-up cartridge, a magnetic tape head, a radio feeder unit, a film sound track head or some other source of audio-frequency electric signals. Generally speaking, the output is fed into a loudspeaker, but this is not always the case (pre-amplifiers can feed into a succeeding amplifier or be incorporated in an amplifier).

Audio-frequency amplifiers may contain a volume control for varying the gain of the amplifier, and also commonly incorporate controls (bass boost, treble lift, etc.) for varying their frequency response.

The heading includes audio-frequency amplifiers used as repeaters in telephony or as measurement amplifiers.

High or intermediate frequency amplifiers are classified in **heading 85.43** as electrical appliances having an individual function. Audio mixers and equalisers are also classified in **heading 85.43**.

(E) ELECTRIC SOUND AMPLIFIER SETS

This heading also covers amplifier sets consisting of microphones, audio-frequency amplifiers and loudspeakers. This type of equipment is extensively used for public entertainment, public address systems, advertising vehicles, police vehicles or with certain musical instruments, etc. Similar systems are also used on large lorries (particularly those with trailers) for enabling the driver to hear irregular noises or sound signals from behind, which otherwise he could not hear above the sound of the engine.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here.

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The heading also **excludes** :

(a) Airmen's headgear incorporating headphones with or without a microphone (**heading 65.06**).

(b) Telephone sets (**heading 85.17**).

(c) Semiconductor-based transducers (for example micro-electro-mechanical-systems (MEMS) sensors used in silicon microphones) (heading 85.41); electronic integrated circuits, including multi-component integrated circuits (MCOs) (for example, silicon microphones consisting of a MEMS sensor element and an application-specific integrated circuit (ASIC) chip) (heading 85.42).

(d) Hearing aids of **heading 90.21**.

8518.10

- Microphones and stands therefor

CLASSIFICATION OPINIONS

1. Wireless microphone set. Two wireless microphones which transmit in the UHF radio frequency band, packaged with a UHF dual-channel wireless receiver which includes separate level controls for controlling the output level of each of the two corresponding microphones independently. The receiver has three output plugs for connection to other audio or video equipment. Two of them are for sending an unmixed signal received from each microphone. The third one is for sending a signal combining the two microphone signals received. The package includes an audio cable for connecting the receiver to other audio or video equipment (such as an amplifier), two batteries to power the microphones and two aerials for fitting onto the receiver. The components are contained in a reusable padded case with separate compartments for protecting each component during transport.

Application of GIRs 1 (Note 4 to Section XVI) and 6. *Adoption : 2010*



8518.2

- Loudspeakers, whether or not mounted in their enclosures :

8518.21

-- Single loudspeakers, mounted in their enclosures

8518.22

-- Multiple loudspeakers, mounted in the same enclosure

CLASSIFICATION OPINIONS

1. Apparatus for musical instruments, consisting of a class AB amplifier tube, two pre-amplifier tubes, two amplifier tubes and two loudspeakers, combined in a single housing. It accepts an electrical signal from a variety of sources, such as an electric guitar, an electronic keyboard/piano or an MP3 player. It amplifies the electrical signal and then produces sound by directing the amplified electrical signal to the loudspeakers. It can modify the tone of the sound by emphasising or de-emphasising certain frequencies (bass, midrange and treble frequencies) and can also add certain electronic effects to the sound to be produced. **Application of GIRs 1 and 6 (Note 3 to Section XVI).** *Adoption : 2013*



8518.29

-- Other

8518.30

- Headphones and earphones, whether or not combined with a microphone, and sets consisting of a microphone and one or more loudspeakers

8518.40

- Audio-frequency electric amplifiers

8518.50

- Electric sound amplifier sets

CLASSIFICATION OPINIONS

1. Speech training apparatus for deaf persons consisting mainly of two microphones (one used by the instructor, the other by the pupil), an audio-frequency amplifier and one set of headphones, each headphone being individually controlled to compensate for variations in hearing ability between the left and right ear.

Adoption : 1970

8518.90

- Parts

Heading 8519

Sound recording or reproducing apparatus.

EXPLANATORY NOTES

85.19 - Sound recording or reproducing apparatus (+).

8519.20 - Apparatus operated by coins, banknotes, bank cards, tokens or by other means of payment

8519.30 - Turntables (record-decks)

- Other apparatus :

8519.81 - - Using magnetic, optical or semiconductor media

8519.89 - - Other

This heading covers apparatus for recording sound, apparatus for reproducing sound and apparatus that is capable of both recording and reproducing sound. Generally, sound is recorded onto or reproduced from an internal storage device or media (e.g., magnetic tape, optical media, semiconductor media or other media of heading 85.23).

Sound recording apparatus modify a recording medium so that **sound reproducing apparatus** can subsequently reproduce the original sound-wave (speech, music, etc.). This includes recording based on the receipt of a sound-wave or by other methods, e.g., by recording data sound files, downloaded from an Internet page or a compact disc by an automatic data processing machine, onto the internal memory (e.g., flash memory) of a digital audio device (e.g., MP3 player). Devices which record sound as digital code generally are not capable of reproducing sound unless they incorporate a means for converting the recording from digital code to an analogue signal.

(I) APPARATUS OPERATED BY COINS, BANKNOTES, BANK CARDS,

TOKENS OR BY OTHER MEANS OF PAYMENT

These apparatus operate by coins, banknotes, bank cards, tokens or other means of payment and allow for the selection and playing of audio recordings in a chosen sequence or randomly. They are commonly referred to as "**juke boxes**".

(II) TURNTABLES (RECORD-DECKS)

These apparatus rotate the discs mechanically or electrically. They may or may not incorporate a sound-head, but they do not include an acoustic device nor electrical means of amplifying sound (see "**record players**" below). They may be fitted with an automatic device enabling a series of records to be played in succession.

(III) TELEPHONE ANSWERING MACHINES

These apparatus are designed to operate in conjunction with a telephone set (but not forming an integral part of the set). They transmit a previously recorded message and may have the capability to record incoming messages left by callers.

(IV) OTHER APPARATUS USING MAGNETIC, OPTICAL OR SEMICONDUCTOR MEDIA

The apparatus of this group may be portable. They may also be equipped with, or designed to be attached to acoustic devices (loudspeakers, earphones, headphones) and an amplifier.

(A) **Apparatus using magnetic media**

This group includes apparatus which use tapes or other magnetic media. Sound is recorded by altering the magnetic properties of the media. The sound is reproduced by passing the medium in front of a magnetic sound-head. Examples include cassette-players, tape recorders and cassette recorders.

(B) **Apparatus using optical media**

This group includes apparatus which use optical media. Sound is recorded as digital code converted from amplified currents of variable intensity (analogue signal) onto the surface of the recording medium. Sound is reproduced using a laser to read such medium. Examples include compact disc players and minidisc players. These types also cover apparatus which uses media combining magnetic and optical technologies. An example of such an apparatus uses magneto-optical discs, on which the areas of varying reflectivity are created using a magnetic technology but are read using an optical (e.g., laser) beam.

(C) **Apparatus using semiconductor media**

This group includes apparatus which use semiconductor (e.g., solid-state non- volatile) media. Sound is recorded as digital code converted from amplified currents of variable intensity (analogue signal) on the recording medium. Sound is reproduced by reading such medium. The semiconductor media may be permanently installed in the apparatus or may be in the form of removable solid-state non-volatile storage media. Examples include flash memory audio players (e.g., certain MP3 players) which are portable battery operated apparatus consisting essentially of a housing incorporating a flash memory (internal or removable), a microprocessor, an electronic

system including an audio-frequency amplifier, an LCD screen and control buttons. The microprocessor is programmed to use MP3 or similar file formats. The apparatus can be connected to an automatic data processing machine for downloading MP3 or similar files.

(D) **Apparatus using any combination of magnetic, optical or semiconductor media**

These apparatus incorporate devices which are capable of recording or reproducing by using any two or all of magnetic, optical or semiconductor media.

(V) OTHER SOUND RECORDING OR SOUND REPRODUCING APPARATUS

This group includes :

(1) **Record players**. These apparatus produce sound from records (grooved discs) by electric amplifiers and loudspeakers, mechanical vibrations being converted into electrical vibrations by a sound-head (pick-up cartridge). They may be fitted with an automatic device enabling a series of records to be played in succession.

(2) **Cinematographic sound recording apparatus** which record sound by **photoelectrical methods.** Sound may be photoelectrically recorded on film as a strip, either (a) of variable area or (b) of variable density.

Cinematographic sound recording apparatus comprises, in addition to the sound recording head, a magazine for holding the film, a motor driving mechanism for synchronising the speed of the film with that of the cinematographic camera working with it, and a film transport mechanism.

(3) **Cinematographic sound reproducers.** These are equipped with a reader which incorporates a photoelectric sound-head and a charge-coupled device.

(4) **Re-recording apparatus, for cinematography**, used, for example, for photoelectric or digital rerecording of sound tracks recorded by other means, e.g., magnetically, optically, or electronically.

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PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories of the apparatus of this heading are classified in **heading 85.22**.

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The heading **excludes :**

(a) Presses or injection moulding machinery for replicating recorded optical discs of plastics (**heading 84.77**).

(b) Telephone answering machines forming an integral part of a telephone set (**heading 85.17**).

(c) Separately presented microphones, loudspeakers, audio-frequency electric amplifiers and electric sound amplifier sets (**heading 85.18**).

(d) Video recording or reproducing apparatus of **heading 85.21**.

(e) Sound recording or reproducing apparatus combined in the same housing with reception apparatus for radio-broadcasting (**heading 85.27**).

(f) Sound recording or reproducing apparatus combined with television receivers (**heading 85.28**).

(g) Cinematographic cameras and projectors combined with sound recording or reproducing apparatus (**heading 90.07**).

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Subheading Explanatory Note.

Subheading 8519.81

This subheading covers apparatus using one or more of the following : magnetic, optical or semiconductor media.

8519.20

- Apparatus operated by coins, banknotes, bank cards, tokens or by other means of payment

8519.30

- Turntables (record-decks)

8519.8

- Other apparatus :

8519.81

-- Using magnetic, optical or semiconductor media

CLASSIFICATION OPINIONS

1. **Apparatus** consisting of a CD-ROM drive with an MP3 decoder for reading MP3 format files, presented with a remote control and connection cables, to be installed in a motor vehicle. The apparatus is to be connected to the motor vehicle radio. **Application of GIRs 1 and 6.** *Adoption : 2002*

2. **Portable, battery operated apparatus** consisting of a housing incorporating a flash memory, a microprocessor in the form of integrated circuits (“chips”), an electronic system including an audio-frequency amplifier, an LCD screen and control buttons. The microprocessor is programmed to use the MP3 file format. The apparatus has connectors for stereo head- or earphones, and can be

connected to an automatic data processing machine for downloading MP3 files (using a parallel or USB port). It may have a flash card slot. The storage capacity usually ranges from 32 to 64 MB. **Application of GIRs 1 and 6.** *Adoption : 2002*

3. Apparatus incorporating a CD drive, a microprocessor, a flash memory or a hard disk, an LCD screen, control buttons, input connectors for analogue audio signals and for a microphone and output connectors for audio, S-video and composite video, parallel and USB connectors for uploading or downloading MP3 files to or from an automatic data processing machine or to or from a portable MP3 player and an ethernet port for connection to a network or to the Internet. The connection to a TV set provides a graphical user interface for playlist editing and navigation, as well as display of animation. The apparatus is programmed to read MP3 and other audio compression formats, and can record analogue audio signals or voice. **Application of GIRs 1 (Note 3 to Section XVI) and 6.** *Adoption : 2002*

4. Set of a sound reproducing apparatus and books, consisting of four components, packaged together in a paperboard box for retail sale :

- Two books (a “reading book” and a “play book”), which are printed books of paper material without any electronic elements;

- An electronic book-shaped pad made of plastics and designed to fit the size and shape of the included books. The pad incorporates a loudspeaker, a touch-sensitive electronic film which represents coordinates, a printed circuit assembly, a socket for the sound pack and a battery;

- A sound pack, which is a storage device having a capacity of 128 MB. It stores the audio content of the books. The sound pack is to be inserted into the socket of the electronic book-shaped pad; and

- A pen-shaped stylus used for pointing and indicating a specific spot on the book.

The product is designed to help children to learn to read.

Application of GIRs 1, 3 (b) and 6. *Adoption : 2018*

8519.89

-- Other

Heading 8521

Video recording or reproducing apparatus, whether or not incorporating a video tuner.

EXPLANATORY NOTES

85.21 - Video recording or reproducing apparatus, whether or not incorporating a video tuner.

8521.10 - Magnetic tape-type

8521.90 - Other

(A) RECORDING AND COMBINED RECORDING AND REPRODUCING APPARATUS

These are apparatus which, when connected to a television camera or a television receiver, record on media electric impulses (analogue signals) or analogue signals converted into digital code (or a combination of these) which correspond to the images and sound captured by a television camera or received by a television receiver. Generally the images and sound are recorded on the same media. The method of recording can be by magnetic or optical means and the recording media is usually tapes or discs.

The heading also includes apparatus which record, generally on a magnetic disc, digital code representing video images and sound, by transferring the digital code from an automatic data processing machine (e.g., digital video recorders).

In magnetic recording on tape the images and sound are recorded on different tracks on the tape whereas in magnetic recording on disc the images and sound are recorded as magnetic patterns or spots in spiral tracks on the surface of the disc.

In optical recording, digital data representing the images and sound are encoded by a laser onto a disc.

Video recording apparatus which receive signals from a television receiver also incorporate a tuner which enables selection of the desired signal (or channel) from the frequency band of signals transmitted by the television transmitting station.

When used for reproduction, the apparatus convert the recording into video signals. These signals are passed on either to a transmitting station or to a television receiver.

(B) REPRODUCING APPARATUS

These apparatus are designed only to reproduce images and sound directly on a television receiver. The media to be used in these instruments are prerecorded mechanically, magnetically or optically on special recording equipment. The following are examples of such apparatus :

(1) Apparatus using discs in which the image and sound data are stored on the disc by various methods and picked up by a laser optical reading system, capacitive sensor, pressure sensor or magnetic head. Subject to Note 3 to Section XVI, apparatus which are capable of reproducing both video and audio recordings are to be classified in this heading.

(2) Apparatus that decodes and converts into a video signal image data recorded on a light sensitive film (the sound being recorded by a magnetic process on the same film).

PARTS AND ACCESSORIES

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts and accessories of the apparatus of this heading are classified in **heading 85.22**.

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The heading **excludes** :

(a) The recording media of **heading 85.23**.

(b) Video cameras (**heading 85.25**).

(c) Reception apparatus for television (whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus) and video monitors and video projectors (**heading 85.28**).

8521.10

- Magnetic tape-type

8521.90

- Other

CLASSIFICATION OPINIONS

1. DVD player (434 x 95 x 290 mm) incorporating an MP3 file decoder.

Application of GIRs 1 and 6.

Adoption : 2002

Heading 8522

Parts and accessories suitable for use solely or principally with the apparatus of heading 85.19 or 85.21.

EXPLANATORY NOTES

85.22 - Parts and accessories suitable for use solely or principally with the apparatus of heading 85.19 or 85.21.

8522.10 - Pick-up cartridges

8522.90 - Other

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), this heading covers parts and accessories suitable for use **solely or principally** with the apparatus of heading 85.19 or 85.21.

The range of parts and accessories classified here includes :

(1) **Pick-up cartridges** for discs or mechanically recorded sound films. These convert mechanical vibrations (obtained with a stylus which follows the groove in the recorded medium) into electrical impulses.

(2) **Laser optical reading systems**.

(3) **Magnetic type sound-heads** for recording, play-back or erasing.

(4) **Cassette shaped adapters** which enable sound reproduction from a portable optical disc player through a magnetic tape player.

(5) **Photoelectric sound-heads**.

(6) **Apparatus for winding or unwinding tapes**. Essentially this apparatus usually consists of two reel supporting brackets, at least one of which is fitted with a device enabling it to be rotated.

(7) **Tone-arms, tables for turntables**.

(8) **Mounted or unmounted worked sapphires and diamonds for styli**.

(9) **Record cutters**. These are component parts of the recording apparatus. They convert sound vibrations into mechanical vibrations and modify the shape of the groove.

(10) **Furniture**, specially designed and constructed for sound recording or reproducing apparatus.

(11) **Cassettes for cleaning** the magnetic heads of sound or video recording or reproducing apparatus, whether or not put up in retail packings together with a cleaning solution.

(12) **Other specialised parts and accessories for magnetic sound recording or reproducing apparatus**, e.g., magnetic erasing heads and bars and erasing machines; magnetic needle-points; scales showing point reached in dictation.

(13) **Other specialised parts and accessories for video recording or reproducing apparatus**, e.g., video signal recording head drums; vacuum devices for maintaining the magnetic tape in contact with the recording heads or pick-ups; tape-winding devices; etc.

The heading **excludes :**

(a) Spools, reels or similar supports, including video or audio cassettes without magnetic tape (classified according to their constituent material, for example, in **Chapter 39** or **Section XV**).

(b) Electric motors for sound recording or reproducing apparatus, not combined with parts or accessories of such recording or reproducing apparatus (**heading 85.01**).

(c) Recording media of **heading 85.23**.

(d) Devices equipped with sound-heads which are used together with frame viewers on synchronisation tables (**heading 90.10**).

8522.10

- Pick-up cartridges

8522.90

- Other

CLASSIFICATION OPINIONS

1. Mechanical assembly for video recording or reproducing apparatus consisting of a chasis on which are mounted the following main parts :

(i) a cylinder comprising an upper rotating cylinder integral with the video heads, a fixed lower cylinder and a motor. The assembly writes the video signals on the magnetic tape and reads those signals;

(ii) a sound head which writes the audio signals on the magnetic tape and reads those signals;

(iii) an erasing head which erases the prerecorded signals at the time of recording;

(iv) a capstan which keeps the magnetic tape playing at a fixed speed.

Classification as part of the appropriate apparatus.

Adoption : 1991

Heading 8523

Discs, tapes, solid-state non-volatile storage devices, «smart cards» and other media for the recording of sound or of other phenomena, whether or not recorded, including matrices and masters for the production of discs, but excluding products of Chapter 37.

EXPLANATORY NOTES

85.23 - Discs, tapes, solid-state non-volatile storage devices, “smart cards” and other media for the recording of sound or of other phenomena, whether or not recorded, including matrices and masters for the production of discs, but excluding products of Chapter 37.

- Magnetic media :

8523.21 - - Cards incorporating a magnetic stripe

8523.29 - - Other

- Optical media :

8523.41 - - Unrecorded

8523.49 - - Other

- Semiconductor media :

8523.51 - - Solid-state non-volatile storage devices

8523.52 - - “Smart cards”

8523.59 - - Other

8523.80 - Other

This heading covers different types of media, whether or not recorded, for the recording of sound or of other phenomena (e.g., numerical data; text; images, video or other graphical data; software). Such media are generally inserted into or removed from recording or reading apparatus and may be transferred from one recording or reading apparatus to another.

The media of this heading may be presented recorded, unrecorded, or with some pre-recorded information, but capable of having more information recorded on them.

This heading includes media in intermediate forms (e.g., matrices, master discs, mother discs, stamper discs) for use in the mass-production of finished recorded media.

However, this heading does not include the device which records the data on the media or retrieves the data from the media.

In particular, this heading covers :

(A) MAGNETIC MEDIA

Products of this group are commonly in the form of discs, cards or tapes. They are made using different materials (generally plastics, paper or paperboard, or metal), either magnetic in themselves or coated with a magnetic material. This group includes, for example, cassette tapes and other tapes for tape recorders, tapes for camcorders and other video recording apparatus (e.g., VHS, Hi-8™, mini-DV), diskettes and cards with a magnetic stripe.

This group does not include magneto-optical media.

(B) OPTICAL MEDIA

Products of this group are generally in the form of discs made of glass, metal or plastics with one or more light-reflective layers. Any data (sound or other phenomena) stored on such discs are read by means of a laser beam. This group includes recorded discs and unrecorded discs whether or not rewritable.

This group includes, for example, compact discs (e.g., CDs, V-CDs, CD-ROMs, CD-RAMs), digital versatile discs (DVDs).

This group also includes magneto-optical media.

(C) SEMICONDUCTOR MEDIA

Products of this group contain one or more electronic integrated circuits.

Thus, this group includes :

(1) **Solid-state, non-volatile data storage devices for recording data from an external source** (See Note 6 (a) to this chapter). These devices (also known as “flash memory cards” or “flash electronic storage cards”) are used for recording data from an external source, or providing data to, devices such as navigation and global positioning systems, data collection terminals, portable scanners, medical monitoring appliances, audio recording apparatus, personal communicators, mobile phones, digital cameras and automatic data processing machines. Generally, the data are stored onto, and read from, the device once it has been connected to that particular appliance, but can also be uploaded onto or downloaded from an automatic data processing machine.

The media use only power supplied from the appliances to which they are connected, and require no battery.

Thesenon-volatile data storage devices are comprised of, in the same housing, one or more flash memories ("FLASH E^2PROM/EEPROM") in the form of integrated circuits mounted on a printed circuit board, and incorporate a connecting socket to a host appliance. They may include capacitors, resistors and a microcontroller in the form of an integrated circuit. Example of solid state non-volatile storage devices are USB flash drives.

(2) **"Smart cards"** (see Note 6 (b) to this chapter)**,** which have embedded in them one or more electronic integrated circuits (a microprocessor, random access memory (RAM) or read-only memory (ROM)) in the form of chips. "Smart cards" may contain contacts, a magnetic stripe or an embedded antenna but do not contain any other active or passive circuit elements.

These "smart cards" also include certain articles known as "proximity cards or tags" if they meet the conditions of Note 6 (b) to this Chapter. Proximity cards/tags usually consist of an integrated circuit with a read only memory, which is attached to a printed antenna. The card/tag operates by creating a field interference (the nature of which is determined by a code contained in the read only memory) at the antenna in order to affect a signal transmitted from, and reflected back to, the reader. This type of card/tag does not transmit data.

(D) OTHER

This group includes gramophone records.

This heading **excludes** :

(a) Photographic or cinematographic films with one or several sound tracks (**Chapter 37**).

(b) Sensitised film for photoelectric recording (**heading 37.02**).

(c) Articles intended for use as media for recording sound or other phenomena but not yet prepared as such; these are classified in their respective headings (for example, in **Chapter 39** or **48**, or **Section XV**).

(d) Data-bearing paper tapes or punch cards, the recording of which has been made usually by perforation (**Chapter 48**).

(e) Certain electronic memory modules (e.g., SIMMs (Single In-Line Memory Modules) and DIMMs (Dual In-Line Memory Modules)) which are to be classified by application of Note 2 to Section XVI (see the General Explanatory Note to this Chapter).

(f) Cartridges for game machines (**heading 95.04**).

8523.2

- Magnetic media :

8523.21

-- Cards incorporating a magnetic stripe

8523.29

-- Other

8523.4

- Optical media :

8523.41

-- Unrecorded

8523.49

-- Other

8523.5

- Semiconductor media :

8523.51

-- Solid-state non-volatile storage devices

CLASSIFICATION OPINIONS

1. Solid-state, non-volatile data storage device (known as a “flash memory card” or “flash electronic storage card”), having a storage capacity of 192°MB, consisting of a printed circuit board onto which are mounted (i) one flash memory (“FLASH E2PROM”) in the form of an integrated circuit, (ii) a microcontroller in the form of an integrated circuit, (iii) a number of capacitors and resistors and (iv) a connecting socket. The dimensions of the device are approximately 85 mm x 54 mm x 4 mm.

Data can be stored onto and read from the card once it has been inserted in a particular appliance, such as navigation and global positioning systems, data collection terminals, portable scanners, medical monitoring appliances, audio recording apparatus, mobile phones and digital cameras. The data can also be transferred to an automatic data processing machine by using a special adapter. The card uses power from the appliances to which it is connected and requires no battery.

Application of GIRs 1 and 6.

Adoption : 2002

2. Solid-state, non-volatile data storage device (known as a “flash memory card” or “flash electronic storage card”), having a storage capacity of 192°MB, consisting of a printed circuit board (PCB) onto which are mounted one flash memory (“FLASH E²PROM”) and a controller, in the form of integrated circuits, and passive elements, such as capacitors and resistors, with traces and through hole connections of copper, supplied with a connecting socket. The dimensions of the device are approximately 43 mm x 36 mm x 4 mm. The various components are mounted by surface mount technology onto the PCB, which is subsequently top and bottom lidded or bonded to a plastic card. The PCB is not produced by thin- or thick-film technology.

Data can be stored onto and read from the card once it has been inserted in a particular appliance, such as navigation and global positioning systems, data collection terminals, portable scanners, medical monitoring appliances, audio recording apparatus, mobile phones and digital cameras. The data can also be transferred to an automatic data processing machine by using a special adapter. The card uses power from the appliances to which it is connected and requires no battery.

Application of GIRs 1 and 6.

Adoption : 2002

3. Solid-state, non-volatile data storage device (known as a “flash memory card” or “flash electronic storage card”), having a storage capacity of 64 MB, consisting of a printed circuit board (PCB) onto which are mounted two flash memories (“FLASH E²PROM”) in the form of integrated circuits, fitted with electrical flat surface contact points. The integrated circuits are attached by epoxy onto the PCB, which is subsequently attached to a plastic frame by gluing. The PCB is not produced by thin- or thick-film technology. The dimensions of the device are approximately 45 mm x 37 mm x 2 mm.

Data can be stored onto and read from the card once it has been inserted in a particular appliance, such as navigation and global positioning systems, data collection terminals, portable scanners, medical monitoring appliances, audio recording apparatus, mobile phones and digital cameras.

The data can also be transferred to an automatic data processing machine by using a special adapter. The card uses power from the appliances to which it is connected and requires no battery.
Application of GIRs 1 and 6.
Adoption : 2002

4. **"Mini" SD (Secure Digital) card** (known as "flash memory card" or "flash electronic storage card"). It consists of a non-conductive substrate (with or without printed circuit board) with conductive copper traces and a contact pad for connection to the host interfaces, into which are mounted (i) one flash memory ("FLASH E2PROM") in the form of an integrated circuit, (ii) a microcontroller in the form of an integrated circuit and (iii) passive elements. The dimensions of the device are 21.5 mm x 20 mm x 1.4 mm.
Data can be read from and stored onto the card once it has been inserted in a particular appliance, such as printers, mobile phones, audio recording apparatus, digital cameras, data collection terminals, video game consoles or automatic data processing machines. The card uses power from the appliances to which it is connected and requires no battery.
Application of GIRs 1 (Note 6 (a) to Chapter 85) and 6.
Adoption : 2012

5. **"Micro" SD (Secure Digital) card** (known as "flash memory card" or "flash electronic storage card"). It consists of a non-conductive substrate (with or without printed circuit board) with conductive copper traces and a contact pad for connection to the host interfaces, into which are mounted (i) one flash memory ("FLASH E2PROM") in the form of an integrated circuit, (ii) a microcontroller in the form of an integrated circuit and (iii) passive elements. The dimensions of the device are 15 mm x 11 mm x 1 mm.
Data can be read from and stored onto the card once it has been inserted in a particular appliance, such as printers, mobile phones, audio recording apparatus, digital cameras, data collection terminals, video game consoles or automatic data processing machines. The card uses power from the appliances to which it is connected and requires no battery.
Application of GIRs 1 (Note 6 (a) to Chapter 85) and 6.
Adoption : 2012

8523.52

-- «Smart cards»

8523.59

-- Other

8523.80

- Other

Heading 8524

Flat panel display modules, whether or not incorporating touch-sensitive screens.

EXPLANATORY NOTES

85.24 - Flat panel display modules, whether or not incorporating touch-sensitive screens.

- Without drivers or control circuits :

8524.11 - - Of liquid crystals

8524.12 - - Of organic light-emitting diodes (OLED)

8524.19 - - Other

- Other :

8524.91 - - Of liquid crystals

8524.92 - - Of organic light-emitting diodes (OLED)

8524.99 - - Other

This heading covers flat panel display modules, whether or not incorporating touch-sensitive screens, which are defined in Note 7 to this Chapter.

The articles of this heading are equipped at a minimum with a display screen utilizing liquid crystal display (LCD), organic light-emitting diodes (OLED), light-emitting diodes (LED) or other display technologies.

The screen types of flat panel display modules include, but are not limited to, those which are flat, curved, flexible, foldable, stretchable or rollable in form.

This heading includes :

(1) **Flat panel display modules without drivers or control circuits**, which are generally referred to as 'cells'. In the case of LCD cells, liquid crystals are placed between two sheets or plates of glass or plastics such as TFT substrates and colour filter substrates. In the case of OLED cells, they have organic materials deposited on TFT substrates. Those cells do not contain electrical parts such as drivers or control circuits, whether or not fitted with electrical connections or attached with polarizing plates.

(2) **Flat panel display modules with drivers or control circuits**: Drivers or control units are added to 'cells' of item (1). The modules may contain drivers that receive video signals or other data (e.g., text, images, ADP signals, or other graphical data) and switch individual pixels of displays (generally consisting of driver IC and PCB that connects video signals to driver IC) or control circuits of power supply for display modules or timing control. They might combine with backlight units (for LCDs) or frames (chassis).

(3) **Flat panel display modules with touch-sensitive screens** : Touch-sensitive screens are attached to the flat panel display modules or embedded in the cell. They allow input as well as output (display) of information such as images.

The articles of this heading are designed to be attached to or incorporated in a wide range of apparatus (e.g., refrigerators, automatic data processing machines, mobile phones and devices for transmission or reception of images or data, digital cameras and video camera recorders, monitors and reception apparatus for television and motor vehicles for the transport of persons).

However, flat panel display modules that arenot integrated into otherapparatus andpresented separately are classified in this heading rather than the heading in which the finished products with flat panel display modules are classified.

Flat panel display modules that have been integrated into other apparatus are to be classified in the heading appropriate to the apparatus as a whole.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the apparatus of this heading are classified in heading 85.29.

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° °

The heading **excludes**, *inter alia* :

(a) Flat panel display modules with video-converting components (usually articles of **headings 85.17, 85.28 and 85.29**).

(b) Visual signaling apparatus (indicator panel) incorporating flat panel display modules (**heading 85.31**).

(c) Measuring or checking apparatus incorporating flat panel display modules (Generally **Chapter 90**).

(d) Musical instruments, incorporating flat panel display modules (**Chapter 92**).

(e) All goods of Chapter 95 incorporating flat panel display modules (e.g. video game consoles, toys, games, exercise equipment and sport requisites, etc.)**.**

8524.1

- Without drivers or control circuits :

8524.11

-- Of liquid crystals

8524.12

-- Of organic light-emitting diodes (OLED)

8524.19

-- Other

8524.9

- Other :

8524.91

-- Of liquid crystals

CLASSIFICATION OPINIONS

1. Colour liquid-crystal display (LCD) module (dimensions : 228 mm (W) x 149 mm (H) x 2.4 mm (D)), designed for incorporation into a portable automatic data processing machine (tablet computer).

This display module consists of a 10.1 inch (25.65 cm) thin film transistor (TFT) active-matrix LCD panel, a light-emitting diode (LED) backlight unit and a flexible printed circuit board (FPCB) that provides the interface between the principal apparatus and the display module and contains electronic circuitry for converting voltage to a level usable by the module and controlling the function of the display panel.

The display module has the following basic features :

- Display Mode : Normally black;

- Resolution : 1280 x 800 pixels, pixel pitch 0.1695 x 0.1695 mm, up to 16.2 Mega colours;

- Average white luminance (typical) : 400 cd/m2;

- Contrast ratio (typical) : 900:1;

- Response time (max) : 45 ms;

- Pixel arrangement : RGB Vertical Stripe;

- Display area : 217 mm (H) x 136 mm (V);

- Power supply voltage (max) : Vcc = 5 V;

- Interface : LVDS (Low-voltage differential signaling) (DDK 45 pin).

The display module can reproduce only a signal of its own "native" resolution via pre-determined digital interface and is not able to resize, convert and adapt the input signal to the "native" resolution.
Application of GIRs 1 (Note 2 (a) to Section XVI and Note 7 to Chapter 85) and 6.
Adoption : 2016



8524.92

-- Of organic light-emitting diodes (OLED)

8524.99

-- Other

Heading 8525

Transmission apparatus for radio-broadcasting or television, whether or not incorporating reception apparatus or sound recording or reproducing apparatus; television cameras, digital cameras and video camera recorders.

EXPLANATORY NOTES

85.25 - Transmission apparatus for radio-broadcasting or television, whether or not incorporating reception apparatus or sound recording or reproducing apparatus; television cameras, digital cameras and video camera recorders.

8525.50 - Transmission apparatus

8525.60 - Transmission apparatus incorporating reception apparatus

- Television cameras, digital cameras and video camera recorders :

8525.81 - - High-speed goods as specified in Subheading Note 1 to this Chapter

8525.82 - - Other, radiation-hardened or radiation-tolerant goods as specified in Subheading Note 2 to this Chapter

8525.83 - - Other, night vision goods as specified in Subheading Note 3 to this Chapter

8525.89 - - Other

(A) TRANSMISSION APPARATUS FOR RADIO-BROADCASTING

OR TELEVISION, WHETHER OR NOT INCORPORATING

RECEPTION APPARATUS OR SOUND RECORDING

OR REPRODUCING APPARATUS

The apparatus for radio-broadcasting falling in this group must be for the transmission of signals by means of electro-magnetic waves transmitted through the ether without any line connection. On the other hand television apparatus falls here whether the transmission is by electro-magnetic waves or by line.

This group includes :

(1) Transmitters for radio-broadcasting or television.

(2) Relay apparatus used to pick up a broadcast and retransmit it and so increase the range (including television relay apparatus for mounting in aircraft).

(3) Relay television transmitters for transmission, by means of an aerial and parabolic reflector, from the studio or site of an outside broadcast to the main transmitter.

(4) Television transmitters for industrial use (e.g., for reading instruments at a distance, or for observation in dangerous localities). With this apparatus the transmission is often by line.

(B) TELEVISION CAMERAS, DIGITAL CAMERAS AND

VIDEO CAMERA RECORDERS

This group covers cameras that capture images and convert them into an electronic signal that is :

(1) transmitted as a video image to a location outside the camera for viewing or remote recording (i.e., television cameras); or

(2) recorded in the camera as a still image or as a motion picture (i.e., digital cameras and video camera recorders).

Many of the cameras of this heading may physically resemble the photographic cameras of heading 90.06 or the cinematographic cameras of heading 90.07. The cameras in heading 85.25 and the cameras in Chapter 90 typically include optical lenses to focus the image on a light-sensitive medium and adjustments to vary the amount of light entering the camera. However, photographic and cinematographic cameras of Chapter 90 expose images onto photographic film of Chapter 37, while the cameras of this heading convert the images into analogue or digital data.

The cameras of this heading capture an image by focusing the image onto a light-sensitive device, such as a complementary metal oxide semiconductor (CMOS) or charge-coupled device (CCD). The light-sensitive device sends an electrical representation of the images to be further processed into an analogue or digital record of the images.

Television cameras may or may not have an incorporated device for remote control of lens and diaphragm as well as for remote control of the horizontal and vertical movement of the camera (e.g., television cameras for television studios or for reporting, those used for industrial or scientific purposes, in closed circuit television (surveillance) or for supervising traffic). These cameras do not have any inbuilt capability of recording images.

Some of these cameras may also be used with automatic data processing machines (e.g., webcams).

“Travelling”, mobile mechanical equipment for television cameras, whether or not presented separately, is **excluded** from this heading (**heading 84.28**).

Also **excluded** from this heading is electrical equipment for long-distance control and focussing of television cameras, when presented separately (**heading 85.37**).

In **digital cameras and video camera recorders**, images are recorded onto an internal storage device or onto media (e.g., magnetic tape, optical media, semiconductor media or other media of heading 85.23). They may include an analogue/digital converter (ADC) and an output terminal which provides the means to send images to units of automatic data processing machines, printers, televisions or other viewing machines. Some digital cameras and video camera recorders include input terminals so that they can internally record analogue or digital image files from such external machines.

Generally, the cameras of this group are equipped with an optical viewfinder or a liquid crystal display (LCD), or both. Many cameras equipped with an LCD can employ the display both as a viewfinder when capturing images and as a screen for displaying images received from other sources or for reproducing images already recorded.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the apparatus of this heading are classified in **heading 85.29**.

*

* *

The heading also **excludes** :

(a) Apparatus of **heading 85.17**.

(b) Separately presented radio-broadcasting reception apparatus for incorporation in relay apparatus (**heading 85.27**).

(c) Satellite television receivers and satellite television reception systems (**heading 85.28**).

(d) Special purpose vehicles permanently equipped with radio-broadcasting or television transmitters of this heading (generally **heading 87.05**).

(e) Telecommunication satellites (**heading 88.02**).

8525.50

- Transmission apparatus

8525.60

- Transmission apparatus incorporating reception apparatus

8525.8

- Television cameras, digital cameras and video camera recorders :

8525.81

-- High-speed goods as specified in Subheading Note 1 to this Chapter

8525.82

-- Other, radiation-hardened or radiation-tolerant goods as specified in Subheading Note 2 to this Chapter

8525.83

-- Other, night vision goods as specified in Subheading Note 3 to this Chapter

8525.89

-- Other

CLASSIFICATION OPINIONS

1. **Camera apparatus** presented in a box for retail sale, consisting of a digital camera, a rubber camera stand, a cable to connect the camera to an automatic data processing (ADP) machine, diskettes containing installation software for capturing still images and video, and a manual. The camera incorporates an adjustable focus lens, an image capture board with charged coupled-device (CCD) and a VIDEC™ (Video Digitally Enhanced Compression) compression board. The apparatus is used for capturing video or still images, converting them into digital signals and sending the signals directly to an ADP machine where the data can be recorded, reworked, edited, etc. with appropriate software. With this apparatus and the appropriate software installed on an ADP machine, one can produce videos and still images, hold video conferences and produce illustrated documents. This apparatus cannot be classified in heading 84.71 by virtue of Note 6 (D) (iv) to Chapter 84.
The diskettes containing the installation software are classified together with the camera apparatus as a set in subheading 8525.89.
Application of GIRs 1, 3 (b) and 6.
Adoption : 2001



2. Digital still camera fitted with a Charge Coupled Device (CCD) and based on video camera recorder technology. It records, processes and stores images in digital format. It features a built-in, high-resolution, 1.8" colour LCD screen that is used as a viewfinder when shooting images and as a monitor when viewing recorded or uploaded images. The semiconductor memory of the apparatus holds up to 96 colour still images. The images can be transferred to an automatic data processing machine by means of an optional accessory package for viewing and storing on an automatic data processing machine. For this purpose it has been designed with built-in digital input and output connection ports. It is also designed with a connection port for video cables so that the images can be transferred directly to a TV or a VCR. It can also deliver its stored images to labels by connecting to a label printer specifically designed for use with the digital camera. **Application of GIRs 1, 3 (b) and 6.** *Adoption : 1998*

Heading 8526

Radar apparatus, radio navigational aid apparatus and radio remote control apparatus.

EXPLANATORY NOTES

85.26 - Radar apparatus, radio navigational aid apparatus and radio remote control apparatus.

8526.10 - Radar apparatus

- Other :

8526.91 - - Radio navigational aid apparatus

8526.92 - - Radio remote control apparatus

This heading includes :

(1) Radio navigational aid equipment (e.g., radio beacons and radio buoys, with fixed or rotating aerials; receivers, including radio compasses equipped with multiple aerials or with a directional frame aerial). It also includes global positioning system (GPS) receivers.

(2) Ship or aircraft navigational radar equipment (whether for mounting on the ship, aircraft, etc., or on land), including port radar equipment, and identification equipment placed on buoys, beacons, etc.

(3) Blind approach landing or traffic control apparatus for airports. These are very complex. Certain types combine normal radio, radar and television devices showing at the control point the position and height of aircraft in the neighbourhood, and transmitting to the aircraft both the necessary instructions for landing and the radar picture of other aircraft in the vicinity.

(4) Radar height measuring apparatus (radio altimeters).

(5) Meteorological radar for tracking storm clouds or meteorological balloons.

(6) Blind bombing equipment.

(7) Radar devices for proximity fuses of shells or bombs.

The complete fuses with their detonator fall in **heading 93.06**.

(8) Air raid warning radar apparatus.

(9) Range and direction finding radar apparatus for naval or anti-aircraft guns.

(10) Radar transponders; these receive radar pulses and transmit pulses often carrying superimposed intelligence in response to those it receives. Transponders are used on aircraft to enable them to be identified by radar operators, and in instrument balloons for the determination of range and direction and the transmission of meteorological information.

(11) Radio apparatus for the remote control of ships, pilotless aircraft, rockets, missiles, toys, model ships or aircraft, etc.

(12) Radio apparatus for the detonation of mines, or for the remote control of machines.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the apparatus of this heading are classified in **heading 85.29**.

*

* *

Special purpose vehicles permanently equipped with radar or other apparatus of this heading are **excluded** (generally **heading 87.05**).

8526.10

- Radar apparatus

8526.9

- Other :

8526.91

-- Radio navigational aid apparatus

CLASSIFICATION OPINIONS

1. Distance Measuring Equipment (DME) designed to be used as part of an aircraft's radio navigation system, enabling the aircraft in flight to measure its distance from a ground-based beacon

by radio-electrical and not by optical or opto-electronic means.

Adoption : 1986

8526.92

-- Radio remote control apparatus

Heading 8527

Reception apparatus for radio-broadcasting, whether or not combined, in the same housing, with sound recording or reproducing apparatus or a clock.

EXPLANATORY NOTES

85.27 - Reception apparatus for radio-broadcasting, whether or not combined, in the same housing, with sound recording or reproducing apparatus or a clock.

- Radio-broadcast receivers capable of operating without an external source of power :

8527.12 - - Pocket-size radio cassette-players

8527.13 - - Otherapparatus combined with sound recording or reproducing apparatus

8527.19 - - Other

- Radio-broadcast receivers not capable of operating without an external source of power, of a kind used in motor vehicles :

8527.21 - - Combined with sound recording or reproducing apparatus

8527.29 - - Other

- Other :

8527.91 - - Combined with sound recording or reproducing apparatus

8527.92 - - Not combined with sound recording or reproducing apparatus but combined with a clock

8527.99 - - Other

The sound radio-broadcasting apparatus falling in this heading must be for the reception of signals by means of electro-magnetic waves transmitted through the ether without any line connection.

This group includes :

(1) Domestic radio receivers of all kinds (table models, consoles, receivers for mounting in furniture, walls, etc., portable models, receivers, whether or not combined, in the same housing, with sound recording or reproducing apparatus or a clock).

(2) Car radio receivers.

(3) Separately presented reception apparatus for incorporation in relay apparatus of **heading 85.25**.

(4) Pocket-size radio cassette-players (see Subheading Note 4 to this Chapter).

(5) Stereo systems (hi-fi systems) containing a radio receiver, put up in sets for retail sale, consisting of modular units in their own separate housing, e.g., in combination with a CD player, a cassette recorder, an amplifier with equaliser, loudspeakers, etc. The radio receiver gives the system its essential character.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the apparatus of this heading are classified in **heading 85.29**.

*

* *

The heading **excludes**, *inter alia* :

(a) Articles of heading**85.17** or **85.25**.

(b) Special purpose vehicles permanently equipped with radio-broadcasting receivers of this heading (generally **heading 87.05**).

8527.1

- Radio-broadcast receivers capable of operating without an external source of power :

8527.12

-- Pocket-size radio cassette-players

8527.13

-- Other apparatus combined with sound recording or reproducing apparatus

CLASSIFICATION OPINIONS

1. Portable, battery operated apparatus consisting of a housing incorporating a flash memory and a microprocessor in the form of integrated circuits (“chips”), an electronic system including an audio-frequency amplifier, an LCD screen, a microphone, a radio tuner and control buttons. The microprocessor is programmed to use the MP3 file format. The apparatus has connectors for stereo head- or earphones and for a remote control, and can be connected to an automatic data processing machine for downloading or uploading MP3 or other files (using a parallel or USB port). The storage capacity usually ranges from 32 to 64 MB.

Application of GIRs 1 and 6.

Adoption : 2002

8527.19

-- Other

CLASSIFICATION OPINIONS

1. Multi-purpose portable apparatus, consisting of the following in the same housing :

(i) an AM/FM radio receiver;

(ii) two fluorescent lights;

(iii) a search light;

(iv) a red signal light;

(v) an amber blinker;

(vi) a sonic alarm;

(vii) an integrated circuit which generates a verbal warning when the battery needs recharging;

(viii) a built-in rechargeable battery with AC220V and DC12V charger.

The apparatus is fitted with a handle and a shoulder strap.

Application of Note 3 to Section XVI.
Adoption : 1999

8527.2

- Radio-broadcast receivers not capable of operating without an external source of power, of a kind used in motor vehicles :

8527.21

-- Combined with sound recording or reproducing apparatus

8527.29

-- Other

8527.9

- Other :

8527.91

-- Combined with sound recording or reproducing apparatus

8527.92

-- Not combined with sound recording or reproducing apparatus but combined with a clock

8527.99

-- Other

Heading 8528

Monitors and projectors, not incorporating television reception apparatus; reception apparatus for television, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus.

EXPLANATORY NOTES

85.28 - Monitors and projectors, not incorporating television reception apparatus; reception apparatus for television, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus.

- Cathode-ray tube monitors :

8528.42 - - Capable of directly connecting to and designed for use with an automatic data processing machine of heading 84.71

8528.49 - - Other

- Other monitors :

8528.52 - - Capable of directly connecting to and designed for use with an automatic data processing machine of heading 84.71

8528.59 - - Other

- Projectors :

8528.62 - - Capable of directly connecting to and designed for use with an automatic data processing machine of heading 84.71

8528.69 - - Other

- Reception apparatus for television, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus :

8528.71 - - Not designed to incorporate a video display or screen

8528.72 - - Other, colour

8528.73 - - Other, monochrome

This heading includes :

(1) Monitors and projectors, not incorporating television reception apparatus.

(2) Television reception apparatus, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus, for the display of signals (television sets).

(3) Apparatus for the reception of television signals, without display capabilities (e.g., receivers of satellite television broadcasts).

Monitors, projectors and television sets utilize different technologies, such as CRT (cathode-ray tube), LCD (liquid crystal display), DMD (digital micromirror device), OLED (organic light-emitting diodes) and plasma, to display images.

Monitors and projectors may be capable of receiving a variety of signals from different sources. However, if they incorporate a television tuner they are considered to be reception apparatus for television.

(A) MONITORS CAPABLE OF DIRECTLY CONNECTING TO AND DESIGNED FOR USE WITH AN AUTOMATIC DATA PROCESSING MACHINE OF HEADING 84.71

This group includes monitors which are capable of accepting a signal from the central processing unit of an automatic data processing machine and provide a graphical presentation of the data processed. These monitors are distinguishable from other types of monitors (see (B) below) and from television receivers.

The monitors of this group may be characterised by the following features :

(i) They usually display signals of graphics adaptors (monochrome or colour) which are integrated in the central processing unit of the automatic data processing machine;

(ii) They do not incorporate a channel selector or video tuner;

(iii) They are fitted with connectors characteristic of data processing systems (e.g., RS-232C interface, DIN, D-SUB, VGA, DVI, HDMI or DP (display port) connectors);

(iv) The viewable image size of these monitors does not generally exceed 76 cm (30 inches);

(v) They have a display pitch size (usually smaller than 0.3 mm) suitable for close proximity viewing;

(vi) They may have an audio circuit and built-in speakers (generally, 2 watts or less in total);

(vii) They usually have control buttons situated in the front panel;

(viii) They usually cannot be operated by a remote control;

(ix) They may incorporate tilt, swivel and height adjusting mechanisms, glare-free surfaces, flicker-free display, and other ergonomic design characteristics to facilitate prolonged periods of viewing at close proximity to the monitor;

(x) They may utilize wireless communication protocol to display data from an automatic data processing machine of heading 84.71.

(B) MONITORS OTHER THAN THOSE CAPABLE OF DIRECTLY CONNECTING TO AND DESIGNED FOR USE WITH AN AUTOMATIC DATA PROCESSING MACHINE OF HEADING 84.71

This group includes monitors which are capable of receiving signals when connected directly to the video camera or recorder by means of composite video, s-video or co-axial cables, so that all the radio-frequency circuits are eliminated. They are typically used by television companies or for closed-circuit television (airports, railway stations, factories, hospitals, etc.). They can, moreover, have separate inputs for red (R), green(G) and blue (B), or be coded in accordance with a particular standard (NTSC, SECAM, PAL, D-MAC, etc.). For reception of coded signals, the monitor must be equipped with a decoding device covering (the separation of) the R, G and B signals. They are not

fitted with connectors characteristic of data processing systems, and they do not incorporate tilt, swivel and height adjusting mechanisms, glare-free surfaces, flicker-free display, and other ergonomic design characteristics to facilitate prolonged periods of viewing at close proximity to the monitor. They do not incorporate a channel selector or video tuner.

(C) PROJECTORS

Projectors enable the image normally reproduced on the screen of a television receiver or of a monitor to be projected on an external surface. They may be based on CRT or flat panel (e.g., DMD, LCD, plasma) technology.

(D) RECEPTION APPARATUS FOR TELEVISION

This group includes apparatus whether or not designed to incorporate a video display or screen, such as :

(1) Receivers of television broadcasts (terrestrial, cable or satellite) which do not include a display device (CRT, LCD, etc.). These apparatus receive signals and convert them into a signal suitable for display. They may also incorporate a modem for connection to the Internet.

These receivers are intended to be used with video recording or reproducing apparatus, monitors, projectors or televisions. However, devices which simply isolate high-frequency television signals (sometimes called video tuners) are to be classified as parts in **heading 85.29**.

(2) Television receivers for industrial use (e.g., for reading instruments at a distance, or for observation in dangerous localities). With this apparatus the transmission is often by line.

(3) Television receivers of all kinds (LCD, plasma, CRT, etc.) used in the home (television sets), whether or not incorporating a radio-broadcast receiver, video cassette recorder, DVD player, DVD recorder, satellite receiver, etc.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the apparatus of this heading are classified in **heading 85.29**.

*

* *

The heading **excludes**, *inter alia* :

(a) Video recording or reproducing apparatus (**heading 85.21**).

(b) Special purpose vehicles (e.g., vans for broadcasting) permanently equipped with television receivers or other apparatus of this heading (generally **heading 87.05**).

(c) Cinematographic projectors (**heading 90.07**) and image projectors of **heading 90.08**.

8528.4

- Cathode-ray tube monitors :

8528.42

-- Capable of directly connecting to and designed for use with an automatic data processing machine of heading 84.71

8528.49

-- Other

8528.5

- Other monitors :

8528.52

-- Capable of directly connecting to and designed for use with an automatic data processing machine of heading 84.71

CLASSIFICATION OPINIONS

1. **Colour monitor** comprising a 22 inch (55.88 cm) TFT LCD (thin film transistor liquid crystal display) panel combined in the same housing with control circuitry, DVI-D (digital visual interface - for digital signal only) and VGA (Video Graphics Array) input connectors and adjustment LED (light emitting diode) touch-sensor controls.
The monitor includes the following components and features :

- Colour saturation 72 % (NTSC);
- True resolution 1680 x 1050 pixels, pixel pitch 0.282 mm, display colour 16.7 million colours;
- Brightness (max) 250 cd/m2;
- Contrast ratio 50000:1;
- Viewing angle 170° (H) / 160° (V);
- Response time 2 ms (Gray-to-Gray);
- Video features : Trace Free Technology, Splendid Video Intelligence Technology, Splendid Video Preset Modes (5 modes), Skin-Tone Selection (3 modes), HDCP (High-bandwidth Digital Content Protection) support, Colour Temperature Selection (5 modes);
- Touch-sensor controls for Splendid Video Preset Mode selection, auto adjustment, brightness and contrast adjustment and input selection;
- Analogue and Digital Signal Frequencies : 30 - 83°KHz (H) / 50 - 75 Hz (V).

Application of GIRs 1 and 6.
Adoption : 2011



2. **Colour monitor** comprising a 23.1 inch (58.67 cm) thin film transistor active-matrix liquid crystal display (TFT AMLCD) panel combined with control circuitry, input receptacles and

adjustment controls in a case suitable for mounting in place and certified as suitable for installation in a marine environment. It is exclusively designed, tested and type-approved for and used in navigation and automation systems on ships, and is always used in a system configuration with an automatic data processing machine as its primary control and signal source.
The monitor includes the following components and features :

- Resolution : 1600 x 1200 pixels, pixel pitch 0.294 x 0.294 mm, up to 16.7 million colours;
- Brightness : 400 cd/m2;
- Contrast ratio : 600:1;
- Viewable Angle : ± 85° (Up/Down/Left/Right);
- Response time : 12 ms (Black-White-Black) or 8 ms (Gray-to-Gray);
- Images supported : VGA (Video Graphics Array), SVGA (Super VGA), XGA (Extended Graphics Array), SXGA (Super XGA), UXGA (Ultra XGA), WUXGA (Wide UXGA);
- Video standards supported : Interlaced NTSC and PAL/SECAM video, Composite video;
- Surface capacitive touch-sensitive screen;
- Signal input/output receptacles : DVI-I (digital visual interface – for both digital and analog signals) Signal IN, RGB Signal IN (HD D-SUB), RGB Signal OUT (HD D-SUB), Multifunction (D-SUB), USB (Universal Serial Bus) I/O (Type B Connector);
- Power terminals : AC Power IN (Standard IEC (International Electrotechnical Commission) Inlet), DC Power IN (D-SUB Connector), AC Power OUT (Standard IEC Outlet);
- Controls on front bezel : Power, brightness, hotkeys (left/right – push buttons), Mode Status Red/Orange/Green Illuminated LED (light-emitting diode)-ring indicator.

Application of GIRs 1 and 6.
Adoption : 2013



3. Colour monitor comprising a 19 inch (48.3 cm) thin film transistor liquid crystal display (TFT LCD) active-matrix panel combined in the same housing with control circuitry, two USB (Universal Serial Bus) downstream connectors, one USB upstream connector, one DVI-D (digital visual interface – for digital signal only) connector, one VGA (Video Graphics Array) connector and front panel controls (Menu, Minus/Auto, Plus/Input, Power).
The monitor has the following basic features :

- Resolution (max) : 1280 x 1024 (60 Hz) pixels (analog and digital inputs), pixel pitch 0.294 mm;
- Brightness : 250 cd/m2;
- Contrast ratio : 1000:1;

- Horizontal frequency : 24 – 83 KHz;
- Vertical refresh rate : 50 – 75 Hz.

Application des RGI 1 et 6.
Adoption : 2013

1 AC Power Connector**2** USB Downstream Connectors**3** USB Upstream Connector**4** DVI-D Connector**5** VGA Connector

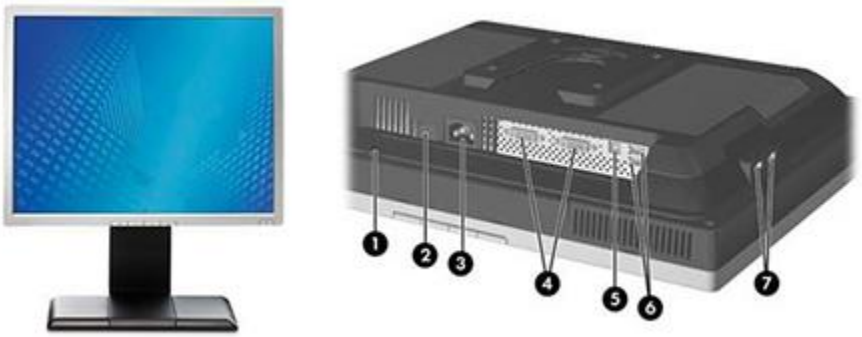


4. Colour monitor comprising a 20.1 inch (51 cm) thin film transistor liquid crystal display (TFT LCD) active-matrix panel combined in the same housing with control circuitry, one USB (Universal Serial Bus) upstream connector, four USB downstream connectors, two DVI-I (digital visual interface – for both digital and analog signals) connectors and front panel controls (Menu, Minus/Auto, Plus, Input Select, Power). The monitor has the following basic features :

- Resolution (max) : 1600 x 1200 (75 Hz) pixels (analog and digital inputs), pixel pitch 0.258 mm;
- Brightness : 300 cd/m2;
- Contrast ratio : 1000:1;
- Horizontal frequency : 30 – 94 KHz;
- Vertical refresh rate : 48 – 85 Hz.

Application des RGI 1 et 6.
Adoption : 2013

1 Cable Lock Provision**2** Master Power Switch**3** AC Power Connector**4** DVI-I Connectors**5** USB Upstream Connector**6** USB Downstream connectors**7** USB Downstream connectors (side panel)



5. Colour monitor comprising a 23 inch (58.4 cm) active-matrix thin film transistor liquid crystal display (TFT LCD) panel combined in the same housing with control circuitry, integrated speakers, one VGA (Video Graphics Array) connector, one HDMI (High-Definition Multimedia Interface) connector, one Audio-In connector and front panel controls (Menu, Minus/Volume, Plus/Source, Select/Auto).

The monitor has the following basic features :

- Resolution (max) : 1920 x 1200 (60 Hz) pixels (analog input), pixel pitch 0.265 mm;
- Brightness : 300 cd/m2;
- Contrast ratio : 1000:1;
- Horizontal frequency : 24 – 83 KHz;
- Vertical refresh rate : 48 – 76 Hz;
- Supports High-bandwidth Digital Content Protection (HDCP) to prevent transmission of non-encrypted high definition content.

Application of GIRs 1 and 6.
Adoption : 2015





6. Colour monitor, comprising of a 27-inch (68.58 cm) flat-panel display. It is capable of directly connecting to an automatic data processing (ADP) machine via one VGA or two HDMI connectors. The monitor is designed for use with an ADP machine and does not include a channel selector, a video tuner or speakers. Specifications :

- Aspect Ratio : 16:9
- Pixel pitch : 0.311 mm
- Response time : 8 ms gray to gray
- Brightness : 250 cd/m²
- Contrast ratio : 1000:1 static; 5000000:1 dynamic
- Viewing angle : 178° horizontal; 178° vertical
- Video input signal : 1 VGA; 2 HDMI (with HDCP (High-bandwidth Digital Content Protection) support)
- Resolution : 1920 x 1080

Application of GIRs 1 and 6.
Adoption : 2018



7. Colour monitor, comprising of a 32-inch (81.28 cm) flat-panel display. It is capable of directly connecting to an automatic data processing (ADP) machine via two HDMI, three USB 2.0, or one Display Port 1.2 connector. The monitor is designed for use with an ADP machine and does not include a channel selector, a video tuner or speakers. Specifications :

- Aspect Ratio : 16:9
- Pixel pitch : 0.276 mm
- Response time : 7 ms gray to gray
- Brightness : 300 cd/m²
- Contrast ratio : 3000:1 static; 10000000:1 dynamic
- Viewing angle : 178° horizontal; 178° vertical
- Video input signal : 2 HDMI (with HDCP support); DisplayPort 1.2 (with HDCP support)
- Connectivity : 3 USB 2.0 (two downstream; one upstream)
- Resolution : 2560 x 1440 (60Hz)

Application of GIRs 1 and 6.
Adoption : 2018



8. **Colour monitor**, comprising of a 55-inch (139.70 cm) flat-panel display. It is capable of directly connecting to an automatic data processing (ADP) machine via the following connectors : one HDMI, one DVI-D, one VGA, one YPbPr, one USB 2.0, one RJ-45 (Ethernet), an infrared (IR) input/output jack and an audio input/output jack. It is designed for use with an ADP machine. Specifications :

- Aspect Ratio : 16:9
- Pixel pitch : 0.63 mm
- Response time : 9 ms gray to gray
- Brightness : 350 cd/m²
- Contrast ratio : 1200:1
- Viewing angle : 178° horizontal; 178° vertical
- Video input signal : VGA (D-Sub), DVI-D, HDMI; YPbPr (HDCP support on DVI and HDMI)
- Connectivity : USB 2.0
- Resolution 1920 x 1200 (60 Hz)

Application of GIRs 1 and 6.
Adoption : 2018



8528.59

-- Other
8528.6

- Projectors :
8528.62

-- Capable of directly connecting to and designed for use with an automatic data processing machine of heading 84.71

CLASSIFICATION OPINIONS

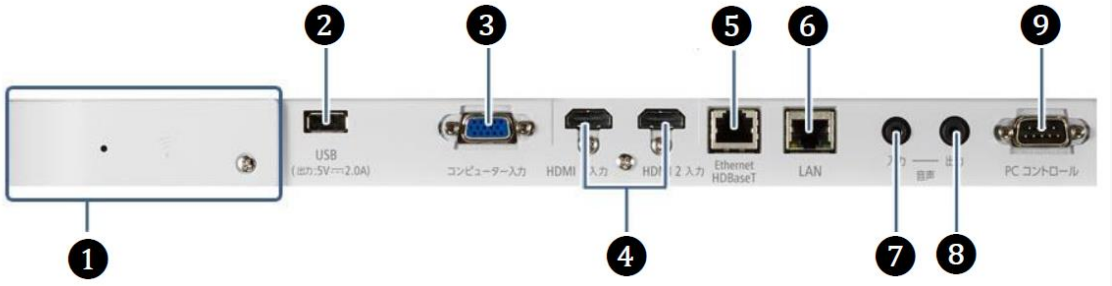
1. **Colour desktop LCD** (liquid crystal display) **projector.** This projector has a resolution of 640 x 480 pixels, is capable of displaying 16 M colours and is exclusively intended to be connected to an automatic data processing machine in order to project images generated by that machine on a large screen. It has built-in amplifier/speakers which enable users to connect to a wireless microphone, portable CD player or to the auxiliary output of a stereo system. **Application of GIRs 1 (Note 6 (D) (v) to Chapter 84) and 6.** *Adoption : 1999*

2. Projector, designed to be used in lecture rooms and large conference rooms. It is designed for use with an ADP (automatic data processing) machine and is capable of being connected to an ADP machine via two HDMI (audio/video input), one USB control terminal, one VGA (video input) or one D-Sub 9 pin connector control terminal. The light source is a laser, and the projection method is 1DLP (Digital Light Processing). The projector supports LAN, and has built-in speakers. It does not include a channel selector or TV tuner.

Specifications :
- Resolution : 1280 x 800
- Aspect Ratio : 16:10
- Brightness : 5000 lm

Application of GIRs 1 and 6.
Adoption : 2022





❶ Wireless LAN cover



❷ USB connector
❸ VGA connector
❹ HDMI connector
❺ Ethernet / HDBaseT Port
❻ LAN Port
❼ Audio input terminal
❽ Audio output terminal
❾ D-Sub 9 pin connector

8528.69

-- Other

CLASSIFICATION OPINIONS

1. **Colour desktop LCD** (liquid crystal display) **projector.** This projector has a resolution of 640 x 480 pixels, is capable of displaying 16 M colours and may be connected to an automatic data processing machine, a videocassette recorder or a laser disc player. It has built-in amplifier/speakers which enable users to connect to a wireless microphone, portable CD player or to the auxiliary output of a stereo system. **Application of GIR 3 (c).** *Adoption : 1999*

2. **Projector** used in the graphics industry for reproducing images of signals received from automatic data processing machines and video sources, with a 22.5 cm (9 inch) high-resolution cathode ray tube and advanced optical/electrical technologies (resolution of 2,000 x 1,600 pixels for the highest frequency computer graphics images). **Application of GIR 3 (c).** *Adoption : 1999*



8528.7

- Reception apparatus for television, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus :

8528.71

-- Not designed to incorporate a video display or screen

CLASSIFICATION OPINIONS

1. Satellite television reception system, consisting of :

(i) a parabolic aerial reflector dish;
(ii) a control rotator for the reflector dish;
(iii) a feed horn (wave guide);
(iv) a polarizer (device which rotates the feed horn depending on whether the wave is vertical or horizontal);
(v) a low-noise-block (LNB) down converter;
(vi) a receiver;
(vii) an infra-red remote control.

These elements are presented together as a complete system for receiving satellite broadcasts.
Application of Note 4 to Section XVI.
Adoption : 1997

2. Receiver of satellite television broadcasts, which receives amplified down-converted frequency signals from a low-noise-block (LNB) down converter and selects a single signal (channel) for display, thus acting as a channel selector or tuner. It also contains a reception device for remote signals to change the channel or to rotate the aerial and polarizer.
Adoption : 1997

3. Terminal for receiving satellite broadcast video signals by cable and for sending them to a TV receiver (or a video monitor) or to a video recording apparatus. It incorporates a combined modulator-demodulator (modem) and interfaces, making it possible to :

- send and receive faxes and E-mails or get access to Internet through the incorporated modem;
- connect a printer at the RS232 port and print received faxes;
- download broadcast data to an automatic data processing machine or connect a CD-ROM drive to this terminal through the Small Computer Systems Interface (SCSI) port.

The terminal is presented together with an infrared remote control apparatus.
Application of Note 4 to Section XVI.
Adoption : 1997

4. Modem-based (broadband) set top box having a communication function allowing the user to access the Internet, send and receive e-mail through a telephone line connection, containing a microprocessor, memory (128 MB RAM and 64 MB flash memory), two USB ports, audio/video output jacks, phone jack, ethernet jack and built-in operating and application software optimised for television. It receives digital signals and converts them for display on an external display (e.g., television set, video monitor). It is presented with a wireless keyboard, a remote control, an audio/video cable, a phone cord, a telephone-line T-splitter, a registration card, a power supply and setup and user guides.
Application of GIRs 1 and 6.
Adoption :2006

8528.72

-- Other, colour

8528.73

-- Other, monochrome

Heading 8529

Parts suitable for use solely or principally with the apparatus of headings 85.24 to 85.28.

EXPLANATORY NOTES

85.29 - Parts suitable for use solely or principally with the apparatus of headings 85.24 to 85.28.

8529.10 - Aerials and aerial reflectors of all kinds; parts suitable for use therewith

8529.90 - Other

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), this heading covers parts of the apparatus of the five preceding headings. The range of parts classified here includes :

(1) Aerials of all kinds and aerial reflectors, transmission and reception.

(2) Rotor systems for radio-broadcast or television-broadcast receiving aerials consisting essentially of an electric motor mounted on the aerial mast to rotate it and a separate control box to aim and position the aerial.

(3) Cases and cabinets specialised to receive the apparatus of headings 85.25 to 85.28.

(4) Aerial filters and separators.

(5) Frames (chassis).

*

* *

This heading **excludes** :

(a) Aerial masts (e.g., heading 73.08).

(b) High-tension generators (heading 85.04).

(c) Accumulators for cellular phones also referred to as mobile phones (heading 85.07).

(d) Parts equally suitable for use principally with the goods of heading 85.17 and of headings 85.25 to 85.28 (heading 85.17).

(e) Earphones and headphones, whether or not combined with a microphone, for telephony or telegraphy as well as earphones and headphones which can be connected to radio or television receivers (heading 85.18).

(f) Cathode-ray tubes and parts thereof (e.g., deflection coils) (heading 85.40).

(g) Aerial amplifiers and radio-frequency oscillator units (heading 85.43).

(h) Lenses and optical filters for television cameras (heading 90.02).

(ij) Monopods, bipods, tripods and similar articles (heading 96.20).

8529.10

- Aerials and aerial reflectors of all kinds; parts suitable for use therewith

CLASSIFICATION OPINIONS

1. **Parabolic aerial reflector dish,** for satellite television reception.
Adoption : 1997

2. **Control rotator for a reflector dish,** designed to be used with a parabolic aerial dish for satellite television reception.
Adoption : 1997

3. **Feed horn (wave guide),** made of aluminium, which has a tubular space for conducting the electromagnetic waves, transmitted by the satellite, to the low-noise-down converter. It is also fitted with three threaded heads for supports to be fixed onto the parabolic reflector dish.
Adoption : 1997

4. **Polarizer,** a device designed to be incorporated in a low-noise-block (LNB) down converter to enable a feed horn (wave guide) connected to that converter to be rotated according to whether the wave is vertical or horizontal.
Adoption : 1997

5. **Parabolic aerial (parabolic antenna)** for receiving satellite television broadcasts, comprising a **reflector** dish, a control rotator for the reflector dish, a feed horn (wave guide) and a low-noise-block (LNB) down converter incorporating a polarizer.
Adoption : 1997

8529.90

- Other

Heading 8530

Electrical signalling, safety or traffic control equipment for railways, tramways, roads, inland waterways, parking facilities, port installations or airfields (other than those of heading 86.08).

EXPLANATORY NOTES

85.30 - Electrical signalling, safety or traffic control equipment for railways, tramways, roads, inland waterways, parking facilities, port installations or airfields (other than those of heading 86.08).

8530.10 - Equipment for railways or tramways

8530.80 - Other equipment

8530.90 - Parts

This heading covers all electrical equipment used for controlling the traffic on railways, hovertrain systems, roads or inland waterways. To a certain extent similar equipment is also used for controlling ships or boats (e.g., in harbours), aircraft (e.g., at airports) and for parking facilities, and this equipment is also covered by the heading. But the heading **excludes** similar equipment which is operated mechanically, even if incorporating minor electrical features (e.g., mechanical signals with electrical

means of illumination, or hydraulic or pneumatic controls set in motion electrically); this falls in **heading 86.08**.

Static signs, even if lit electrically (e.g., illuminated panels used as direction signs), are not regarded as traffic control equipment. They are therefore not covered by this heading but are classified in their own appropriate headings (**headings 83.10, 94.05**, etc.).

(A) **Railway or tramway equipment (including equipment for underground mine railways) and hovertrain transport system equipment**. This falls in two groups :

(1) **Signalling or safety equipment**. This consists of the actual signals (usually a number of coloured lights, or moving arms or discs, mounted on a post or in a framework of some sort), the actuating equipment and the control equipment (whether hand-operated or automatic).

Signalling equipment of this kind is used for the control of traffic at stations, junctions, level crossings, etc., or for controlling the passage of a number of trains over the same sections of line. The latter type includes automatic section signalling equipment, the passage of a train from one section of a track to the next automatically operating the necessary signals.

The heading also covers equipment for signalling to stations or to signal boxes (either by means of a warning bell or a visual display) the position or approach of trains, or the position taken up by points, signals, etc.

Certain types of signalling equipment incorporate means of passing the signal direct to the cab of the engine itself. Contacts or sensors mounted on the line actuate a mechanism on the engine as it passes, and either give visual or audible warning to the driver in the cab itself or, in some cases, operate the controls of the engine to bring it to a stop. That part of the equipment mounted in the engine is not covered by this heading.

(2) **Track control equipment**, e.g., equipment for the remote control of points. This equipment consists essentially of the actual operating equipment (including in some cases locking devices) which is mounted on the track near each set of points, and the control panel and equipment mounted at some centralised control point (signal box, etc.).

This group includes certain complex equipment for the automatic control of wagons in marshalling yards, e.g., progression relay storage equipment and wagon movement control apparatus (“ball robot”) installed in some big marshalling yards.

(B) **Equipment for roads, inland waterways or parking facilities**. This group includes :

(1) **Automatic level crossing signals**, e.g., winking lights, bells, illuminated stop signs.

Electrical equipment for operating gates or barriers is also covered by this heading.

(2) **Traffic lights**. These usually consist of a system of coloured lights installed at cross-roads, junctions, etc. They comprise the actual light installations, control equipment and means of operating the controls. The lights may be hand-operated (lights operated by a traffic policeman or, on certain pedestrian crossings, by the pedestrian) or automatic (lights operated on a time basis, and lights operated by the passage of vehicles, either by means of photoelectric cells or by contacts placed on the road).

(C) **Electrical traffic control equipment for port installations or airfields**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here.

*

* *

The heading **does not cover** electrical lighting or signalling equipment for mounting on cycles or motor vehicles (**heading 85.12**).

8530.10

- Equipment for railways or tramways

8530.80

- Other equipment

8530.90

- Parts

Heading 8531

Electric sound or visual signalling apparatus (for example, bells, sirens, indicator panels, burglar or fire alarms), other than those of heading 85.12 or 85.30.

EXPLANATORY NOTES

85.31 - Electric sound or visual signalling apparatus (for example, bells, sirens, indicator panels, burglar or fire alarms), other than those of heading 85.12 or 85.30.

8531.10 - Burglar or fire alarms and similar apparatus

8531.20 - Indicator panels incorporating liquid crystal devices (LCD) or light-emitting diodes (LED)

8531.80 - Other apparatus

8531.90 - Parts

With the **exception** of signalling apparatus used on cycles or motor vehicles (**heading 85.12**) and that for traffic control on roads, railways, etc. (**heading 85.30**), this heading covers all electrical apparatus used for signalling purposes, whether using sound for the transmission of the signal (bells, buzzers, hooters, etc.) or using visual indication (lamps, flaps, illuminated numbers, etc.), and whether operated by hand (e.g., door bells) or automatically (e.g., burglar alarms).

Static signs, even if lit electrically (e.g., lamps, lanterns, illuminated panels, etc.) are not regarded as signalling apparatus. They are therefore not covered by this heading but are classified in their own appropriate headings (**headings 83.10**, **94.05**, etc.).

The heading includes, *inter alia* :

(A) **Electric bells, buzzers, door chimes, etc**. The bells consist essentially of an electro-magnetically operated appliance which causes a small hammer to vibrate and strike a bell dome. Buzzers are similar but without the bell dome. Both are used very extensively for domestic purposes (e.g., as door bells), and in offices, hotels, etc. The heading also covers electric door chimes in which one or more metal tubes are struck, emitting a musical note or series of musical notes, and electrically operated church bells, **other than** carillons suitable for playing music (**Chapter 92**).

Electric bells and door chimes are usually designed to be operated from a low tension supply (primary cell or battery), but in certain cases they incorporate a transformer to step down the mains voltage.

(B) **Electric sound signalling apparatus, horns, sirens, etc**. The sound is produced by a vibrating reed, by a rotating disc set in motion electrically or electronic sound generator; they include factory sirens, air raid sirens, ships' sirens, etc.

(C) **Other electrical signalling apparatus** (winking or intermittent lights, etc.) for aircraft, ships, trains or other vehicles (**other than** for cycles or motor vehicles **heading 85.12**), but not radio or radar apparatus of **heading 85.26**.

(D) **Indicator panels and the like**. These are used (e.g., in offices, hotels and factories) for calling personnel, indicating where a certain person or service is required, indicating whether a room is free or not. They include :

(1) **Room indicators**. These are large panels with numbers corresponding to a number of rooms. When a button is pressed in the room concerned the corresponding number is either lit up or exposed by the falling away of a shutter or flap.

(2) **Number indicators**. The signals appear as illuminated figures on the face of a small box; in some apparatus of this kind the calling mechanism is operated by the dial of a telephone. Also clock type indicators in which the numbers are indicated by a hand moving round a dial.

(3) **Office indicators**, for example, those used to indicate whether the occupant of a particular office is free or not. Some types are merely a simple "come in" or "engaged" sign illuminated at will by the occupant of the office.

(4) **Lift indicators**. These indicate, on an illuminated board, where the lift is and whether it is going up or down.

(5) **Engine room telegraph apparatus for ships**.

(6) **Station indicating panels** for showing the times and platforms of trains.

(7) **Indicators for race courses, football stadiums, bowling alleys, etc**.

Certain of these indicator panels, etc., also incorporate bells or other sound signalling devices.

The heading **does not cover** public maps of roads or railways in which a particular place, road, section or route is illuminated on pressing an appropriate button, nor electric advertising signs.

(E) **Burglar alarms**. These consist of two parts : a detecting part, and a signalling part (bell, buzzer, visual indicator, etc.) which is set off automatically when the detecting part operates. Burglar alarms operate by various means, e.g. :

(1) **By electrical contacts** which are operated by stepping on a certain part of the floor, opening a door, breaking or touching fine wires, etc.

(2) **By capacitance effects**. These are used often in connection with safes; the safe acts as one plate of a capacitor whose capacitance is affected by the approach of any body, thus upsetting the electrical circuit and setting off the alarm.

(3) **Photoelectric devices**. A ray (often of infra-red light) is focussed on a photoelectric cell; when the ray is interrupted, the change in current in the photoelectric cell circuit sets off the alarm.

(F) **Fire alarms**. Automatic alarms also consist of two parts : a detecting part, and a signalling part (bell, buzzer, visual indicator, etc.). They include :

(1) **Apparatus operated by a fusible product** (wax or special alloy) which melts when the temperature rises above a certain point, thus allowing electrical contacts to close and set off the alarm.

(2) **Apparatus based on the expansion of a bi-metal strip, liquid or gas** - expansion beyond a certain point operating the alarm. In one type, the expansion of a gas forces a piston to move in a cylinder; a valve is incorporated so that a slow expansion does not set off the alarm, but only a sudden expansion due to a sudden rise in temperature.

(3) **Apparatus based on the variation in the electrical resistance** of an element subjected to a change in temperature.

(4) **Apparatus based on photoelectric cells**. A ray of light is focussed on the cell and, if obscured to a predetermined extent by smoke, operates the alarm. Similar apparatus fitted with a graduated indicator or a recording system fall in **Chapter 90**.

In addition to the automatic fire alarms, the heading also covers non-automatic alarms, such as are mounted in streets, for calling the fire brigade.

(G) **Electric vapour or gas alarms**, consisting of a detector and a sound or visual alarm, to warn of the presence of hazardous gaseous mixtures (e.g., natural gas, methane).

(H) **Flame alarms** (flame detectors) incorporating a photoelectric cell which operates the alarm through a relay when the flame lights or goes out. Detectors not incorporating electric sound or visual alarm devices are classified in **heading 85.36**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here.

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* *

The heading also **excludes** :

(a) Switches and switch-panels, whether or not incorporating simple indicating lights (**heading 85.36** or **85.37**).

(b) Fire alarms incorporating smoke detectors containing a radioactive substance (**heading 90.22**).

(c) LCD monitors or television receivers (**heading 85.28**).

8531.10

- Burglar or fire alarms and similar apparatus

8531.20

- Indicator panels incorporating liquid crystal devices (LCD) or light-emitting diodes (LED)

8531.80

- Other apparatus

8531.90

- Parts

Heading 8532

Electrical capacitors, fixed, variable or adjustable (pre-set).

EXPLANATORY NOTES

85.32 - Electrical capacitors, fixed, variable or adjustable (pre-set) (+).

8532.10 - Fixed capacitors designed for use in 50/60 Hz circuits and having a reactive power handling capacity of not less than 0.5 kvar (power capacitors)

- Other fixed capacitors :

8532.21 - - Tantalum

8532.22 - - Aluminium electrolytic

8532.23 - - Ceramic dielectric, single layer

8532.24 - - Ceramic dielectric, multilayer

8532.25 - - Dielectric of paper or plastics

8532.29 - - Other

8532.30 - Variable or adjustable (pre-set) capacitors

8532.90 - Parts

Electrical capacitors (or condensers) consist, in principle, of two conducting surfaces separated by an insulating material (dielectric), e.g., air, paper, mica, oil, resins, rubber and plastics, ceramics or glass.

They are used for various purposes in many branches of the electrical industry (e.g., to improve the power factor of AC circuits, to produce phase-shifted currents for rotating fields in induction motors, to protect electrical contacts from the effects of arcing, for storing and releasing given quantities of electricity, in oscillating circuits, in frequency filters, and very widely in the radio, television or telephone industries or for industrial electronic equipment).

Their characteristics (shape, size, capacitance, nature of dielectric, etc.) vary according to their intended use. The heading, however, covers all capacitors irrespective of their type and method of manufacture and whatever their intended use (including standard capacitors used in laboratories or in numerous measuring instruments, specially made within fine limits and designed to remain constant during use).

The heading also covers capacitors grouped together on a chassis or in a container (e.g., certain large power factor capacitors and capacitor boxes consisting of a number of standard capacitors with means of connecting them together, in series or in parallel, to obtain any required capacitance).

(A) FIXED CAPACITORS

Fixed capacitors are those in which the capacitance cannot be varied. The main types are : dry capacitors, “oil” impregnated capacitors, “gas” impregnated capacitors, “oil” filled capacitors and electrolytic capacitors.

(1) In dry capacitors the plates and dielectric are usually in the form of superimposed plates or rolled strip or foil. In certain dry capacitors a metal covering is applied by a chemical or thermic process to a fixed dielectric. Dry capacitors may be enclosed in a clamp-equipped box or be used without a box.

(2) “Oil” impregnated capacitors are similar to dry capacitors but the dielectric, usually of plastic film or plastic film and paper, is impregnated with oil or other liquid.

(3) “Gas” impregnated capacitors are capacitors consisting of two or more electrodes separated by a gas, other than air, which serves as a dielectric.

(4) In some cases the capacitor (“oil filled capacitor”) is enclosed in a container filled with oil or other suitable liquid, and many incorporate accessory devices such as pressure gauges and safety valves.

(5) In electrolytic capacitors, one of the plates is generally of aluminium or tantalum while the role of the other is fulfilled by a suitable electrolyte to which the current is led by means of an electrode, sometimes similar in form to the aluminium or tantalum plate. The electrolytic action produces on the aluminium or tantalum a thin layer of complex chemical compounds which thereafter constitutes the dielectric. The capacitor is sometimes enclosed in a container, but generally the outer electrode itself constitutes the container; these capacitors are often fitted with a pin base similar to that of a valve. Certain capacitors of this type containing a pasty form of electrolyte are also called “dry electrolytic capacitors”.

(B) VARIABLE CAPACITORS

Variable capacitors are those in which the capacitance can be varied at will. In most cases air is the dielectric, and the plates usually consist of two groups of metal plates, one group fixed while the other, mounted on an axis, can be turned so that its plates can pass between the fixed plates. The degree to which the mobile plates (rotors) are turned and overlap with the fixed plates (stators) varies the capacitance of the capacitor.

(C) PRE-SET OR ADJUSTABLE CAPACITORS

Pre-set or adjustable capacitors (including trimming capacitors) are those in which the capacitance can be adjusted within narrow limits to a precise value. This adjustment can be made in different ways. In certain types the distance between the plates may be varied by means of a screw. Other types consist of two metal cylinders, one of which can be moved to a variable extent within the other or of two mutually moved semicircles. Usually, the dielectrics used are, for example, mica, ceramics, plastics or air.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of capacitors are also classified here.

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The heading **does not cover** certain synchronous motors used for power factor improvement, even though they are often called “synchronous capacitors” (**heading 85.01**).

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° °

Subheading Explanatory Notes.

Subheading 8532.23

This subheading covers single layer ceramic dielectric fixed capacitors, which are in the form of discs or tubes.

Subheading 8532.24

This subheading covers multilayered ceramic dielectric fixed capacitors, which have connecting leads or are in the form of chips.

8532.10

- Fixed capacitors designed for use in 50/60 Hz circuits and having a reactive power handling capacity of not less than 0.5 kvar (power capacitors)

8532.2

- Other fixed capacitors :

8532.21

-- Tantalum

8532.22

-- Aluminium electrolytic

8532.23

-- Ceramic dielectric, single layer

8532.24

-- Ceramic dielectric, multilayer

8532.25

-- Dielectric of paper or plastics

8532.29

-- Other

8532.30

- Variable or adjustable (pre-set) capacitors

8532.90

- Parts

Heading 8533

Electrical resistors (including rheostats and potentiometers), other than heating resistors.

EXPLANATORY NOTES

85.33 - Electrical resistors (including rheostats and potentiometers), other than heating resistors.

8533.10 - Fixed carbon resistors, composition or film types

- Other fixed resistors :

8533.21 - - For a power handling capacity not exceeding 20 W

8533.29 - - Other

- Wirewound variable resistors, including rheostats and potentiometers :

8533.31 - - For a power handling capacity not exceeding 20 W

8533.39 - - Other

8533.40 - Other variable resistors, including rheostats and potentiometers

8533.90 - Parts

(A) **Resistors (resistances)**. These are conductors whose function is to provide a given electrical resistance in a circuit (e.g., to limit the current flowing). They vary greatly in size and shape, and in the materials of which they are made. They may be made of metals (in the form of bars, shapes or wire, often coiled in bobbins) or of carbon in the form of rods, or of carbon, silicon carbide, metal or metal oxide film. They may be obtained in the form of individual components by a printing

process. Certain resistors may be fitted with a number of terminals allowing the whole or part to be included in the circuit.

The heading includes :

(1) **Oil immersed resistors**.

(2) **Carbon resistance lamps**, in the form of an electric light bulb but with a special carbon filament; however, carbon filament lamps for lighting purposes are **excluded** (**heading 85.39**).

(3) **Barretters** consisting of iron filaments assembled in a glass tube filled with hydrogen or helium; these have the property of varying automatically within certain limits and so keeping the current constant.

(4) **Standard resistors** used for comparison and measuring purposes (e.g., in laboratories); also resistance boxes consisting of a number of such resistors assembled in a box with switching or terminal arrangements for connecting any required combinations of the resistors into the circuit.

(5) **Non-linear resistors** : depending on temperature (thermistors) with a negative or positive temperature coefficient (usually mounted in glass tubes), and non-linear resistors depending on voltage (varistors/VDR), but **not including** varistor diodes of **heading 85.41**.

(6) **Resistors known as "strain gauges"** being the sensitive elements of a strain measuring instrument.

The heading **excludes** :

(a) Heating resistors (heading 85.16 or 85.45).

(b) Light dependent resistors (**heading 85.41**).

(B) **Rheostats**. These are variable resistors with a sliding contact or other means enabling the value of resistance in the circuit to be varied at will. They include, slide wire rheostats with a cursor sliding over a resistance coil; step-by-step rheostats; hydro-rheostats with movable electrodes immersed in a liquid conductor; automatic rheostats (e.g., with minimum or maximum current or voltage operating mechanisms); and centrifugal rheostats.

Certain rheostats are designed for particular purposes (e.g., theatre dimmers used in a lighting circuit to extinguish the lighting slowly; and motor starters and controllers consisting of a number of resistors with the necessary switching arrangement for switching in or out one or more resistors in the motor circuit). Nevertheless, they remain classified here.

(C) **Potentiometers**. These consist of a fixed resistor between two contacts and a sliding tapping which can make contact on any point of the resistor.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the resistors of this heading are also classified here.

8533.10

- Fixed carbon resistors, composition or film types

8533.2

- Other fixed resistors :

8533.21

-- For a power handling capacity not exceeding 20 W

8533.29

-- Other

CLASSIFICATION OPINIONS

1. Polymeric Positive Temperature Coefficient (PTC) Thermistor Circuit Protectors being devices which have a conductive polymer composition and which act to increase the electrical resistance of the device as its temperature increases. The PTC effect limits the flow of the current to a point where only a “trickle” of electricity still flows in order to protect sensitive electronics such as solid-state (silicon-based) integrated circuits. The thermistor limits the current but does not break the circuit. When the temperature decreases below its designated “trip” point, the resistance of the device reverts back to its original state. These devices have two primary uses. They can be placed in a series and used as an overcurrent protector or they can be used as temperature sensors to protect sensitive electrical components from damage when the application exceeds a defined temperature. While the generic term for these devices is sometimes called “resettable fuses”, technically these are not fuses but are non-linear thermistors.

Application of GIRs 3 (a) and 6.

Adoption : 2005

8533.3

- Wirewound variable resistors, including rheostats and potentiometers :

8533.31

-- For a power handling capacity not exceeding 20 W

8533.39

-- Other

8533.40

- Other variable resistors, including rheostats and potentiometers

8533.90

- Parts

Heading 8534

Printed circuits.

EXPLANATORY NOTES

85.34 - Printed circuits.

In accordance with Note 8 to this Chapter, this heading covers the circuits which are made by forming on an insulating base, by any printing process (conventional printing or embossing, plating-up, etching, etc.), conductor elements (wiring), contacts or other printed components such as inductances, resistors and capacitors ("passive" elements), **other than** elements which can produce, rectify, detect, modulate or amplify electric signals, such as diodes, triodes or other "active" elements. Some basic or "blank" circuits may comprise only printed conductor elements generally consisting of thin uniform strips or wafers with, if appropriate, connectors or contact devices. Others combine several of the above elements according to a pre-established pattern.

The insulating base material is generally flat but may also be in the shape of a cylinder, a truncated cone, etc. The circuit may be printed on one or both sides (double circuits). Several printed circuits may be assembled in multiple layers and interconnected (multiple circuits).

The heading also covers thin- or thick-film circuits consisting solely of passive elements.

Thin-film circuits are formed by the deposition on glass or ceramic plates of specific patterns of metallic and dielectric film, by vacuum evaporation, cathode sputtering or chemical methods. The patterns may be formed by deposition through masks or by deposition of a continuous sheet with subsequent selective etching.

Thick-film circuits are formed by screen printing onto ceramic plates of similar patterns, using pastes (or inks) containing mixtures of powdered glass, ceramics and metals with suitable solvents. The plates are then furnace-fired.

Printed circuits may be provided with holes or fitted with non-printed connecting elements either for mounting mechanical elements or for the connection of electrical components not obtained during the printing process. Film circuits are generally supplied in metallic, ceramic or plastic capsules which are fitted with connecting leads or terminals.

Individual passive components such as inductances, capacitors and resistors obtained by any printing process are not regarded as printed circuits of this heading but are classifiable in their own appropriate headings (e.g., **heading 85.04**, **85.16**, **85.32** or **85.33**).

Circuits on which mechanical elements or electrical components have been mounted or connected are not regarded as printed circuits within the meaning of this heading. They generally fall to be classified in accordance with Note 2 to Section XVI or Note 2 to Chapter 90, as the case may be.

8534.00

Printed circuits.

Heading 8535

Electrical apparatus for switching or protecting electrical circuits, or for making connections to or in electrical circuits (for example, switches, fuses, lightning arresters, voltage limiters, surge suppressors, plugs and other connectors, junction boxes), for a voltage exceeding 1,000 volts.

EXPLANATORY NOTES

85.35 - Electrical apparatus for switching or protecting electrical circuits, or for making connections to or in electrical circuits (for example, switches, fuses, lightning arresters, voltage limiters, surge suppressors, plugs and other connectors, junction boxes), for a voltage exceeding 1,000 volts.

8535.10 - Fuses

- Automatic circuit breakers :

8535.21 - - For a voltage of less than 72.5 kV

8535.29 - - Other

8535.30 - Isolating switches and make-and-break switches

8535.40 - Lightning arresters, voltage limiters and surge suppressors

8535.90 - Other

This heading covers electrical apparatus generally used in power distribution systems. The provisions of Explanatory Note to heading 85.36 apply, *mutatis mutandis*, as regards the technical characteristics and the functioning of apparatus for switching or protecting electrical circuits, or for making connections to or in electrical circuits. The heading covers apparatus of the kinds described in Explanatory Note to heading 85.36, when for a voltage exceeding 1,000 volts.

These include :

(A) **Fuses** and **automatic circuit breakers** which automatically interrupt the current when its intensity or voltage exceeds a certain limit.

(B) **Make-and-break switches** specialised for high tension circuits. They are usually of a complex and robust construction having special devices to prevent arcing, and they may have multiple contacts or be remote controlled by different means (e.g., levers, servomotors). These switches are often mounted in containers of metal or insulating material, which have been filled with a fluid (e.g., oil) or a gas, or in which a vacuum has been created.

(C) **Lightning arresters**. These are protective devices designed to protect high tension cables or electrical installations from the effects of lightning; they consist of a device normally insulating to the high tension line but which breaks down and becomes a conducting path to earth in the event of exceptionally high voltages which otherwise would damage the line or electrical installation. Among the many types are metal oxide arresters, carbon granule arresters, arresters consisting of a horned spark gap or guard shield mounted on an insulator or an insulator chain, electrolytic arresters, etc. However, lightning arresters based on the principle of radioactivity are classified in **heading 90.22**.

(D) **Voltage limiters**. These are devices intended to ensure that the potential difference between two conductors or between the conductors and the earth does not exceed a predetermined value. These devices are sometimes constructed in the same manner as discharge lamps, but not being usable for lighting purposes, they cannot be considered as lamps.

However, the heading **does not cover** automatic voltage regulators (**heading 90.32**).

(E) **Isolating switches** are used for isolating sections of a line; they are of the slow break type, but unlike make-and-break switches they are not generally intended to be used when the circuit is loaded.

(F) **Surge or spike suppressors**. These are assemblies of coils, capacitors, etc., inserted in series or in parallel with a line or electrical apparatus to absorb high frequency surges. Simple coils or capacitors used on their own for this purpose remain classified in their respective headings.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the apparatus of this heading are classified in **heading 85.38**.

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The heading **excludes** assemblies (**other than** simple switch assemblies) of the apparatus mentioned above (**heading 85.37**).

8535.10

- Fuses

8535.2

- Automatic circuit breakers :

8535.21

-- For a voltage of less than 72.5 kV

8535.29

-- Other

8535.30

- Isolating switches and make-and-break switches

8535.40

- Lightning arresters, voltage limiters and surge suppressors

8535.90

- Other

CLASSIFICATION OPINIONS

1. **Grounding rods welded to cables and connection wires**, consisting of copper-coated carbon steel grounding rods, terminals, bronze couplings and special uncovered copper or copper-coated steel cables and wires. These assemblies, designed for a voltage exceeding 1,000 volts, are used to protect (ground) high-tension lines, substations, communication lines, buildings, street lamps, lightning arresters, all kinds of antennas, etc. **Application of GIRs 1 and 6.** *Adoption : 2003*



1. **Power rail installation,** for supplying electric power to machines, tools, etc., which have to be moved while in use, consisting of :

   (i) a number of steel profile elements the open underside of each of which has one edge forming a rail for the trolley described in (iv) below, and each containing a varying number of copper conductor bars mounted on insulators;
   (ii) junction boxes joining these elements end to end and, in certain cases, nonelectrical joints to separate the circuits;
   (iii) one or more devices for connecting the whole to the mains;
   (iv) a trolley fitted with sliding contacts, for connection by cable to the machines, tools, etc., to be supplied with power.

   See also Opinion 8535.90 or 8536.90/2.
   Adoption : 1964 + 1968

2. **Prefabricated elements for electrical conduits,** consisting of a varying number of conductor bars whether or not covered with an insulating material, held lengthwise by means of electrical insulators, on a support or in a suitably shaped sheath which may be provided at intervals with openings for connections.
   See also Opinion 8535.90 or 8536.90/1.
   Adoption : 1964 + 1968

Heading 8536

Electrical apparatus for switching or protecting electrical circuits, or for making connections to or in electrical circuits (for example, switches, relays, fuses, surge suppressors, plugs, sockets, lamp-holders and other connectors, junction boxes), for a voltage not exceeding 1,000 volts; connectors for optical fibres, optical fibre bundles or cables.

EXPLANATORY NOTES

85.36 - Electrical apparatus for switching or protecting electrical circuits, or for making connections to or in electrical circuits (for example, switches, relays, fuses, surge suppressors, plugs, sockets, lamp-holders and other connectors, junction boxes), for a voltage not exceeding 1,000 volts; connectors for optical fibres, optical fibre bundles or cables.

8536.10 - Fuses

8536.20 - Automatic circuit breakers

8536.30 - Other apparatus for protecting electrical circuits

- Relays :

8536.41 - - For a voltage not exceeding 60 V

8536.49 - - Other

8536.50 - Other switches

- Lamp-holders, plugs and sockets :

8536.61 - - Lamp-holders

8536.69 - - Other

8536.70 - Connectors for optical fibres, optical fibre bundles or cables

8536.90 - Other apparatus

This heading covers electrical apparatus for a voltage not exceeding 1,000 volts generally used for dwellings or industrial equipment. However, **heading 85.35** covers the apparatus described below for a voltage exceeding 1,000 volts. This heading also covers connectors for optical fibres, optical fibre bundles or cables.

The heading includes :

(I) APPARATUS FOR SWITCHING ELECTRICAL CIRCUITS

These apparatus consist essentially of devices for making or breaking one or more circuits in which they are connected, or for switching from one circuit to another; they may be known as single pole,

double pole, triple pole, etc., according to the number of switch circuits incorporated. This group also includes change-over switches and relays.

(A) The **switches** of this heading include small switches for use in radio apparatus, electrical instruments, etc., switches of a kind used in domestic electrical wiring (e.g., tumbler switches, lever operated switches, rotary switches, pendant switches, push button switches) and switches for industrial application (such as, limit switches, cam switches, microswitches and proximity switches).

Switches operated by the opening or closing of a door and automatic thermo-electric switches (starters) for starting fluorescent lamps are classified here.

Other examples classified here include electronic AC switches consisting of optically coupled input and output circuits (insulated thyristor AC switches); electronic switches, including temperature protected electronic switches, consisting of a transistor and a logic chip (chip-on-chip technology) for a voltage not exceeding 1,000 volts; and electro-mechanical snap-action switches for a current not exceeding 11 amps (toggle switch).

Electronic switches which operate by contactless means, using semiconductor components (e.g., for transistors, thyristors, integrated circuits).

Door locks which themselves incorporate a switch are **excluded** (**heading 83.01**).

(B) **Change-over switches** are used to connect one or more lines to one or more other lines.

In the simplest type one line is connected to a central point which, by means of a moving arm, can be connected to any one of the other lines. More complicated apparatus of this type includes starting switches for electric motors, and control gear for electric vehicles. These often include not only the switching gear, but also a number of resistors to be switched in or out of the circuit as required (see Explanatory Note to heading 85.33).

The heading also covers complicated switching-units used in radio or television sets, etc.

(C) **Relays** are electrical devices by means of which the circuit is automatically controlled by a change in the same or another circuit. They are used, for example, in telecommunication apparatus, road or rail signalling apparatus, for the control or protection of machine-tools, etc.

The various types can be distinguished by, for example :

(1) **The electrical means of control used** : electromagnetic relays, permanent magnet relays, thermo-electric relays, induction relays, electro-static relays, photoelectric relays, electronic relays, etc.

(2) **The predetermined conditions on which they operate** : maximum current relays, maximum or minimum voltage relays, differential relays, fast acting cut-out relays, time delay relays, etc.

Contactors, which are also considered as relays, are devices for making and breaking electrical circuits, which automatically reset without a mechanical locking device or hand operation. They are generally operated and maintained in an active state by an electric current.

(II) APPARATUS FOR PROTECTING ELECTRICAL CIRCUITS

The heading includes **fuses**. These normally consist of a device in which a length of fuse wire is incorporated (or can be incorporated) so that, when they are inserted in the circuit, the fuse wire will melt and so break the circuit if the current increases dangerously. They vary considerably in design according to the type of circuit and current for which they are intended. Cartridge fuses consist of a tube containing the fuse wire in contact with metal caps at the ends; other fuses consist of a base or socket (for incorporation in the line), and a connecting piece (which may be screwed into the socket or pushed in between spring contacts) on which the fuse wire is mounted. The heading covers the complete fuse, with or without wire. Sockets and connecting pieces presented separately are also classified here **except** those wholly of insulating material (apart from any minor components of metal incorporated during moulding solely for purposes of assembly) (**heading 85.47**). Fuse wire is classified according to its constituent material, but short lengths of fuse wire with loops or other means of connection so as to be ready for use remain in this heading.

The heading includes other devices for preventing overload of circuits (e.g., electro-magnetic devices which automatically break the circuit when the current exceeds a certain value).

The heading also **excludes** constant voltage transformers (**heading 85.04**) and automatic voltage regulators (**heading 90.32**).

(III) APPARATUS FOR MAKING CONNECTIONS TO OR IN ELECTRICAL CIRCUITS

This apparatus is used to connect together the various parts of an electrical circuit. It includes :

(A) **Plugs, sockets and other contacts** for connecting a movable lead or apparatus to an installation which is usually fixed. This category includes :

(1) **Plugs and sockets** (including those for connecting two movable leads). A plug may have one or more pins or side contacts which match corresponding holes or contacts in the socket. The rim or one of the pins may be used for earthing purposes.

(2) **Sliding contacts** such as brushes for motors and current-collectors for electric traction vehicles, lifting appliances, etc. (overhead or third rail collectors, etc.) **other than** such articles of “carbon” or graphite (**heading 85.45**). They may consist of block metal, wire cloth or laminated strip, and remain in this heading even when coated with an **external** lubricating layer of graphite.

(3) **Lamp or valve sockets and lamp-holders**. Certain lamp-holders are in the form of candles for mounting in candelabra or are designed to form a bracket against a wall; these remain classified here **provided** their main function is to act as lamp-holders.

Plugs and sockets, etc., assembled with a length of wire are excluded (heading 85.44).

(B) **Other connectors, terminals, terminal strips, etc**. These include small squares of insulating material fitted with electrical connectors (dominoes), terminals which are metal parts intended for the reception of conductors, and small metal parts designed to be fitted on the end of electrical wiring to facilitate electrical connection (spade terminals, crocodile clips, etc.).

Terminal strips consist of strips of insulating material fitted with a number of metal terminals or connectors to which electrical wiring can be fixed. The heading also covers tag strips or panels; these consist of a number of metal tags set in insulating material so that electrical wires can be soldered to them. Tag strips are used in radio or other electrical apparatus.

(C) **Junction boxes**. These consist of boxes fitted internally with terminals or other devices for connecting together electrical wires. Boxes not fitted with means of electrical connection or provisions therefor, are **excluded** and are classified according to their constituent material.

(IV) CONNECTORS FOR OPTICAL FIBRES, OPTICAL FIBRE BUNDLES OR CABLES

For the purpose of heading 85.36, "connectors for optical fibres, optical fibre bundles or cables" means connectors that simply mechanically align optical fibres end to end in a digital line system. They perform no other function, such as the amplification, regeneration or modification of a signal. Connectors for optical fibres, without cables, remain classified in this heading but those connectors for optical fibres with cables are **excluded** (**heading 85.44** or **90.01**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the apparatus of this heading are classified in **heading 85.38**.

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The heading also **excludes** :

(a) Non-linear voltage resistors (varistors/VDR) used as voltage controllers (**heading 85.33**).

(b) Assemblies (**other than** simple switch assemblies) of the apparatus mentioned above (**heading 85.37**).

(c) Semiconductor diodes used as voltage controllers (**heading 85.41**).

8536.10

- Fuses

8536.20

- Automatic circuit breakers

8536.30

- Other apparatus for protecting electrical circuits

8536.4

- Relays :

8536.41

-- For a voltage not exceeding 60 V

8536.49

-- Other

8536.50

- Other switches

CLASSIFICATION OPINIONS

Switching devices housed in boxes of metal or plastics, measuring 63.5 or 82.55 x 152.4 x 158.75 mm and weighing approximately 635 g or 726 g. They have rearmounted connector sockets, a front-mounted rotary action switch and house printed circuits. They are specifically designed to interconnect two or more compatible automatic data processing devices so as to permit the selection of alternative combinations of these devices, e.g., to connect two terminals to one modem, two or more central processing units to one printer or several printers to one terminal. The printed circuits are designed to carry very low electric currents of about one thousandth of an ampere.

Adoption : 1991

8536.6

- Lamp-holders, plugs and sockets :

8536.61

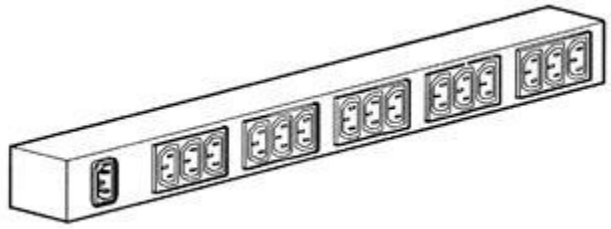
-- Lamp-holders

8536.69

-- Other

CLASSIFICATION OPINIONS

1. **Power distribution unit** consisting of a metal box containing one power input plug and 15 AC power sockets. The unit is designed for supplying power to various rack-mounted components in a cabinet (for example, network routers, test equipment, control equipment), and is supplied with mounting brackets and screws for installation inside such a cabinet by means of user-supplied nuts and bolts.
   Application of GIRs 1 and 6.
   Adoption : 2008



8536.70

- Connectors for optical fibres, optical fibre bundles or cables

8536.90

- Other apparatus

CLASSIFICATION OPINIONS

1. **Power rail installation,** for supplying electric power to machines, tools, etc., which have to be moved while in use, consisting of :

   (i) a number of steel profile elements the open underside of each of which has one edge forming a rail for the trolley described in (iv) below, and each containing a varying number of

copper conductor bars mounted on insulators;
(ii) junction boxes joining these elements end to end and, in certain cases, nonelectrical joints to separate the circuits;
(iii) one or more devices for connecting the whole to the mains;
(iv) a trolley fitted with sliding contacts, for connection by cable to the machines, tools, etc., to be supplied with power.

See also Opinion 8535.90 or 8536.90/2.
Adoption : 1965

1. **Modular apparatus consisting of a printed circuit card (80 mm x 110 mm x 7 mm) for connecting electrical telecommunication cables.** The card in question consists of a printed circuit in a plastic housing. A resistor and five terminals are mounted on seven printed connecting elements which place the circuit card in contact with the collection housing. One side of the card also contains four sockets soldered to the printed circuit. A light emitting diode (LED) is contained in one socket and the other three sockets are jack connections. These last three are respectively marked M (Monitor), O (Output) and I (Input). The socket marked M and the resistor permit the LED to indicate if there is a connection to another circuit.
Adoption : 2000

2. **Prefabricated elements for electrical conduits,** consisting of a varying number of conductor bars whether or not covered with an insulating material, held lengthwise by means of electrical insulators, on a support or in a suitably shaped sheath which may be provided at intervals with openings for connections.
See also Opinion 8535.90 or 8536.90/1.
Adoption : 1965



2. **Prefabricated elements for electrical conduits,** consisting of a varying number of conductor bars whether or not covered with an insulating material, held lengthwise by means of electrical insulators, on a support or in a suitably shaped sheath which may be provided at intervals with openings for connections.
See also Opinion 8535.90 or 8536.90/1.
Adoption : 1965



Heading 8537

Boards, panels, consoles, desks, cabinets and other bases, equipped with two or more apparatus of heading 85.35 or 85.36, for electric control or the distribution of electricity, including those

incorporating instruments or apparatus of Chapter 90, and numerical control apparatus, other than switching apparatus of heading 85.17.

EXPLANATORY NOTES

85.37 - Boards, panels, consoles, desks, cabinets and other bases, equipped with two or more apparatus of heading 85.35 or 85.36, for electric control or the distribution of electricity, including those incorporating instruments or apparatus of Chapter 90, and numerical control apparatus, other than switching apparatus of heading 85.17.

8537.10 - For a voltage not exceeding 1,000 V

8537.20 - For a voltage exceeding 1,000 V

These consist of an assembly of apparatus of the kind referred to in the two preceding headings (e.g., switches and fuses) on a board, panel, console, etc., or mounted in a cabinet, desk, etc. They usually also incorporate meters, and sometimes also subsidiary apparatus such as transformers, valves, voltage regulators, rheostats or luminous circuit diagrams.

The goods of this heading vary from small switchboards with only a few switches, fuses, etc. (e.g., for lighting installations) to complex control panels for machine-tools, rolling mills, power stations, radio stations, etc., including assemblies of several of the articles cited in the text of this heading.

The heading also covers :

(1) Numerical control panels with built-in automatic data processing machine, which are generally used to control machine-tools.

(2) Programmed switchboards to control apparatus; these permit variations in the choice of operations to be followed. They are normally used in domestic electrical appliances, such as washing machines and dish washers.

(3) “Programmable controllers” which are digital apparatus using a programmable memory for the storage of instructions for implementing specific functions such as logic, sequencing, timing, counting and arithmetic, to control, through digital or analog input/output modules, various types of machines.

The heading **does not cover** automatic controlling apparatus of **heading 90.32**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are classified in **heading 85.38**.

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The heading **excludes** :

(a) Telephone switchboards (**heading 85.17**).

(b) Simple switch assemblies, such as those consisting of two switches and a connector (**heading 85.35** or **85.36**).

(c) Cordless infrared devices for the remote control of television receivers, video recorders or other electrical equipment (**heading 85.43**).

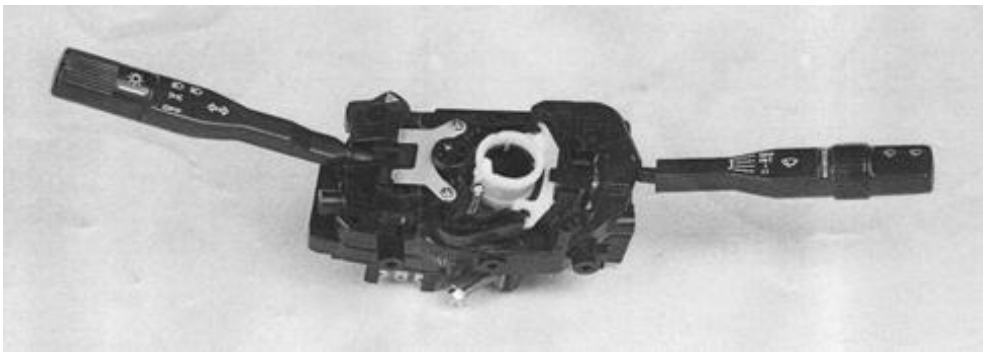
(d) Time switches with clock or watch movement or with synchronous motor (**heading 91.07**).

8537.10

- For a voltage not exceeding 1,000 V

CLASSIFICATION OPINIONS

1. **An assembly of two multi-positional electrical switching devices** arranged on two sides of a mounting bracket designed for mounting on the steering column of a motor vehicle. One of the multi-positional devices is intended to control exterior lighting for the vehicle and the other is intended to control the windscreen wiper and washer. The article has electrical contacts for connecting it to the electrical system of the motor vehicle. Application of GIRs 1 and 6.
Adoption : 2010



2. **Transparent resistive touch screen** (dimensions (L x W x H) : 325 x 245 x 2 mm), consisting of two thin transparent indium tin oxide (ITO) conductive layers separated by dot spacers and electric bus-bars, which are laminated with a top layer of protective film of plastics and bottom layer of protective glass, and fitted with a flexible connector tail. When the two ITO conductive layers are connected at the touch point by external force, it causes a voltage change. A resistive touch controller converts the voltage change to an X-Y position value and sends the corresponding signal to the touch screen's applied device. The touch screen can detect touch events by any object, including a human finger or a stylus, but it has no displaying capabilities itself.
The product can be used with a variety of apparatus incorporating a display, such as automated teller machines (ATMs), point-of-sale/service (POSs) terminals, monitors and automatic data processing (ADP) machines.
Application of GIRs 1 (Note 2 (a) to Section XVI) and 6.
Adoption : 2014



8537.20

- For a voltage exceeding 1,000 V

Heading 8538

Parts suitable for use solely or principally with the apparatus of heading 85.35, 85.36 or 85.37.

EXPLANATORY NOTES

85.38 - Parts suitable for use solely or principally with the apparatus of heading 85.35, 85.36 or 85.37.

8538.10 - Boards, panels, consoles, desks, cabinets and other bases for the goods of heading 85.37, not equipped with their apparatus

8538.90 - Other

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), this heading covers parts of the goods of the three preceding headings.

The heading includes, for example, boards for switchboards, generally of plastics or metal, without their instruments, **provided** they are clearly recognisable as parts of switchboards.

8538.10

- Boards, panels, consoles, desks, cabinets and other bases for the goods of heading 85.37, not equipped with their apparatus

CLASSIFICATION OPINIONS

1. Cabinet, for power distribution, presented in the form of unassembled modular components, comprising the following components :

(i) Frame and enclosure components: frames, panels, plates, bases, supports and supporting structures;
(ii) Busbar system assembly components: connecting lugs and holders; and
(iii) Circuit breaker assembly components: module doors, mounting plates, separations and connections.

All components are pre-drilled and designed to be assembled together by means of screw connections to form a cabinet for electrical apparatus (switchgear and control gear and their associated circuit breakers and busbars), which is suitable for use indoors for power distribution in buildings. It does not include any electronic or telecommunication apparatus.

Application of GIRs 1 (Note 2 (b) to Section XVI), 2 (a) and 6. *Adoption : 2019*

2. Cabinet, for power distribution, presented in the form of unassembled modular components, comprising the following components :

(i) Frame and enclosure components: frames, frame connection sets, panels, plates, bases, a cover, a door wiring support and a label; and
(ii) Busbar system components: uninsulated vertical busbars, holders, reinforcements and supports.

All components are pre-drilled and designed to be assembled together by means of screw connections to form a cabinet for electrical apparatus (switchgear and control gear and their associated circuit breakers and busbars), which is suitable for use indoors for power distribution applications in buildings. It does not include any electronic or telecommunication apparatus. **Application of GIRs 1 (Note 2 (b) to Section XVI), 2 (a) and 6.** *Adoption : 2019*

3. Cabinet, for power distribution, presented in the form of unassembled modular components, comprising the following components:

(i) Frame and enclosure components: frames, plates, bases, supporting structures, covers, a door and a label;
(ii) Busbar system assembly components: connecting lugs; and
(iii) Circuit breaker assembly components: covers and fixing kits.

All components are pre-drilled and designed to be assembled together by means of screw connections to form a cabinet for electrical apparatus (switchgear and control gear and their associated circuit breakers and busbars), which is suitable for use indoors for power distribution applications in buildings. It does not include any electronic or telecommunication apparatus. **Application of GIRs 1 (Note 2 (b) to Section XVI), 2 (a) and 6.** *Adoption : 2019*

8538.90

- Other

CLASSIFICATION OPINIONS

1. Tubular contact pins, of base metal, for riveting to the connector piece of fluorescent tubes.

Adoption : 1971

Heading 8539

Electric filament or discharge lamps, including sealed beam lamp units and ultra-violet or infra-red lamps; arc-lamps; light-emitting diode (LED) light sources.

EXPLANATORY NOTES

85.39 - Electric filament or discharge lamps, including sealed beam lamp units and ultra-violet or infra-red lamps; arc-lamps; light-emitting diode (LED) lamps.

8539.10 - Sealed beam lamp units

- Other filament lamps, excluding ultra-violet or infra-red lamps :

8539.21 - - Tungsten halogen

8539.22 - - Other, of a power not exceeding 200 W and for a voltage exceeding 100 V

8539.29 - - Other

- Discharge lamps, other than ultra-violet lamps :

8539.31 - - Fluorescent, hot cathode

8539.32 - - Mercury or sodium vapour lamps; metal halide lamps

8539.39 - - Other

- Ultra-violet or infra-red lamps; arc-lamps :

8539.41 - - Arc-lamps

8539.49 - - Other

- Light-emitting diode (LED) light sources :

8539.51 - - Light-emitting diode (LED) modules

8539.52 - - Light-emitting diode (LED) lamps

8539.90 - Parts

Electric light lamps consist of glass or quartz containers, of various shapes, containing the necessary elements for converting electrical energy into light rays (including infra-red or ultra-violet rays).

The heading covers all electric light lamps, whether or not specially designed for particular uses (including flashlight discharge lamps).

The heading covers filament lamps, gas or vapour discharge lamps, arc-lamps and light-emitting diode (LED) lamps.

(A) SEALED BEAM LAMP UNITS

Sealed beam lamp units are sometimes designed for incorporation in the bodywork of cars; they consist of a lens and reflector and a filament sealed within a gas-filled or vacuum-type lamp.

(B) OTHER FILAMENT LAMPS, EXCLUDING ULTRA-VIOLET OR INFRA-RED LAMPS (SEE PART (D))

The light is produced by a filament (metal or carbon) which is heated to incandescence by the passage of an electric current, the glass envelope (sometimes coloured) being either evacuated or filled with

an inert gas under low pressure; in the base, which may be of the screw or bayonet type for fixing in the lamp-holder, are the necessary electrical contacts.

These lamps are of various shapes, e.g., spherical (with or without a neck); pear or onion shaped; flame shaped; tubular (straight or curved); special fancy shapes for illuminations, decorations, Christmas trees, etc.

This group also covers halogen lamps.

(C) DISCHARGE LAMPS, OTHER THAN ULTRA-VIOLET LAMPS (SEE PART (D))

These consist of a glass envelope (usually tubular) or a quartz envelope (usually in an outer envelope of glass), furnished with electrodes and containing, under low pressure, either a gas which becomes luminous under the influence of an electric discharge or a substance which gives off a vapour having similar properties; certain lamps may contain both a gas and a vapour producing substance. Some lamps have valves for the removal of compounds resulting from the action of the gas on the electrodes; others may be vacuum jacketed or water cooled. In some cases the internal wall of the lamps is coated with special substances which transform the ultra-violet rays into visible light thus increasing the efficiency of the lamp (fluorescent lamps). Some lamps operate on high voltages, others on low.

The principal lamps of this kind include :

(1) **Gas discharge tubes** containing gases such as neon, helium, argon, nitrogen or carbon dioxide, including flashing discharge lamps used for photography or stroboscopic examination.

(2) **Sodium vapour lamps**.

(3) **Mercury vapour lamps**.

(4) **Gas filled dual lamps**, in which the light is produced both by an incandescent filament and a gas discharge.

(5) **Metal halide lamps**.

(6) **Xenon and alphanumeric tubes**.

(7) **Spectral discharge and glow discharge lamps**.

These lamps are used for many purposes, e.g., domestic lighting; street lighting; office, factory, shop, etc., lighting; lighting of machines; and lighting for decorative or publicity purposes. The heading includes simple straight or curved tubes, and tubes in various complex forms (e.g., scrolls, letters, figures and stars).

(D) ULTRA-VIOLET AND INFRA-RED LAMPS

Ultra-violet lamps are used for medical, laboratory, germicidal or other purposes. They usually consist of a fused quartz tube containing mercury; they are sometimes enclosed in an outer envelope of glass. Some are known as black light lamps (e.g., those used for theatrical purposes).

Infra-red lamps are filament lamps specially designed to produce infra-red rays. In many cases the interior of the lamp is coppered or silvered to form a reflector. They are used, for example, for medical purposes or as a source of heat in industry.

(E) ARC-LAMPS

In lamps of this kind the light is emitted by an arc, or by an arc and by the incandescence of one or both of the electrodes between which the arc is maintained. These electrodes are generally of carbon or tungsten. Some lamps have an automatic device to bring the electrodes close together in order to strike the arc, and subsequently to maintain them at the correct distance apart in spite of the progressive using up of electrodes. Lamps designed for AC working have supplementary electrodes for starting purposes. In open arc-lamps the arc burns in free air; in others it is in a glass envelope with suitable baffles communicating with the free air.

It should be noted that arc-lamps are complex apparatus, and are not merely simple lighting elements as is the case of the other goods of this heading.

(F) LIGHT-EMITTING DIODE (LED) MODULES

The light from these modules is produced by one or more light-emitting diodes (LED) mounted on a printed circuit board or otherwise connected. These modules do not have a cap (base) (e.g., screw, bayonet or bi-pin type) for fixing in the lamp-holder. These modules may have electric connectors.

These modules have circuity to control DC voltage and current to a level useable by the LEDs (power control). These modules may have circuitry to rectify AC power (power supply) with the power control.

(G) LIGHT-EMITTING DIODE (LED) LAMPS

The light from these lamps is produced by one or more light-emitting diodes (LED). These lamps consist of a glass or plastic envelope, one or more LEDS, circuitry to convert voltage to a level useable by the LEDs and a cap (base) (e.g., screw, bayonet or bi-pin type) for fixing in the lamp-holder. Certain lamps may also contain a heat sink or a rectifier to rectify power.

These lamps are of various shapes, e.g., spherical (with or without a neck); pear or onion shaped; flame shaped; tubular (straight or curved); special fancy shapes for illuminations, decorations, Christmas trees, etc.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here. They include :

(1) Bases for incandescent and discharge electric lamps and bulbs.

(2) Metal electrodes for discharge lamps and tubes.

*

* *

The heading **excludes** :

(a) Glass envelopes, and glass parts having the essential character thereof (e.g., spotlight bulb reflectors) for lamps (**heading 70.11**).

(b) Resistance lamps with carbon filaments and variable lamps with iron filaments in hydrogen (**heading 85.33**).

(c) Automatic thermo-electric switches (starters) for starting fluorescent lamps (**heading 85.36**).

(d) Thermionic valves and tubes (**heading 85.40**).

(e) Light-emitting diodes (LED) of **heading 85.41**.

(f) Electro-luminescent devices, generally in strips, plates or panels, and based on electro-luminescent substances (e.g., zinc sulphide) placed between two layers of conductive material (**heading 85.43**).

(g) Arc-lamp carbons and carbon filaments (**heading 85.45**).

8539.10

- Sealed beam lamp units

8539.2

- Other filament lamps, excluding ultra-violet or infra-red lamps :

8539.21

-- Tungsten halogen

8539.22

-- Other, of a power not exceeding 200 W and for a voltage exceeding 100 V

8539.29

-- Other

8539.3

- Discharge lamps, other than ultra-violet lamps :

8539.31

-- Fluorescent, hot cathode

8539.32

-- Mercury or sodium vapour lamps; metal halide lamps

8539.39

-- Other

8539.4

- Ultra-violet or infra-red lamps; arc-lamps :

8539.41

-- Arc-lamps

8539.49

-- Other

8539.5

- Light-emitting diode (LED) light sources :

8539.51

-- Light-emitting diode (LED) modules

CLASSIFICATION OPINIONS

1. **Tape lights,** flexible indoor LED tape light, 24 V, 1.3 W, cool white. The tape lights are linkable sections of modular lighting products that consist of 18 LEDs aligned along the length of each of the sections. The tape lights have LEDs connected on a printed circuit board (PCB). There is a constant current driver every 102 mm (4") along the tape that eliminates voltage drop and a built-in joiner. These products can be linked up to a maximum of 50 sections and are also cuttable every 102 mm (4") for custom lengths. The goods are presented without the 24 V driver or the 24 V hardwire box which powers them. They are used, for example, for task and accent lighting in kitchen cabinets, back lighting and hard to reach areas. **Application of GIRs 1 (Note 11 (a) to Chapter 85 and Note 1 (f) to Chapter 94) and 6.** *Adoption : 2022*



8539.52

-- Light-emitting diode (LED) lamps

CLASSIFICATION OPINIONS

1. **Light-emitting diode (LED) "spot lamp"** composed of several light emitting diodes, circuitry to rectify AC power and to convert voltage to a level useable by the LEDs, a heat sink and a bi-pin base. **Application of GIRs 1 and 6.** *Adoption : 2014*



2. **Light-emitting diode (LED) "bulb lamp"** in the standard shape of an incandescent bulb, composed of several light emitting diodes inside of an envelope of plastics, circuitry to rectify AC power and to convert voltage to a level useable by the LEDs, a heat sink and an Edison screw base.

Application of GIRs 1 and 6.
Adoption : 2014



8539.90

- Parts

Heading 8540

Thermionic, cold cathode or photo-cathode valves and tubes (for example, vacuum or vapour or gas filled valves and tubes, mercury arc rectifying valves and tubes, cathode-ray tubes, television camera tubes).

EXPLANATORY NOTES

85.40 - Thermionic, cold cathode or photo-cathode valves and tubes (for example, vacuum or vapour or gas filled valves and tubes, mercury arc rectifying valves and tubes, cathode-ray tubes, television camera tubes).

- Cathode-ray television picture tubes, including video monitor cathode-ray tubes :

8540.11 - - Colour

8540.12 - - Monochrome

8540.20 - Television camera tubes; image converters and intensifiers; other photo-cathode tubes

8540.40 - Data/graphic display tubes, monochrome; data/graphic display tubes, colour, with a phosphor dot screen pitch smaller than 0.4 mm

8540.60 - Other cathode-ray tubes

- Microwave tubes (for example, magnetrons, klystrons, travelling wave tubes, carcinotrons), excluding grid-controlled tubes :

8540.71 - - Magnetrons

8540.79 - - Other

- Other valves and tubes :

8540.81 - - Receiver or amplifier valves and tubes

8540.89 - - Other

- Parts :

8540.91 - - Of cathode-ray tubes

8540.99 - - Other

This heading covers only those valves and tubes which, for different purposes, utilise the effect of electrons emitted from a cathode either in a vacuum or in gas.

There are three types : thermionic valves and tubes, in which the cathode must be heated before the electrons are emitted; cold cathode valves and tubes; and photo-cathode valves and tubes, in which the cathode is excited by the action of light. According to the number of their electrodes they are termed diodes, triodes, tetrodes, etc. The same envelope may contain two or more systems with different functions (compound valves). The envelopes are of glass, ceramic or metal or of combinations of these materials and may incorporate means of cooling (cooling fins, water circulation system, etc.).

There are many kinds of valves and tubes, some of which are designed for special purposes such as microwave tubes (e.g., magnetrons, travelling wave tubes, carcinotrons, klystrons), disc-sealed (lighthouse) tubes, stabilising valves, thyratrons, ignitrons, etc.

The heading includes :

(1) **Rectifying tubes and valves**. These are designed for rectifying AC into DC. They may be vacuum type, gas-filled or filled with vapour (e.g., mercury vapour), and in general have two electrodes. Certain types (e.g., thyratrons) have control grids so that their operation can be regulated and even reversed (thus converting DC into AC).

(2) **Cathode-ray tubes**.

(a) Television camera tubes (image pick-up tubes, e.g., image orthicons or vidicons). These are electron-beam tubes for the conversion of an optical image into a corresponding electrical signal, usually by a scanning process.

(b) Image converter tubes. These are vacuum tubes in which an image (usually of infra-red radiation) is projected on to a photoemissive surface which in turn produces a corresponding visible image on a luminescent surface.

(c) Image intensifier tubes. These are electronic tubes in which an image projected on to a photoemissive surface produces a corresponding intensified image on a luminescent surface.

(d) Other cathode-ray tubes in which electrical signals are converted, directly or indirectly, into visible images. An example of this type is the storage tube. In television receiver or video monitor tubes, the electrons from the cathode(s), after being focussed, deflected, etc., fall in

the form of a beam on a part of the inner wall (usually the end of the tube) covered with fluorescent material, which constitutes a screen showing the picture the viewer sees.

Cathode-ray tubes are also used in radar, in oscilloscopes and in certain automatic data processing system terminals (display tubes).

(3) **Photoemissive tubes, vacuum or gas-filled** (also known as **photoemissive cells**). These consist of a glass or quartz tube containing two electrodes, of which the cathode is coated with a layer of photosensitive material (usually alkaline metal); under the action of the light, this layer emits electrons which establish conductibility between the electrodes and are collected on the anode.

Photomultipliers are photosensitive vacuum tubes comprising a photoemissive cathode and an electron multiplier.

(4) **Other valves and tubes**. These are usually vacuum type, and some have several electrodes. They are used for producing high frequency oscillations, as amplifiers, as detectors, as scan converters (without the use of a photocathode), etc.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here, for example, electrodes (cathodes, grids, anodes), envelopes (of materials other than glass) for tubes, anti-implosion casings for cathode-ray tubes, deflection coils for mounting around the necks of cathode-ray tubes for scanning purposes.

*

* *

The heading **excludes** :

(a) Glass face-plates and cones of envelopes for cathode-ray tubes (**heading 70.11**).

(b) Metal tank mercury arc rectifiers (**heading 85.04**).

(c) X-ray tubes (**heading 90.22**).

8540.1

- Cathode-ray television picture tubes, including video monitor cathode-ray tubes :

8540.11

-- Colour

8540.12

-- Monochrome

8540.20

- Television camera tubes; image converters and intensifiers; other photo-cathode tubes

8540.40

- Data/graphic display tubes, monochrome; data/graphic display tubes, colour, with a phosphor dot screen pitch smaller than 0.4 mm
8540.60
- Other cathode-ray tubes
8540.7
- Microwave tubes (for example, magnetrons, klystrons, travelling wave tubes, carcinotrons), excluding grid-controlled tubes :
8540.71
-- Magnetrons
8540.79
-- Other
8540.8
- Other valves and tubes :
8540.81
-- Receiver or amplifier valves and tubes
8540.89
-- Other

CLASSIFICATION OPINIONS

1. Hot cathode intense electronic positive ion sources, for use in particle accelerators, mass spectrometers and the like.

Adoption : 1958
8540.9
- Parts :
8540.91
-- Of cathode-ray tubes
8540.99
-- Other

Heading 8541

Semiconductor devices (for example, diodes, transistors, semiconductor-based transducers); photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; light-emitting diodes (LED), whether or not assembled with other light-emitting diodes (LED); mounted piezo-electric crystals.

EXPLANATORY NOTES

85.41 - Semiconductor devices (for example, diodes, transistors, semiconductor-based transducers); photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; light-emitting diodes (LED), whether or not assembled with other light-emitting diodes (LED); mounted piezo-electric crystals.

8541.10 - Diodes, other than photosensitive or light-emitting diodes (LED)

- Transistors, other than photosensitive transistors :

8541.21 - - With a dissipation rate of less than 1 W

8541.29 - - Other

8541.30 - Thyristors, diacs and triacs, other than photosensitive devices

- Photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; light-emitting diodes (LED) :

8541.41 - - Light-emitting diodes (LED)

8541.42 - - Photovoltaic cells not assembled in modules or made up into panels

8541.43 - - Photovoltaic cells assembled in modules or made up into panels

8541.49 - - Other

- Other semiconductor devices :

8541.51 - - Semiconductor-based transducers

8541.59 - - Other

8541.60 - Mounted piezo-electric crystals

8541.90 - Parts

(A) SEMICONDUCTOR DEVICES (FOR EXAMPLE DIODES, TRANSISTORS, SEMICONDUCTOR BASED TRANSDUCERS)

These are defined in Note 12 (a) (i) to this Chapter.

The operation of the devices of this group is based on the electronic properties of certain “semiconductor” materials or, for the purpose of semiconductor-based transducers, on their semiconductor properties including physical (e.g., mechanical, thermal), electrical, optical and chemical properties.

The main characteristics of these materials is that at room temperature their resistivity lies in the range between that of conductors (metals) and that of insulators. They consist, for instance, of certain ores (e.g., crystal galena), tetravalent chemical elements (germanium, silicon, etc.) or combinations of chemical elements (e.g., trivalent and pentavalent elements, such as gallium arsenide, indium antimonide).

Semiconductor materials consisting of a tetravalent chemical element are generally monocrystalline. They are not used in their pure state but after very light doping (in a proportion expressed in parts per million) with a specific “impurity” (dopant).

For a tetravalent element, the “impurity” may be a pentavalent chemical element (phosphorus, arsenic, antimony, etc.) or a trivalent element (boron, aluminium, gallium, indium, etc.). The former produce

n-type semiconductors with excess electrons (negatively charged); the latter produce p-type semiconductors with electron deficiency, that is to say that holes (positively charged) predominate.

Semiconductor materials combining tri- and pentavalent chemical elements are also doped.

In the semiconductor materials consisting of ores, the impurities contained naturally in the ore act as dopants.

The semiconductor devices of this group generally comprise one or more "**junctions**", between p-type and n-type semiconductor materials.

They include :

(I) **Diodes** which are two-terminal devices with a single p n junction; they allow current to pass in one direction (forward) but offer a very high resistance in the other (reverse). They are used for detection, rectification, switching, etc.

The main types of diodes are signal diodes, power rectifier diodes, voltage regulator diodes, voltage reference diodes.

(II) **Transistors** are three- or four-terminal devices capable of amplification, oscillation, frequency conversion, or switching of electrical currents. The operation of a transistor depends on the variation in resistivity between two of the terminals upon the application of an electric field to the third terminal. The applied control signal or field is weaker than the resulting action brought about by the change in resistance and thus amplification results.

Transistors include :

(1) Bipolar transistors, which are three-terminal devices consisting of two diode type junctions, and whose transistor action depends on both positive and negative charge carriers (hence, bipolar).

(2) Field effect transistors (also known as metal oxide semiconductors (MOS)), which may or may not have a junction, but which depend on the induced depletion (or enhancement) of available charge carriers between two of the terminals. The transistor action in a field effect transistor employs only one type of charge carrier (hence, unipolar). A parasitic body diode, which is produced in a MOS type transistor (also known as MOSFET), may operate as a freewheeling diode during inductive load switching. MOSFET which have four terminals are known as tetrodes.

(3) Insulated Gate Bipolar Transistors (IGBT), which are three-terminal devices consisting of a gate terminal and two load terminals (emitter and collector). By applying appropriate voltages across the gate and emitter terminals, current in one direction can be controlled, i.e. turned on and turned off. IGBT chips may be incorporated with diodes in a single package (packaged IGBT devices), which protect the IGBT device and allow it to continue to function as a transistor.

(III) **Semiconductor-based transducers**

As specified in Note 12 (a) (i) to this Chapter, these are devices in which the semiconductor substrate or material plays a critical and irreplaceable role in performing their function to convert any kind of physical or chemical phenomena or an action into an electrical signal or an electrical signal into any type of physical phenomenon or an action.

The semiconductor-based transducers have the character of an independent technical unit, and can be presented either as bare die products or in a package. The components forming a semiconductor-based transducer, including active or passive discrete components indivisibly attached that enable their construction or function, must be combined to all intents and purposes indivisibly, i.e., though some of the components could theoretically be removed and replaced, this would be uneconomic under normal manufacturing conditions. Non-semiconductor-based components which do not play a key role in transducersare allowed to be part of the transducer in situations when they contribute to the transducer's function as a sensor, actuator, resonator or oscillator. Typical examples of such components are, but not limited to, the following:

(i) the package, which typically consists of metal wires for interconnection (internal or external wirebond connections), a leadframe, an encapsulation, substrates etc.; or

(ii) components which enable or support the function like magnets, optical elements etc.

The definition of the expression "semiconductor-based" also includes elements in which the semiconductor material provides functionality to the transducer by its properties, which are not only semiconductor-specific. Such properties may include mechanical strength, flexibility, thermal conductivity, optical reflectivity, chemical resistivity, etc., in combination with its ability to be manufactured with high precision on a micrometer scale by using semiconductor technology (micro machining). Such elements may include, for example membranes, bars, cantilevers, cavities, mirrors, channels, etc., which enable transducer functions by thickness or elastic flexibility).

The materials used in semiconductor-based transducers include e.g., Silicon (Si), Germanium (Ge), Carbon (C), Silicon Germanium (SiGe), Silicon Carbide (SiC), Gallium Nitride (GaN), Gallium Arsenide (GaAs), Indium Gallium Arsenide InGaAs, Gallium Phosphide (GaP), Indium Phosphide (InP), Tin Telluride (SnTe), Zinc Oxide (ZnO) and Gallium Oxide (Ga2O3).

The expression "manufactured by semiconductor technology" means the application of area processing on a wafer level that may include grinding, polishing, doping, spin coating, imaging, CVD, PVD, galvanic, developing, stripping, etching, baking, printing.

(1) **Semiconductor-based sensors**, which are defined in Note 12 (a) (i) (3).

One example of a sensor is a Micro-Electro-Mechanical Systems (MEMS) element used in silicon microphones as a semiconductor-based acoustic sensor. The MEMS element is made up of a stiff and perforated backplate and a flexible membrane on silicon substrate, and its function is to convert sound waves into a variable electrical output. Sound waves are physical quantities that hit the membrane and bring it to vibration through which the varying electrical output is produced**.**

Another type of sensor is a gas sensor, which utilises the adsorption of electron donors/acceptors to change the resistance in graphene with an extremely high surface area.

(2) **Semiconductor-based actuators,** which are defined in Note 12 (a) (i) (4), e.g.,electro-thermally actuated Micro-Electro-Mechanical Systems (MEMS) mirrors, which are typically used to deflect a laser beam in a broad range of applications, such as fibre-to-fibre optical switching, laser projectors, Light Detection and Ranging (LIDAR) in autonomous driving, laser tracking and position measurement, etc. Electro-thermally actuated mirrors are moved by heater elements, which act on semiconductor-based structures with different thermal expansion.

(3) **Semiconductor-based resonators,** which are defined in Note 12 (a) (i) (5), e.g., film bar acoustic wave resonators (FBAR), which are used in RF technology for multiplexing or channel selection in wireless devices.

(4) **Semiconductor-based oscillators**, which are defined in Note 12 (a) (i) (6), converting physical phenomena (stored energy of electromagnetic fields inside a resonator) into an electrical signal (output voltage with frequency depending on tuning voltage).

(IV) **Other semiconductor devices**

They include:

(1) **Thyristors**, consisting of four conductivity regions in semiconducting materials (three or more p n junctions) through which a direct current passes in a predetermined direction when a control pulse initiates conductivity. They are used as controlled rectifiers, as switches or as amplifiers and function as two interlocking, complementary transistors with a common collector/base junction.

(2) **Triacs** (bi-directional triode thyristors), consisting of five conductivity regions in semiconducting materials (four p n junctions) through which an alternating current passes when a control pulse initiates conductivity.

(3) **Diacs**, consisting of three conductivity regions in semiconducting materials (two p n junctions) and used to provide the pulses required to operate a triac.

(4) **Varactors** (or variable capacitance diodes).

(5) **Field effect devices**, such as gridistors.

(6) **Gunn effect devices**.

However, this group **does not include** semiconductor devices, which differ from those described above in that their operation depends primarily on temperature, pressure, etc., such as non-linear semiconductor resistors (thermistors, varistors, magneto resistors, etc.) (**heading 85.33**).

For photosensitive devices the operation of which depends on light rays (photodiodes, etc.), see group (B).

The devices described above fall in this heading whether presented mounted, that is to say, with their terminals or leads (for example pins, leads, balls, lands, bumps or pads mounted on a carrier, e.g., a substrate or a leadframe) or packaged (components), unmounted (elements) or even in the form of

undiced discs (wafers). However, natural semiconductor materials (e.g., galena) are classified in this heading only when mounted.

The semiconductor-based transducers of this group, however, do not cover silicon based sensors, actuators, resonators, oscillators and combinations thereof, containing one or more monolithic, hybrid, multi-chip or multi-component integrated circuits as defined in Note 12 (b) (iv) to this Chapter (**heading 85.42**).

The heading also excludes:

(a) Chemical elements (for example, silicon and selenium) doped for use in electronics, in forms unworked as drawn, or in the form of cylinders or rods (Chapter 28), when cut in the form of discs, wafers or similar forms (**heading 38.18**).

(b) Chemical compounds such as cadmium selenide and sulphide, indium arsenide, etc., containing certain additives (e.g., germanium, iodine) generally in a proportion of a few per cent, with a view to their use in electronics, whether in the form of cylinders, rods, etc., or cut into discs, wafers or similar forms (**heading 38.18**).

(c) Crystals doped for use in electronics, in the form of discs, wafers, or similar forms, polished or not, whether or not coated with a uniform epitaxial layer, provided they have not been selectively doped or diffused to create discrete regions (**heading 38.18**).

(d) Electronic integrated circuits (**heading 85.42**).

(B) PHOTOSENSITIVE SEMICONDUCTOR DEVICES

This group comprises photosensitive semiconductor devices in which the action of visible rays, infra-red rays or ultra-violet rays causes variations in resistivity or generates an electromotive force, by the internal photoelectric effect.

Photoemissive tubes (photoemissive cells) the operation of which is based on the external photoelectric effect (photoemission), belong to **heading 85.40**.

The main types of photosensitive semiconductor devices are :

(1) **Photoconductive cells (light dependent resistors)**, usually consisting of two electrodes between which is a semiconductor substance (cadmium sulphide, lead sulphide, etc.) whose electrical resistance varies with the intensity of illumination falling on the cell.

These cells are used in flame detectors, in exposure meters for automatic cameras, for counting moving objects, for automatic precision measuring devices, in automatic door opening systems, etc.

(2) **Photovoltaic cells**, which convert light directly into electrical energy without the need for an external source of current. Photovoltaic cells based on selenium are used mainly in luxmeters and exposure meters. Those based on silicon have a higher output and are used, in particular, in control and regulating equipment, for detecting light impulses, in communication systems using fibre optics, etc.

Special categories of photovoltaic cells are :

(i) **Solar cells**, silicon photovoltaic cells which convert sunlight directly into electric energy. They are usually used in groups as sources of electric power, e.g., in rockets or satellites employed in space research, for mountain rescue transmitters.

The heading also covers solar cells, whether or not assembled in modules or made up into panels. However the heading **does not cover** panels or modules equipped with elements, however simple, (for example, diodes to control the direction of the current), which supply the power directly to, for example, a motor, an electrolyser (**heading 85.01**).

(ii) **Photodiodes** (germanium, silicon, etc.), characterised by a variation in resistivity when light rays strike their p n junction. They are used in automatic data processing (reading of data storage), as photocathodes in certain electronic tubes, in radiation pyrometers, etc. **Phototransistors** and **photothyristors** belong to this category of photoelectric receivers.

The devices of this category differ, when packaged, from the diodes, transistors and thyristors of Part (A) above by their housing, which is partly transparent to permit the passage of light.

(iii) **Photocouples** and **photorelays** consisting of electroluminescent diodes combined with photodiodes, phototransistors or photothyristors.

Photosensitive semiconductor devices fall in this heading whether presented mounted (i.e., with their terminals or leads), packaged or unmounted.

(C) LIGHT-EMITTING DIODES (LED)

Light-emitting diodes (LED), or **electroluminescent diodes**, (based, inter alia, on gallium arsenide, gallium phosphide or gallium nitride) are devices which convert electric energy into visible, infra-red or ultra-violet rays. They are used, e.g., for displaying or transmitting data in control systems or for illumination and lighting applications.

Laser diodes emit a coherent light beam and are used, e.g., in detecting nuclear particles, in altimetering or in telemetering equipment, in communication systems using fibre optics.

This group also includes :

(1) **Light-emitting diode (LED) packages**

These are single electrical components encapsulating principally one or more light-emitting diode (LED) chips (dies), and possibly including optical elements and thermal, mechanical, and electrical interfaces (e.g. electric connectors including wires to connect with external control circuitry).

Protective diodes (e.g. Zener diodes) may be connected anti-parallel to the Gallium-nitride-based light-emitting Diode (GaN LED) chips to protect the GaN LED chips from electrostatic discharge for some of GaN LED packages.

There are two basic types of white LED packages. The first type is composed of a combination of LED chip(s) and fluorescent material (phosphor).

The second type of white LED packages is composed of a combination of red LED chip(s), green LED chip(s) and blue LED chip(s). White LED packages are used for general lighting and backlight applications.

(2) **Light-emitting diode (LED) assemblies**

These are assemblies comprised of light-emitting diode (LED) packages mounted on a printed circuit board, which may include optical elements and thermal, mechanical, and electrical interfaces (e.g., electric connectors including wires to connect with external control circuitry).

The LED assemblies do not have the control circuitry necessary to rectify AC power and control DC current to a level usable by the LEDs.

The number of LEDs does not alter the function of the LEDs but contributes only to the intensity of the light.

Certain LED assemblies use LED chips instead of LED packages. The chips are mounted on a printed circuit board and encapsulated overall or individually, possibly with phosphor.

(D) MOUNTED PIEZO-ELECTRIC CRYSTALS

These are mainly barium titanate (including polycrystalline polarised elements of barium titanate), lead titanate zirconate or other crystals of **heading 38.24** (see the corresponding Explanatory Note), or quartz or tourmaline crystals. They are used in microphones, loudspeakers, ultrasonic apparatus, stabilised frequency oscillating circuits, etc. They are classified here **only** if mounted. They are generally in the form of plates, bars, discs, rings, etc., and must, at least, be equipped with electrodes or electric connections. They may be coated with graphite, varnish, etc., or arranged on supports and they are often inside an envelope (e.g., metal box, glass bulb). If, however, because of the addition of other components, the complete article (mounting plus crystal) can no longer be regarded as merely a mounted crystal but has become identifiable as a specific part of a machine or appliance, the assembly is classified as a part of the machine or appliance in question : e.g., piezo-electric cells for microphones or loudspeakers (**heading 85.18**), sound-heads (**heading 85.22**), pick-up elements (feelers) for ultrasonic thickness measuring or detecting instruments (generally classified in accordance with Note 2 (b) to Chapter 90 or in **heading 90.33**, as the case may be), quartz oscillators for electronic watches (**heading 91.14**).

This heading also **excludes** unmounted piezo-electric crystals (generally **heading 38.24**, **71.03** or **71.04**).

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are classified here.

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Subheading Explanatory Note.

Subheading 8541.21

The dissipation rate of a transistor is measured by applying the specified operating voltage to the device and measuring the continuous power handling capability using a case temperature limit of 25 °C. For example, if a transistor is capable of handling a 0.2 ampere load continuously at a specified operating voltage of five volts while maintaining a case temperature of 25 °C, its dissipation rate is 1 watt (Amperage x Voltage = Wattage).

For transistors with a means of heat dissipation (for example, a tab, a metal case), the reference temperature of 25 °C is that of the bottom or of the case, whereas for other transistors (for example, with simple casing of plastics), the room temperature applies.

8541.10

- Diodes, other than photosensitive or light-emitting diodes (LED)

8541.2

- Transistors, other than photosensitive transistors :

8541.21

-- With a dissipation rate of less than 1 W

8541.29

-- Other

CLASSIFICATION OPINIONS

1. **Packaged insulated gate bipolar transistor (IGBT) device** (48 mm x 94 mm x 29 mm) containing 2 IGBT chips, 2 diodes in an anti-parallel connection to the transistors in order to protect them from the damage caused by reverse current when the transistors are turned off, and several electrodes. The foregoing are interconnected by aluminium wires and incorporated in a plastic casing which is filled with silicone gel in order to ensure insulation. The functions of the product are : amplification, oscillation, frequency conversion, and switching of electrical current. The product regulates current and voltage in high-power applications and is capable of handling high current through-put. The voltage rating is 1,200 V and the current rating is 150 A. It can be used in various applications, such as lifts, elevators, electric railways, electric vehicles, UPS (uninterruptible power supply), robotics and solar/wind power generators.
   Application of GIRs 1 (Note 12 to Chapter 85) and 6. *Adoption : 2013*



2. **Insulated Gate Bipolar Transistor (IGBT) module**, (dimensions : 62 mm x 106 mm x 36 mm) containing 1 IGBT, 1 diode in anti-parallel connection to the transistor in order to protect the transistor from the damage caused by reverse current when the transistor is turned off, and

several electrodes. These components are interconnected by aluminium wires and enclosed in a plastic casing.

The functions of the product are : amplification, oscillation, frequency conversion, and switching of electrical current. The product regulates current and voltage in high-power applications and is capable of handling high current throughput. The voltage rating is 1200 V and the current rating is 400 A. It can be used in various applications, such as lighting and heating, motion control applications, electric fans, control of electric pumps, etc. **Application of GIRs 1 and 6.**
Adoption : 2017

8541.30

- Thyristors, diacs and triacs, other than photosensitive devices

8541.4

- Photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; light-emitting diodes (LED) :

8541.41

-- Light-emitting diodes (LED)

CLASSIFICATION OPINIONS

1. Assembly of 62 light-emitting diode (LED) packages mounted on a printed circuit board (with the dimension of 440 mm in length, 5 mm in width) in a row with an electric connector at the bottom of the printed circuit board. Each package consists of an LED chip and a diode combined inside. The surface of the package is coated with fluorescent material. The LED assembly is used, e.g., in the backlight unit of liquid crystal display (LCD) TVs, tubular-type LED lamps and exterior lighting. The device does not have the control circuitry necessary to rectify AC power and convert voltage to a level usable by the LEDs. **Application of GIRs 1 and 6.**
Adoption : 2015

8541.42

-- Photovoltaic cells not assembled in modules or made up into panels

8541.43

-- Photovoltaic cells assembled in modules or made up into panels

CLASSIFICATION OPINIONS

1. Thin-film solar module (dimensions L x W x H : 1409 x 1009 x 46 mm). The front of the module is fitted with an anodized aluminium alloy frame with low iron non-tempered glass and contains 630 photovoltaic cells. These cells are arranged in 14 strings of 45 photovoltaic solar cells connected in series. These strings are connected in parallel and have two terminals of polarity (+) and (-). A junction box (dimensions L x W x H : 74 x 74 x 18 mm) is attached to the rear of the module. Inside the junction box is a bypass diode to protect the cells. Two connection “solar cables” (double insulation, with protection from UV, water, temperature and ozone) of a length of 900 mm and with “solar connectors”, are also connected to the terminals of the strings inside the junction box. **Application of GIRs 1 (Note 2 to Chapter 85) and 6.**
Adoption : 2018

8541.49

-- Other

8541.5

- Other semiconductor devices :

8541.51

-- Semiconductor-based transducers

8541.59

-- Other

8541.60

- Mounted piezo-electric crystals

8541.90

- Parts

Heading 8542

Electronic integrated circuits.

EXPLANATORY NOTES

85.42 - Electronic integrated circuits.

- Electronic integrated circuits :

8542.31 - - Processors and controllers, whether or not combined with memories, converters, logic circuits, amplifiers, clock and timing circuits, or other circuits

8542.32 - - Memories

8542.33 - - Amplifiers

8542.39 - - Other

8542.90 - Parts

The articles of this heading are defined in Note 12 (b) to the Chapter.

Electronic integrated circuits are devices having a high passive and active element or component density, which are regarded as single units (see Explanatory Note to heading 85.34, first paragraph concerning elements or components to be regarded as “passive” or “active”). However, electronic circuits containing only passive elements are **excluded** from this heading.

Unlike electronic integrated circuits, discrete components may have a single active electrical function (semiconductor devices defined by Note 12 (a) to Chapter 85) or a single passive electrical function (resistors, capacitors, inductances, etc.). Discrete components are indivisible and are the basic electronic construction components in a system.

However, components consisting of several electric circuit elements and having multiple electrical functions, such as integrated circuits, are not considered as discrete components.

Electronic integrated circuits include memories (e.g., DRAMS, SRAMs, PROMS, EPROMS, EEPROMS (or E^2PROMS)), microcontrollers, control circuits, logic circuits, gate arrays, interface circuits, etc.

Electronic integrated circuits include :

(I) **Monolithic integrated circuits**.

These are microcircuits in which the circuit elements (diodes, transistors, resistors, capacitors, inductances, etc.) are created in the mass (essentially) and on the surface of a semiconductor material (doped silicon, for example) and are therefore inseparably associated. Monolithic integrated circuits may be digital, linear (analogue) or digital-analogue.

Monolithic integrated circuits may be presented :

(i) Mounted, i.e., with their terminals or leads, whether or not encased in ceramic, metal or plastics. The casings may be cylindrical, in the form of parallelepipeds, etc.

(ii) Unmounted, i.e., as chips, usually rectangular, with sides generally measuring a few millimetres.

(iii) In the form of undiced wafers (i.e., not yet cut into chips).

(iii) In the form of undiced wafers (i.e., not yet cut into chips).

Monolithic integrated circuits include :

(i) Metal oxide semiconductors (MOS technology).

(ii) Circuits obtained by bipolar technology.

(iii) Circuits obtained by a combination of bipolar and MOS technologies (BIMOS technology).

Metal oxide semiconductor (MOS), especially complementary metal oxide semiconductor (CMOS), and bipolar technologies are the “generic” technologies involved in the manufacture of transistors. As the basic components of monolithic integrated circuits, these transistors give the integrated circuit its identity. Bipolar circuits are preferred for systems where maximum logic speed is sought. On the other hand, MOS circuits are preferred for systems in which a high component density and low energy requirements are desirable. Further, CMOS circuits have the lowest energy requirements. Thus, they are preferred in applications where power supply is limited or where cooling problems are expected. The complementary relationship between bipolar and MOS technologies is even more apparent in the BICMOS technology, which combines the speed of bipolar circuits with the high integration and low power consumption of CMOS circuits.

(II) **Hybrid integrated circuits**.

These are microcircuits built up on an insulating substrate on which a thin or thick film circuit has been formed. This process allows certain passive elements (resistors, capacitors, inductances, etc.) to be produced at the same time. However, to become a hybrid integrated circuit of this heading, semiconductors must be incorporated and mounted on the surface, either in the form of chips, whether or not encased, or as encased semiconductors (e.g., in specially designed miniature casings). Hybrid integrated circuits may also contain separately produced passive elements which are incorporated into the basic film circuit in the same way as the semiconductors.

Usually these passive elements are components such as capacitors, resistors or inductors in the form of chips.

Substrates made up of several layers, generally ceramic, heat-bonded together to form a compact assembly, are to be taken to form a single substrate within the meaning of Note 12 (b) (ii) to this Chapter.

The components forming a hybrid integrated circuit must be combined **to all intents and purposes indivisibly**, i.e., though some of the elements could theoretically be removed and replaced, this would be a long and delicate task which would be uneconomic under normal manufacturing conditions.

(III) **Multichip integrated circuits**.

These consist of two or more interconnected monolithic integrated circuits combined to all intents and purposes indivisibly, whether or not on one or more insulating substrates, with or without leadframes, but with no other active or passive circuit elements.

Multichip integrated circuits generally come in the following configurations :

- Two or more monolithic integrated circuits mounted side by side;

- Two or more monolithic integrated circuits stacked one upon the other;

- Combinations of the configurations above consisting of three or more monolithic integrated circuits.

These monolithic integrated circuits are combined and interconnected into a single body and may be packaged through encapsulation or otherwise. They are combined to all intents and purposes indivisibly, i.e., though some of the elements could theoretically be removed and replaced, this would be a long and delicate task which would be uneconomic under normal manufacturing conditions.

Insulating substrates of the multichip integrated circuits may incorporate electrically conductive regions. These regions may be composed of specific materials or formed in specific shapes to provide passive functions by means other than discrete circuit elements. Where conductive regions are present in the substrate, they are typically relied upon as a means by which the monolithic integrated circuits are interconnected. These substrates may also be referred to as “interposers” or “spacers” when placed above the bottom-most chip or die.

Monolithic integrated circuits are interconnected by a variety of means, such as adhesives, wire bonds, or “flip chip” technology.

(IV) **Multi-component integrated circuits (MCOs)**.

These are combinations of the circuits and elements mentioned in Note 12 (b) (iv) to this Chapter.

Multi-component integrated circuits (MCOs) are a combination of one or more monolithic, hybrid, or multi-chip integrated circuits with either silicon based sensors, actuators, oscillators, resonators

and combinations thereof, or one or more components performing the functions of articles classifiable under heading 85.32, 85.33, 85.41 or inductors classifiable under heading 85.04.

This includes the possibility that MCOs also can contain MCOs as long as they meet the conditions of the Note 12 (b) (iv) to Chapter 85.

All separate (tradeable) units, which are not classifiable under 85.04, 85.32, 85.33, 85.41 or which do not fall under the definition of silicon based sensors, actuators, resonators, oscillators and combinations thereof are **excluded** from the definition of an MCO (e.g., transformers (heading 85.04) or magnets (heading 85.05)).

However, other different elements that are not mentioned but which are intrinsically or necessarily part of a MCO (or of IC packages), such as substrates whether or not functioning as printed circuits, gold wires or conductive regions, or are necessary for the construction and function, e.g. mould compound or lead frames, are accepted parts/elements of the MCO.

The integrated circuits and components forming a MCO are combined and interconnected physically, electrically or optically into or onto a single body (a component existing as particular or independent technical unit with common connection to the outside world through pins, leads, balls, lands, bumps, or pads) whether or not on one or more insulating substrates, with or without lead frames, and may be packaged through encapsulation or otherwise.

The components must be combined to all intents and purposes indivisibly, i.e., though some of the elements could theoretically be removed and replaced, this would be uneconomical under normal manufacturing conditions.

The MCOs are often intended for mounting with their terminals or leads in, or on, a supporting carrier (e.g., printed circuit boards (PCBs) or other carriers, such as thick-film, thin-film, insulated metal substrates, etc.) or connecting to an electric interface. Packages of the MCOs can be made of several materials, have various designs and forms, and can protect the unit from mechanical and environmental influences.

The MCOs can have different features (e.g., a package can be solid, or have holes, windows or membranes) or attachments that are necessary for specific functions. The MCOs use these different features and attachments to receive input from outside supplied physical or chemical quantities and process these data for output in relation with silicon-based sensors, actuators, oscillators, resonators.

They can be used in a variety of applications, including computer, communication (e.g., telephones for cellular networks), consumer, industrial or automotive applications.

The heading **excludes** film circuits consisting solely of passive elements (**heading 85.34**).

This heading **does not include** solid-state non-volatile storage devices, “smart cards” and other media for the recording of sound or of other phenomena (see **heading 85.23** and Note 6 to this Chapter).

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Except for the combinations (to all intents and purposes indivisible) referred to in Parts (II), (III) and (IV) above concerning hybrid integrated circuits, multichip integrated circuits and multi-component integrated circuits (MCOs), the heading also **excludes** assemblies formed by :

(a) Mounting one or more discrete components on a support formed, for example, by a printed circuit;

(b) Adding one or more other devices, such as diodes, transformers, or resistors to an electronic microcircuit;

(c) Combinations of discrete components or combinations of electronic microcircuits other than multichip-type or multi-component-type integrated circuits; or by.

(d) Combinations of one or more monolithic, hybrid, multi-chip, or multi-component integrated circuits with components not mentioned in Note 12 (b) (iv) to this Chapter (e.g., transformers (heading 85.04) or magnets (heading 85.05)).

Such assemblies are classified as follows :

(i) Assemblies which constitute a complete machine or appliance (or one classified as complete), in the heading appropriate to the machine or appliance;

(ii) Other assemblies, in accordance with the provisions for the classification of machine parts (Notes 2 (b) and 2 (c) to Section XVI, in particular).

This is the case, in particular, for certain electronic memory modules (e.g., SIMMs (Single In-line Memory Modules) and DIMMs (Dual In-line Memory Modules)). Those modules are to be classified by application of Note 2 to Section XVI. (See the General Explanatory Note to this Chapter).

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PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are classified here.

8542.3

- Electronic integrated circuits :

8542.31

-- Processors and controllers, whether or not combined with memories, converters, logic circuits, amplifiers, clock and timing circuits, or other circuits

8542.32

-- Memories

8542.33

-- Amplifiers

8542.39

-- Other

CLASSIFICATION OPINIONS

1. **Power module** containing 6 transistors, 6 diodes and 4 integrated circuits, in addition to 3 resistors and other passive components, including a thermistor. All the foregoing are manufactured through separate processes, and are mounted on a copper lead frame, bound by wire and molded by plastic resin. The subject module performs switching of current in order to provide current to threephase electric motors. Specific applications include, but are not limited to, consumer appliances such as washing machines and air conditioning units. **Application of GIRs 1 (Note 12 to Chapter 85) and 6.** *Adoption : 2008*

2. **Power module** containing 6 transistors, 6 diodes and 4 integrated circuits, in addition to 3 resistors and other passive components, including a thermistor. All the foregoing are manufactured through separate processes, and are mounted on a copper lead frame, bound by wire and molded by plastic resin. The subject module performs switching of current in order to provide current to three-phase electric motors. Specific applications include, but are not limited to, consumer appliances such as washing machines and air conditioning units. **Application of GIRs 1 (Note 12 to Chapter 85) and 6.** *Adoption : 2008*

3. **Power module** containing (i) a metal oxide semiconductor field effect transistor and (ii) a monolithic integrated circuit which controls and protects the transistor. The foregoing are manufactured by separate processes, and are mounted on a copper lead frame, either vertically or horizontally, which are bound by wire and molded by plastic resin. The subject module switches electrical currents from the primary side to the secondary side of the forward converter of a switching mode power supply. Specific applications include, but are not limited to, battery chargers and adapters, mobile phones, personal digital assistants (PDAs), apparatus incorporating solid-state non-volatile storage devices (such as “MP3 players”), monitors and automatic data processing machines. **Application of GIRs 1 (Note 12 to Chapter 85) and 6.** *Adoption : 2008*

4. **Power module** containing (i) a metal oxide semiconductor field effect transistor and (ii) a monolithic integrated circuit which controls and protects the transistor. The foregoing are manufactured by separate processes, and are mounted on a copper lead frame, horizontally, which are bound by wire and molded by plastic resin. The subject module serves as a linear regulator, which maintains or regulates an output voltage based on the input reference voltage. Specific applications include, but are not limited to, battery chargers and adapters, mobile phones, personal digital assistants (PDAs), apparatus incorporating solid-state non-volatile storage devices (such as “MP3 players”), monitors and automatic data processing machines. **Application of GIRs 1 (Note 12 to Chapter 85) and 6.** *Adoption : 2008*

8542.90

- Parts

Heading 8543

Electrical machines and apparatus, having individual functions, not specified or included elsewhere in this Chapter.

EXPLANATORY NOTES

85.43 - Electrical machines and apparatus, having individual functions, not specified or included elsewhere in this Chapter.

8543.10 - Particle accelerators

8543.20 - Signal generators

8543.30 - Machines and apparatus for electroplating, electrolysis or electrophoresis

8543.40 - Electronic cigarettes and similar personal electric vaporising devices

8543.70 - Other machines and apparatus

8543.90 - Parts

This heading covers all electrical appliances and apparatus, **not falling** in any other heading of this Chapter, **nor covered more specifically** by a heading of any other Chapter of the Nomenclature, nor excluded by the operation of a Legal Note to Section XVI or to this Chapter. The principal electrical goods covered more specifically by other Chapters are electrical machinery of **Chapter 84** and certain instruments and apparatus of **Chapter 90**.

The electrical appliances and apparatus of this heading must have individual functions. The introductory provisions of Explanatory Note to heading 84.79 concerning machines and mechanical appliances having individual functions apply, *mutatis mutandis*, to the appliances and apparatus of this heading.

Most of the appliances of this heading consist of an assembly of electrical goods or parts (valves, transformers, capacitors, chokes, resistors, etc.) operating wholly electrically. However, the heading also includes electrical goods incorporating mechanical features **provided** that such features are subsidiary to the electrical function of the machine or appliance.

The heading includes, *inter alia* :

(1) **Particle accelerators**. These are devices for imparting high kinetic energy to charged particles (electrons, protons, etc.).

Particle accelerators are used mainly in nuclear research, but they also serve in the production of radioactive materials, in medical or industrial radiography, for the sterilisation of certain products, etc.

Particle accelerators usually consist of large installations (which may weigh several thousands of tons). They comprise a particle source, an acceleration chamber, and devices for producing high frequency voltage, variations of the flux or radio-frequencies which are used to accelerate the particles. They may contain one or more targets.

Acceleration, focalisation and deflection of the particles are achieved by electrostatic or electro-magnetic devices which are fed by high voltage or high frequency generators. Accelerator and generators are often enclosed in an anti-radiation screen.

The particle accelerators covered by this heading include, Van de Graaff accelerators, Cockcroft and Walton accelerators, linear accelerators, cyclotrons, betatrons, synchrocyclotrons, synchrotrons, etc.

Betatrons and other particle accelerators specially adapted for the production of X-rays, including those capable of producing either beta-rays or gamma-rays as required, fall in **heading 90.22**.

(2) **Signal generators**. These are apparatus for the production of electrical signals, of known wave-form and magnitude, at an assignable frequency (high or low frequency, for example). These include, *inter alia* : impulse generators, pattern generators, wobbulators (sweep generators).

(3) **Mine detectors** based on the change of magnetic flux produced in the apparatus when brought near to a metal object. Similar detectors are used, for example, for detecting foreign metallic bodies in casks of tobacco, food products, timber, etc., and for locating buried pipes.

(4) **Mixing units**, used in sound recording for combining the output from two or more microphones; they are sometimes combined with an amplifier. Audio mixers and equalisers are also included under this heading. But mixing units specialised for cinematography are **excluded** (**heading 90.10**).

(5) **Noise reduction units** for use with sound recording apparatus.

(6) **Defrosters and demisters with electric resistors** for aircraft, ships, trains or other vehicles (**except** cycles or motor vehicles - **heading 85.12**).

(7) **Synchronisers** for use when several generators are feeding into a common circuit.

(8) **Electrical mine detonators**, consisting of a hand generator (dynamo) and a capacitor.

(9) **High or intermediate frequency amplifiers** (including measurement amplifiers and aerial amplifiers).

(10) **Machines and apparatus for electroplating, electrolysis or electrophoresis** (**other than** machines and apparatusof **heading 84.86** and electrophoresis instruments of **heading 90.27**).

(11) **Electronic cigarettes and similar personal electric vaporising devices**.

This group covers :

(i) Devices commonly known as “electronic cigarettes” that heat and vaporise liquid or solutions which the user inhales directly, of subheading 2404.12 or 2404.19, with or without nicotine; and

(ii) Other similar personal electric vaporising devices, such as electrically heated tobacco systems (EHTS), ultrasonic vibration devices, etc., that generate aerosol from tobacco products (products of subheading 2404.11) or other products containing nicotine, or tobacco or nicotine substitutes (products of subheading 2404.12 or 2404.19) intended for inhalation without combustion.

These are electrically operated devices that operate, without the use of combustion, to produce an aerosol for direct inhalation by the user through a mouth-piece. They incorporate specific electric or electronic components, such as a heating element (e.g., atomiser), or an ultrasonic vibrator, etc., that allow the device to generate aerosol from a liquid, solution, gel, tobacco plug, or other product designed to be used in the device. They may resemble smoking products of different shapes (e.g., cigarette, cigar, smoking pipe or water pipe), or they may resemble everyday items such as a writing pen or USB flash drive, etc. These products are designed to be refilled or used with replaceable cartridges, tobacco plugs or the like.

(12) **Ultra-violet irradiation equipment** for general industrial uses.

(13) **Ozone generating and diffusing apparatus, electric**, designed for non-therapeutic purposes (e.g., for industrial uses, for the ozonisation of premises).

(14) **Electronic musical modules** for incorporation in a wide variety of utilitarian or other goods, e.g., wrist watches, cups and greeting cards. These modules usually consist of an electronic integrated circuit, a resistor, a loudspeaker and a mercury cell. They contain fixed musical programmes.

(15) **Electric fence energisers**.

(16) **Cordless infrared devices for the remote control** of television receivers, video recorders or other electrical equipment.

(17) **Electro-luminescent devices**, generally in strips, plates or panels , and based on electro-luminescent substances (e.g., zinc sulphide) placed between two layers of conductive material.

(18) **Digital flight-data recorders (flight recorders)** in the form of a fire-proof, crash-proof electronic apparatus for the continuous in-flight recording of specific flight data.

This heading **excludes** :

(a) Disposable electronic cigarettes (disposable e-cigarettes) and similar disposable personal electric vaporising devices, that incorporate the product intended for inhalation without combustion (e.g., e-liquid, gels) in the housing and are disposed of after the product is exhausted or the battery runs out (not designed for refilling or recharging) (**heading 24.04**).

(b) Cartridges or tanks that contain liquids or solutions, whether or not presented with other components (e.g., heating elements or 'atomisers'), intended for use in electronic cigarettes or similar personal electric vaporising devices (**heading 24.04**).

(c) Ion implanters for doping semiconductor or flat panel materials (**heading 84.86**).

(d) Apparatus for physical vapour deposition for the manufacture of semiconductor wafers, semiconductor devices, electronic integrated circuits, or flat panel displays (**heading 84.86**).

(e) "Smart cards" (including proximity cards or tags) as defined in Note 6 (b) to this Chapter (**heading 85.23**).

(f) Non-electric smoking pipes of all kinds (including calumets, chibouks or Turkish pipes, hookahs, etc. (**heading 96.14)**.

PARTS

Subject to the general provisions regarding the classification of parts (see the General Explanatory Note to Section XVI), parts of the goods of this heading are also classified here.

8543.10

- Particle accelerators

8543.20

- Signal generators

8543.30

- Machines and apparatus for electroplating, electrolysis or electrophoresis

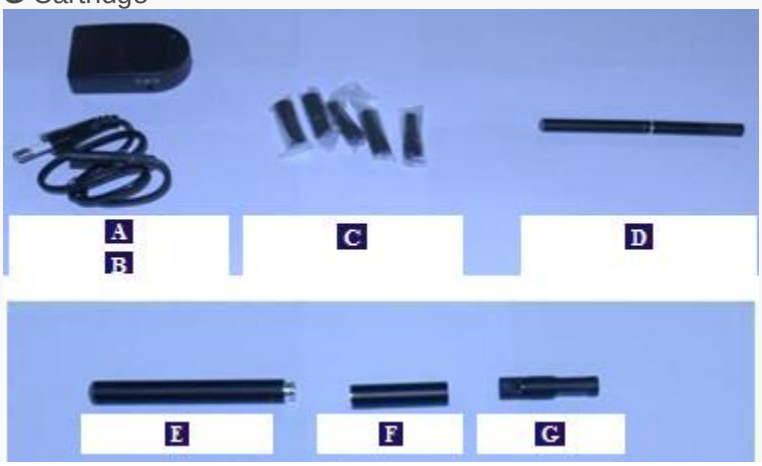
8543.40

- Electronic cigarettes and similar personal electric vaporising devices

CLASSIFICATION OPINIONS

1. **"Electronic cigarette"**, a battery-operated device in the shape of a round tube resembling a normal cigarette, measuring approximately 150 mm in length and 11 mm in diameter. When a user inhales through the device, air flow is detected by the air sensor, which activates an atomizer that heats and vaporises the liquid in the cartridge. This produces a vapour mist which is inhaled by the user. The product is put up in a set for retail sale in a box together with a power cord, a charger and five spare cartridges.
Application of GIRs 1, 3 (b) and 6.
Adoption : 2011

A Charger
B Power cable
C Cartridges (5 pcs)
D Electronic cigarette
E Battery part
F Atomizing part
G Cartridge



8543.70

- Other machines and apparatus

CLASSIFICATION OPINIONS

1. **Electroluminescent devices,** generally in the form of tapes, plates or panels, consisting essentially of :

   (i) an electroluminescent crystalline substance (usually zinc sulphide) sandwiched between two layers of electrically conductive materials, one of which is transparent (plastics or special glass);
   (ii) electrical leads;
   (iii) two thin sheets, usually of plastics, sealing and protecting the whole;

   when excited by an alternating current, these devices become luminescent over their whole surface and have many applications such as : background lighting, decoration, signalling, etc.
   Adoption : 1966 + 1994 + 2007

2. **Low-noise-block (LNB) down converter** which is designed to be mounted on an aerial (dish) of a system for receiving satellite broadcasts and is used to amplify weak signals and convert frequencies from very high levels to levels within the VHF and UHF range.
   Adoption : 1997

3. **Remote control,** which uses infra-red rays of a frequency exceeding 3,000 GHz (the upper limit for radio frequencies), to control (from a distance) a receiver of satellite television broadcasts in order to change channel or alter the rotation of the aerial (dish) and the polarizer.
   Adoption : 1997

4. **System, consisting of a combination of machines, designed to record digital video images, create video effects, or edit and finalise video programmes** for broadcasting. The system is capable of sending and receiving video signals. Inside the system, video signals are converted into digital signals so that they can be processed by the central processing unit. The system consists of the following components :

   (i) one central processing unit;
   (ii) two colour display units (monitors) (with a non-interlaced scanner for displaying data, and an interlaced scanner for video presentations); one of these units shows digital operations conducted by the central processing unit and the other shows the final result;
   (iii) input unit in the form of a keyboard;
   (iv) 4 and 9 Gb (gigabyte) magnetic hard disks;
   (v) logging software;
   (vi) video coprocessor board;
   (vii) compression board;
   (viii) DVE (Digital Video Effects) real-time board;
   (ix) audiomedia II sound board;
   (x) SCSI-II (Small Computer Systems Interface) accelerator board;
   (xi) two amplified speakers.

   Application of GIRs 1 (Note 4 to Section XVI and Note 6 (E) to Chapter 84) and 6.
   Adoption : 1997

5. **"Hall element device" with four terminals**, consisting of a ferrite substrate with a layer of indium antimonide (InSb) and a ferrite yoke in the role of a magnetic circuit, mounted on a lead frame and wire bonded for connecting to an outer electronic circuit. The device senses magnetism and produces an electric current by "Hall effect" and is used for small accurate motors of washing machines, refrigerators, air conditioners, etc.

Application of GIRs 1 and 6.
Adoption : 2017

A Bonding wire**B** Ferrite yoke**C** Substrate**D** Lead frame

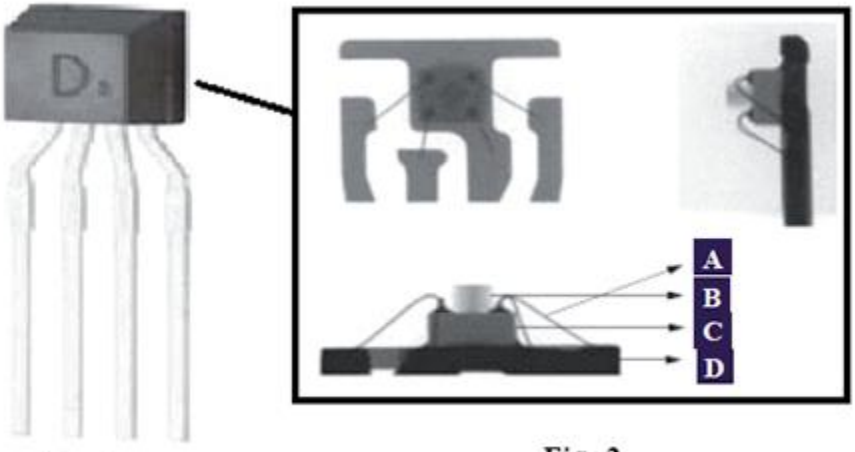


Fig. 1 Fig. 2

6. **Superluminescent diode module (SLED)** consisting of a superluminescent diode, a thermoelectric cooler and a thermistor, permanently mounted in a 14-pin butterfly housing, which is fitted with a fibre optic pigtail with an FC/APC connector. The superluminescent diode produces an emission in the spectral band of 800 to1700 nm, with a centre wavelength range of 1530 to 1570 nm.
Applications include, but are not limited to, light sources in medical diagnostics (optical coherence tomography), fibre optic sensors or fibre optic gyroscopes.
Application of GIRs 1 and 6.
Adoption : 2019

8543.90

- Parts

Heading 8544

Insulated (including enamelled or anodised) wire, cable (including co-axial cable) and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables, made up of individually sheathed fibres, whether or not assembled with electric conductors or fitted with connectors.

EXPLANATORY NOTES

85.44 - Insulated (including enamelled or anodised) wire, cable (including co-axial cable) and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables, made up of individually sheathed fibres, whether or not assembled with electric conductors or fitted with connectors.

- Winding wire :

8544.11 - - Of copper

8544.19 - - Other

8544.20 - Co-axial cable and other co-axial electric conductors

8544.30 - Ignition wiring sets and other wiring sets of a kind used in vehicles, aircraft or ships

- Other electric conductors, for a voltage not exceeding 1,000 V :

8544.42 - - Fitted with connectors

8544.49 - - Other

8544.60 - Other electric conductors, for a voltage exceeding 1,000 V

8544.70 - Optical fibre cables

Provided they are insulated, this heading covers electric wire, cable and other conductors (e.g., braids, strip, bars) used as conductors in electrical machinery, apparatus or installations. **Subject** to this condition, the heading includes wiring for interior work or for exterior use (e.g., underground, submarine or aerial wires or cables). These goods vary from very fine insulated wire to thick cables of more complex types.

Non-metal conductors are also covered by this heading.

The goods of this heading are made up of the following elements :

(A) A conductor - this may be single strand or multiple, and may be wholly of one metal or of different metals.

(B) One or more coverings of insulating material - the aim of these coverings is to prevent leakage of electric current from the conductor, and to protect it against damage. The insulating materials mostly used are rubber, paper, plastics, asbestos, mica, micanite, glass fibre yarns, textile yarns (whether or not waxed or impregnated), varnish, enamel, pitch, oil, etc. In certain cases the insulation is obtained by anodising or by a similar process (e.g., the production of a surface coating of metallic oxides or salts).

(C) In certain cases a metal sheath (e.g., lead, brass, aluminium or steel); this serves as a protective covering for the insulation, as a channel for an insulation of gas or oil, or as a supplementary conductor in certain co-axial cables.

(D) Sometimes a metal armouring (e.g., spiral wound steel or iron wire or strip), used mainly for protecting underground or submarine cable.

The insulated wires, cables, etc., of this heading may be in the form of :

(i) Single or multiple strand insulated wire.

(ii) Two or more such insulated wires twisted together.

(iii) Two or more such insulated wires assembled together in a common insulating sheath.

The heading covers, *inter alia* :

(1) **Lacquered or enamelled wire**, usually very thin and mainly used for coil windings.

(2) **Anodised, etc., wire**.

(3) **Telecommunications wires and cables** (including submarine cables and data transmission wires and cables) are generally made up of a pair, a quad or a cable core, the whole usually covered with a sheath. A pair or a quad consists of two or four insulated wires, respectively (each wire is made up of a single copper conductor insulated with a coloured material of plastics having a thickness not exceeding 0.5 mm), twisted together. A cable core consists of a single pair or a quad or multiple stranded pairs or quads.

(4) **Insulated aerial cables**.

(5) **Cables for permanent long-distance connections** often with channels for filling with insulating gas or oil.

(6) **Armoured underground cables** with anti-corrosive sheathing.

(7) **Cables for use in mine shafts**; these have a longitudinal armouring to withstand the effects of tension.

In addition the heading covers plaited wire coated with lacquer or inserted in an insulating sheath.

It also includes insulated strip generally used in large electrical machinery or control equipment.

Wire, cable, etc., remain classified in this heading if cut to length or fitted with connectors (e.g., plugs, sockets, lugs, jacks, sleeves or terminals) at one or both ends. The heading also includes wire, etc., of the types described above made up in sets (e.g., multiple cables for connecting motor vehicle sparking plugs to the distributor).

The heading also covers optical fibre cables, made up of individually sheathed fibres, whether or not assembled with electric conductors or fitted with connectors. The sheaths are usually of different colours to permit identification of the fibres at both ends of the cable. Optical fibre cables are used mainly in telecommunications because their capacity for the transmission of data is greater than that of electrical conductors.

The heading **excludes** electric heating resistors sheathed in insulating material (e.g., special alloy wire wound spirally around a core of glass fibres or asbestos) of **heading 85.16**; connectors for optical fibres, optical fibre bundles or cables of **heading 85.36**.

8544.1

- Winding wire :

8544.11

-- Of copper

8544.19

-- Other

8544.20

- Co-axial cable and other co-axial electric conductors
8544.30

- Ignition wiring sets and other wiring sets of a kind used in vehicles, aircraft or ships
8544.4

- Other electric conductors, for a voltage not exceeding 1,000 V :
8544.42

-- Fitted with connectors
8544.49

-- Other
8544.60

- Other electric conductors, for a voltage exceeding 1,000 V
8544.70

- Optical fibre cables
Heading 8545

Carbon electrodes, carbon brushes, lamp carbons, battery carbons and other articles of graphite or other carbon, with or without metal, of a kind used for electrical purposes.
EXPLANATORY NOTES

85.45 - Carbon electrodes, carbon brushes, lamp carbons, battery carbons and other articles of graphite or other carbon, with or without metal, of a kind used for electrical purposes.

- Electrodes :

8545.11 - - Of a kind used for furnaces

8545.19 - - Other

8545.20 - Brushes

8545.90 - Other

This heading covers all articles of graphite or other carbon which are recognisable by their shape, dimensions or otherwise, as being for electrical purposes, whether or not they contain metal.

In general, these articles are obtained by the extrusion or by the moulding (usually under pressure) and heat-treatment of a composition which, in addition to its basic constituent (natural carbon, carbon black, gas carbon, coke, natural or artificial graphite, etc.) and the necessary binders (pitch, tar, etc.), may also contain other substances such as metallic powders.

In some cases the articles of this heading may be coated electrolytically or by spraying (e.g., with copper) to increase their conductivity and decrease their rate of wear. They remain classified here even if fitted with eyelets, terminals or other means of connection.

The heading includes :

(A) **Carbon electrodes for furnaces**.

These are generally in the form of cylinders or rods, and are sometimes threaded or tapped at the ends to enable them to be screwed into position.

(B) **Carbon welding electrodes**.

These are generally in the form of rods.

(C) **Carbon electrodes for electrolysis**.

These may be in the form of plates, bars (including bars of triangular cross-section), cylinders, etc. They are designed to be mounted or suspended in electrolysis baths, and may be furnished with fittings for this purpose such as hooks or rings. Certain types may be pierced with holes or grooved to facilitate the removal of gases formed on them during use.

(D) **Carbon brushes**.

These are used as sliding contacts for generators, motors, etc., as current-collectors for electric locomotives, etc. Though some may be made by direct moulding, the large majority are cut from the "carbon" blocks or plates described in Explanatory Note to heading 38.01. They are all made very accurately to size and the faces are carefully machined to tolerances of a few hundredths of a millimetre. They can therefore be indentified by their sizes, shapes, and highly-finished surfaces; in many cases, they may also be wholly or partly metal-coated or be fitted with connectors (brackets, cables, terminals, springs, etc.).

Such carbon brushes may be of any of the grades described in Explanatory Note to heading 38.01, or may contain silver.

This heading **does not**, however, **include** metal brushes coated with an external lubricating layer of graphite (**heading 85.35** or **85.36**). Brush holders (whether or not complete with their brushes) are classified as parts of machines (e.g., **heading 85.03**).

(E) **Arc-lamp or other lamp carbons**.

Arc-lamp carbons are usually in the form of rods or pencils; they sometimes have a core of special composition to improve arc stability and to provide high intensity light output, or to give the flame a special colour. The heading also covers carbon filaments for electrical resistance lamps.

(F) **Battery carbons**.

According to the type of battery for which they are intended, these may be in the form of rods, plates, tubes, etc.

(G) **Carbon parts of microphones**.

These may consist of discs or other identifiable parts.

(H) **Other articles** of graphite or other carbon, such as :

(1) Connecting pieces (nipples) for joining together furnace carbons.

(2) Anodes, grids and screens for rectifying valves.

(3) Heating resistors, in the form of rods, bars, etc., for various types of heating apparatus.

(4) Resistance discs and plates for automatic voltage regulators.

(5) Other contacts or electrodes of carbon.

The heading also **excludes** :

(a) Graphite or other carbon in the form of powders or granules (**Chapter 38**).

(b) Carbon resistors (**heading 85.33**).

8545.1

- Electrodes :

8545.11

-- Of a kind used for furnaces

8545.19

-- Other

8545.20

- Brushes

8545.90

- Other

Heading 8546

Electrical insulators of any material.

EXPLANATORY NOTES

85.46 - Electrical insulators of any material.

8546.10 - Of glass

8546.20 - Of ceramics

8546.90 - Other

Insulators of this heading are used for the fixing, supporting or guiding of electric current conductors while at the same time insulating them electrically from each other, from earth, etc. The heading **excludes** insulating fittings (other than insulators) for electrical machinery, appliances or equipment; these fittings fall in **heading 85.47** if they consist wholly of insulating material (apart from any minor components of metal incorporated during moulding solely for purposes of assembly).

Usually there is a relation between the size of the insulator and the voltage (large for high voltages, smaller for low voltages). Similarly, the shape of the various types of insulators is influenced by electric, thermic and mechanical considerations. The external surface is very smooth in order to prevent the formation of deposits of non-insulating materials, such as water, salts, dusts, oxides and smoke. Insulators are often given bell, accordion, petticoat, grooved, cylinder or other shapes. Certain types

are constructed in such a way that when in position they may contain oil to prevent contamination of the surface by conducting materials.

Insulators may be made of any insulating material, usually very hard and non-porous, e.g., ceramic material (porcelain, steatite), glass, fused basalt, hardened rubber, plastics or compounded insulating materials. They may contain fixing devices (e.g., metal brackets, screws, bolts, clips, laces, slings, pins, cross pieces, caps, rods, suspension or carrying clamps). Insulators equipped with metal horns or guard shields or other devices to form lightning arresters are **excluded** (**heading 85.35**).

Insulators are used on outdoor cables, e.g., in telecommunications, power networks, electrical traction systems (railway, tramway, trolleybus, etc.), and also for indoor installations or on certain machines and appliances.

The insulators of this heading include :

(A) **Suspension insulators**, such as :

(1) **Chain suspension insulators**. These are used mainly on outdoor networks, and consist of several insulating elements. The conductor cable or wire is fixed at the bottom of the assembly which is hung on a suitable support (pylon arm, suspension cable, etc.).

Suspension chain insulators include cap or hood type insulators, double petticoat insulators; chain link insulators; linked rod insulators.

(2) **Other suspension insulators** (e.g., insulators in the form of balls, bells, pulleys, etc.) for overhead lines of railways, trolleybuses, cranes, etc., or for aerials.

(B) **Rigid insulators**.

These may be fitted with supports (e.g., metal hooks, pins or the like); or they may be without supports, but intended to be attached to power or telegraph poles, etc., or fitted to walls, ceilings, floors, etc., by means of nails, screws, bolts, etc. Insulators with fixed supports may be built up of two or more elements; those without supports are usually single units. They may be of various shapes (e.g., bells, cones, cylinders, buttons, pulleys).

(C) **Leading-in insulators**.

These are used for guiding cables or wires through walls, etc. They are of various forms (e.g., cone or double cone shaped insulators, disc insulators, sleeves, pipes and tubular bends).

The heading **excludes** insulated electrical conduit tubing and joints therefor (**heading 85.47**).

8546.10

- Of glass

8546.20

- Of ceramics

8546.90

- Other

Heading 8547

Insulating fittings for electrical machines, appliances or equipment, being fittings wholly of insulating material apart from any minor components of metal (for example, threaded sockets) incorporated during moulding solely for purposes of assembly, other than insulators of heading 85.46; electrical conduit tubing and joints therefor, of base metal lined with insulating material.

EXPLANATORY NOTES

85.47 - Insulating fittings for electrical machines, appliances or equipment, being fittings wholly of insulating material apart from any minor components of metal (for example, threaded sockets) incorporated during moulding solely for purposes of assembly, other than insulators of heading 85.46; electrical conduit tubing and joints therefor, of base metal lined with insulating material.

8547.10 - Insulating fittings of ceramics

8547.20 - Insulating fittings of plastics

8547.90 - Other

(A) INSULATING FITTINGS FOR ELECTRICAL MACHINES, APPLIANCES OR EQUIPMENT, BEING FITTINGS WHOLLY OF INSULATING MATERIAL APART FROM ANY MINOR COMPONENTS OF METAL (FOR EXAMPLE, THREADED SOCKETS) INCORPORATED DURING MOULDING SOLELY FOR PURPOSES OF ASSEMBLY, OTHER THAN INSULATORS OF HEADING 85.46

With the **exception** of insulators as such (**heading 85.46**), this group covers all fittings for electrical machinery, appliances or apparatus, **provided** :

(i) They are **wholly** of insulating material, or are **wholly** of insulating material (e.g., plastics) **apart from** any minor components of metal (screws, threaded sockets, sleeves, etc.) incorporated during moulding **solely** for purposes of assembly.

and (ii) They are designed for insulating purposes even though at the same time they have other functions (e.g., protection).

In general the fittings of this group are obtained by moulding or casting, or by sawing, cutting or otherwise working the raw material. They may be drilled, threaded, filed, grooved, etc.

They may be made of any insulating material (e.g., glass, ceramics, steatite, hardened rubber, plastics, resin impregnated paper or paperboard, asbestos-cement or mica).

These fittings may be in various forms. This group includes, *inter alia*, covers, bases and other parts of switches, circuit breakers, etc.; bases and supports for fuses; rings and other parts for lamp-holders; formers for resistors or coils; connection strips and dominoes **not fitted** with their terminals; cores for bobbins and windings of various kinds; sparking plug bodies.

The heading **does not cover** fittings which, even though made wholly of insulating material (or made wholly of insulating material apart from any minor components of metal incorporated during moulding

solely for the purposes of assembly), have not been specially constructed for insulating purposes, such as containers, covers and separator plates for accumulators (**heading 85.07**).

(B) ELECTRICAL CONDUIT TUBING AND JOINTS THEREFOR, OF BASE METAL LINED WITH INSULATING MATERIAL

This group covers the metal tubing used in permanent electrical installations (e.g., house wiring) as insulation and protection for the wires, **provided it has an interior lining of insulating material**. Uninsulated metal tubing, often used for the same purpose, is **excluded** (**Section XV**).

The tubing of this group consists either of spiralled metal strip wound on to an interior tube of insulating material, or of rigid metal tubing (usually iron or steel) coated or lined on the inside with insulating material. The insulating material may be special electrically insulating varnish, paper or paperboard, rubber, plastics, etc. Metal tubing simply coated with varnish to prevent corrosion is **excluded** (**Section XV**).

This group also covers joints used for connecting the tubing of this heading **provided** they are also of base metal and coated or lined with insulating material (e.g., straight joints, elbows, tee joints and cross-overs).

Joints such as tee joints, cross-overs, etc., fitted with terminals for electrical connections are **excluded** (**heading 85.35** or **85.36**).

The heading also **excludes** tubing wholly of insulating material (e.g., of rubber, plastics, braided textile yarns or glass fibre yarns); this is classified according to the constituent material, unless constituting an insulator of **heading 85.46**.

8547.10

- Insulating fittings of ceramics

8547.20

- Insulating fittings of plastics

8547.90

- Other

Heading 8548

Electrical parts of machinery or apparatus, not specified or included elsewhere in this Chapter.

EXPLANATORY NOTES

85.48 - Electrical parts of machinery or apparatus, not specified or included elsewhere in this Chapter.

(A) ELECTRICAL PARTS OF MACHINERY OR APPARATUS NOT SPECIFIED OR INCLUDED ELSEWHERE IN THIS CHAPTER

This heading also includes all electrical parts of machinery or apparatus, **other than** :

(a) Those suitable for use solely or principally with a particular machine or appliance.

(b) Parts covered by an earlier heading of this Chapter or which are excluded by Note 1 to Section XVI.

This heading therefore covers articles which are identifiable as electrical parts of machinery or apparatus but **not** as parts of a **particular** machine or apparatus, and which incorporate electrical connections, insulated sections, coils, contacts or other specifically electrical elements.

8548.00

Electrical parts of machinery or apparatus, not specified or included elsewhere in this Chapter.

Heading 8549

Electrical and electronic waste and scrap.

EXPLANATORY NOTES

85.49 - Electrical and electronic waste and scrap (+).

- Waste and scrap of primary cells, primary batteries and electric accumulators; spent primary cells, spent primary batteries and spent electric accumulators :

8549.11 - - Waste and scrap of lead-acid accumulators; spent lead-acid accumulators

8549.12 - - Other, containing lead, cadmium or mercury

8549.13 - - Sorted by chemical type and not containing lead, cadmium or mercury

8549.14 - - Unsorted and not containing lead, cadmium or mercury

8549.19 - - Other

- Of a kind used principally for the recovery of precious metal :

8549.21 - - Containing primary cells, primary batteries, electric accumulators, mercury-switches, glass from cathode ray tubes or other activated glass, or electrical or electronic components containing cadmium, mercury, lead or polychlorinated biphenyls (PCBs)

8549.29 - - Other

- Other electrical and electronic assemblies and printed circuit boards :

8549.31 - - Containing primary cells, primary batteries, electric accumulators, mercury-switches, glass from cathode ray tubes or other activated glass, or electrical or electronic components containing cadmium, mercury, lead or polychlorinated biphenyls (PCBs)

8549.39 - - Other

- Other :

8549.91 - - Containing primary cells, primary batteries, electric accumulators, mercury-switches, glass from cathode ray tubes or other activated glass, or electrical or electronic components containing cadmium, mercury, lead or polychlorinated biphenyls (PCBs)

8549.99 - - Other

Electrical and electronic waste and scrap (“e-waste”) of this heading covers a wide range of goods, and any goods that have a plug or requires a battery will generally be e-waste at the end of their life cycle.

E-waste for the purposes of this heading are goods suitable only for recovery, recycling or disposal, and not for repair, refurbishment, renovation, reuse or repurposing to render them fit for their original purpose or for subsequent use. Simply being used goods is not sufficient to render goods e-waste. E-waste goods may be physically intact (but non-functional) or in a scrapped condition, for example, broken, cut-up, or otherwise worn or destructed.

E-waste includes, but is not limited to :

(1) waste, scrap, or spent primary cells, primary batteries or electric accumulators;

(2) consumer electronics;

(3) office, information and communications technology devices;

(4) household appliances;

(5) power tools;

(6) electrical or electronic parts, including printed circuit boards.

As goods of this heading are not intended to be reused as individual articles, they are generally shipped in bulk and normally traded by weight rather than unit quantity. Packaging of goods to prevent damage to the individual articles normally indicates that they are not intended for recovery, recycling or disposal and goods presented in such a manner are not classified as e-waste. For example, televisions, cellular phones or batteries individually wrapped in protective wrappings and boxed are not considered to be a shipment of e-waste.

Mixed consignments of electronic waste and other waste and scrap remain classified in this heading.

The expression “original purpose”, in Note 6 to Section XVI, refers to functional use as an electrical or electronic good**.**

°

° °

The heading **does not cover** :

(a) radioactive waste (**heading 28.44**).

(b) unsorted municipal waste (**heading 38.25**).

°

° °

Subheading Explanatory Notes.

Subheadings 8549.11 to 8549.19

These subheadings cover waste and scrap of primary cells, primary batteries, and electric accumulators of heading 85.06 and 85.07, including spent primary cells and batteries as well as spent electric accumulators as described in Subheading Note 5 to this Chapter.

For the purposes of these subheadings, the terms “spent primary cells”, “spent primary batteries”, and “spent electric accumulators” mean articles, whether physically intact or in a scrapped condition, for example, broken, cut-up, or otherwise worn or destructed, that are suitable only for recovery, recycling or disposal or, in the case of spent electric accumulators, not capable of being recharged or holding a charge.

These products generally come from : manufacturers of primary cells, primary batteries, and electric accumulators; scrap merchants who buy waste and scrap from manufacturers or merchants who collect and dismantle electric accumulators or collect primary cells and primary batteries.

Consignments from battery manufacturers may consist of positive and negative plates in various proportions or half-assembled elements (e.g., reels made up of a negative plate and a positive plate separated by a fabric “separator” and coiled). The reels may also be pre-assembled inside the container or mixed with unusable defective finished batteries

Consignments from the dismantling or reclamation of old batteries may contain a mixture of positive and negative plates, with or without separator, as packs, plates or reels.

Spent primary cells, spent primary batteries, and spent electric accumulators are generally intended for processing to recover metals (lead, nickel, cadmium, cobalt, etc.), metal compounds, or slag.

Subheadings 8549.21 and 8549.29

These subheadings cover electronic waste that contains precious metals or precious metal compounds and of the type which are used principally for the recovery of these precious metals.

Subheadings 8549.21, 8549.31 and 8549.91

For purposes of these subheadings, the term “containing primary cells, primary batteries, electric accumulators” means primary cells, primary batteries, and electric accumulators, whether spent or

functional, and whether physically intact or in a scrapped condition (for example, broken, cut-up, or otherwise worn or destructed), that are contained in or with electronic waste.

8549.1

- Waste and scrap of primary cells, primary batteries and electric accumulators; spent primary cells, spent primary batteries and spent electric accumulators :

8549.11

-- Waste and scrap of lead-acid accumulators; spent lead-acid accumulators

8549.12

-- Other, containing lead, cadmium or mercury

8549.13

-- Sorted by chemical type and not containing lead, cadmium or mercury

8549.14

-- Unsorted and not containing lead, cadmium or mercury

8549.19

-- Other

8549.2

- Of a kind used principally for the recovery of precious metal :

8549.21

-- Containing primary cells, primary batteries, electric accumulators, mercury-switches, glass from cathode-ray tubes or other activated glass, or electrical or electronic components containing cadmium, mercury, lead or polychlorinated biphenyls (PCBs)

8549.29

-- Other

8549.3

- Other electrical and electronic assemblies and printed circuit boards :

8549.31

-- Containing primary cells, primary batteries, electric accumulators, mercury-switches, glass from cathode-ray tubes or other activated glass, or electrical or electronic components containing cadmium, mercury, lead or polychlorinated biphenyls (PCBs)

8549.39

-- Other

8549.9

- Other :

8549.91

-- Containing primary cells, primary batteries, electric accumulators, mercury-switches, glass from cathode-ray tubes or other activated glass, or electrical or electronic components containing cadmium, mercury, lead or polychlorinated biphenyls (PCBs)

8549.99

-- Other

Section XVII

VEHICLES, AIRCRAFT, VESSELS AND ASSOCIATED TRANSPORT EQUIPMENT

LEGAL NOTES

Notes.

1.- This Section does not cover articles of heading 95.03 or 95.08, or bobsleighs, toboggans or the like of heading 95.06.

2.- The expressions “parts” and “parts and accessories” do not apply to the following articles, whether or not they are identifiable as for the goods of this Section :

(a) Joints, washers or the like of any material (classified according to their constituent material or in heading 84.84) or other articles of vulcanised rubber other than hard rubber (heading 40.16);

(b) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(c) Articles of Chapter 82 (tools);

(d) Articles of heading 83.06;

(e) Machines or apparatus of headings 84.01 to 84.79, or parts thereof, other than the radiators for the articles of this Section; articles of heading 84.81 or 84.82 or, provided they constitute integral parts of engines or motors, articles of heading 84.83;

(f) Electrical machinery or equipment (Chapter 85);

(g) Articles of Chapter 90;

(h) Articles of Chapter 91;

(ij) Arms (Chapter 93);

(k) Luminaires and lighting fittings and parts thereof of heading 94.05; or

(l) Brushes of a kind used as parts of vehicles (heading 96.03).

3.- References in Chapters 86 to 88 to “parts” or “accessories” do not apply to parts or accessories which are not suitable for use solely or principally with the articles of those Chapters. A part or accessory which answers to a description in two or more of the headings of those Chapters is to be classified under that heading which corresponds to the principal use of that part or accessory.

4.- For the purposes of this Section :

(a) Vehicles specially constructed to travel on both road and rail are classified under the appropriate heading of Chapter 87;

(b) Amphibious motor vehicles are classified under the appropriate heading of Chapter 87;

(c) Aircraft specially constructed so that they can also be used as road vehicles are classified under the appropriate heading of Chapter 88.

5.- Air-cushion vehicles are to be classified within this Section with the vehicles to which they are most akin as follows :

(a) In Chapter 86 if designed to travel on a guide-track (hovertrains);

(b) In Chapter 87 if designed to travel over land or over both land and water;

(c) In Chapter 89 if designed to travel over water, whether or not able to land on beaches or landing-stages or also able to travel over ice.

Parts and accessories of air-cushion vehicles are to be classified in the same way as those of vehicles of the heading in which the air-cushion vehicles are classified under the above provisions.

Hovertrain track fixtures and fittings are to be classified as railway track fixtures and fittings, and signalling, safety or traffic control equipment for hovertrain transport systems as signalling, safety or traffic control equipment for railways.

EXPLANATORY NOTES

Section XVII

VEHICLES, AIRCRAFT, VESSELS AND ASSOCIATED TRANSPORT EQUIPMENT

Notes.

1.- This Section does not cover articles of heading 95.03 or 95.08, or bobsleighs, toboggans or the like of heading 95.06.

2.- The expressions “parts” and “parts and accessories” do not apply to the following articles, whether or not they are identifiable as for the goods of this Section :

(a) Joints, washers or the like of any material (classified according to their constituent material or in heading 84.84) or other articles of vulcanised rubber other than hard rubber (heading 40.16);

(b) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(c) Articles of Chapter 82 (tools);

(d) Articles of heading 83.06;

(e) Machines or apparatus of headings 84.01 to 84.79, or parts thereof, other than the radiators for the articles of this Section; articles of heading 84.81 or 84.82 or, provided they constitute integral parts of engines or motors, articles of heading 84.83;

(f) Electrical machinery or equipment (Chapter 85);

(g) Articles of Chapter 90;

(h) Articles of Chapter 91;

(ij) Arms (Chapter 93);

(k) Luminaires and lighting fittings and parts thereof of heading 94.05; or

(l) Brushes of a kind used as parts of vehicles (heading 96.03).

3.- References in Chapters 86 to 88 to “parts” or “accessories” do not apply to parts or accessories which are not suitable for use solely or principally with the articles of those Chapters. A part or accessory which answers to a description in two or more of the headings of those Chapters is to be classified under that heading which corresponds to the principal use of that part or accessory.

4.- For the purposes of this Section :

(a) Vehicles specially constructed to travel on both road and rail are classified under the appropriate heading of Chapter 87;

(b) Amphibious motor vehicles are classified under the appropriate heading of Chapter 87;

(c) Aircraft specially constructed so that they can also be used as road vehicles are classified under the appropriate heading of Chapter 88.

5.- Air-cushion vehicles are to be classified within this Section with the vehicles to which they are most akin as follows :

(a) In Chapter 86 if designed to travel on a guide-track (hovertrains);

(b) In Chapter 87 if designed to travel over land or over both land and water;

(c) In Chapter 89 if designed to travel over water, whether or not able to land on beaches or landing-stages or also able to travel over ice.

Parts and accessories of air-cushion vehicles are to be classified in the same way as those of vehicles of the heading in which the air-cushion vehicles are classified under the above provisions.

Hovertrain track fixtures and fittings are to be classified as railway track fixtures and fittings, and signalling, safety or traffic control equipment for hovertrain transport systems as signalling, safety or traffic control equipment for railways.

GENERAL

(I) GENERAL CONTENT OF THE SECTION

This Section covers railway vehicles of all types and hovertrains (Chapter 86), other land vehicles, including air-cushion vehicles (Chapter 87), aircraft and spacecraft (Chapter 88) and ships, boats, hovercraft and floating structures (Chapter 89), **except** the following :

(a) Certain mobile machines (see Part (II) below).

(b) Demonstrational models of **heading 90.23**.

(c) Toys, certain winter sports equipment, and vehicles specially designed for amusement park rides, water park amusements and fairground amusements. The Section **excludes**, for example toy cycles (other than bicycles), pedal cars, etc., designed to be ridden by children, toy boats and aircraft (**heading 95.03**); bobsleds, toboggans and the like (**heading 95.06**); "dodge'em" cars, tractors and other transport vehicles, including trailers, specially designed for and forming part of fairground amusements (e.g., ring-stand trailers)(**heading 95.08**).

In addition, the Section includes certain specified items of associated transport equipment such as containers specially designed and equipped for carriage by one or more modes of transport, certain railway or tramway track fittings and fixtures, and mechanical (including electro-mechanical) signalling equipment (Chapter 86) and parachutes, aircraft launching gear, deck-arrestor or similar gear and ground flying trainers (Chapter 88).

Subject to the provisions of Part (III) below, the Section also covers parts and accessories of the vehicles, aircraft, etc., of Chapters 86 to 88.

(II) SELF-PROPELLED OR OTHER MOBILE MACHINES

Many machines or equipment (in particular of the type falling in Section XVI) can be mounted on the vehicle chassis or on the floating bases of Section XVII; the classification of the resultant mobile machine depends on various factors, in particular on the type of base.

For example, all mobile machines, formed by mounting a machine on a floating base are classified in Chapter 89 (e.g., floating cranes, dredgers, grain elevators, etc.). For the classification of mobile machines formed by mounting equipment on a vehicle chassis of Chapter 86 or 87, see the Explanatory Notes to heading 86.04, 87.01, 87.05, 87.09 or 87.16.

(III) PARTS AND ACCESSORIES

It should be noted that Chapter 89 makes **no provision** for parts (other than hulls) or accessories of ships, boats or floating structures. Such parts and accessories, even if identifiable as being for ships, etc., are therefore classified in other Chapters in their respective headings. The other Chapters of this Section each provide for the classification of parts and accessories of the vehicles, aircraft or equipment concerned.

It should, however, be noted that these headings apply **only** to those parts or accessories which comply with **all three** of the following conditions :

(a) They must not be excluded by the terms of Note 2 to this Section (see paragraph (A) below).

and (b) They must be suitable for use solely or principally with the articles of Chapters 86 to 88 (see paragraph (B) below).

and (c) They must not be more specifically included elsewhere in the Nomenclature (see paragraph (C) below).

(A) **Parts and accessories excluded by Note 2 to Section XVII**.

This Note **excludes** the following parts and accessories, whether or not they are identifiable as for the articles of this Section :

(1) **Joints, gaskets, washers and the like**, of any material (classified according to their constituent material or in **heading 84.84**) and other articles of vulcanised rubber **other than** hard rubber (e.g., mudguard-flaps and pedal covers) (**heading 40.16**).

(2) **Parts of general use as defined in Note 2 to Section XV**, for example, cable and chain (whether or not cut to length or equipped with end fittings, other than brake cables, accelerator **cables** and similar cables suitable for use in vehicles of **Chapter 87**), nails, bolts, nuts, washers, cotters and cotter-pins, springs (including leaf springs for vehicles) (such goods of base metals fall in **Chapters 73 to 76** and **78 to 81**, and similar goods of plastics fall in **Chapter 39**), and locks, fittings or mountings for vehicle coachwork (e.g., made up ornamental beading strips, hinges, door handles, grip bars, foot rests, window opening mechanisms), number plates, nationality plates, etc. (such goods of base metals fall in **Chapter 83**, and similar goods of plastics fall in **Chapter 39**).

(3) **Spanners, wrenches and other tools of Chapter 82**.

(4) **Bells (e.g., for cycles) and other articles of heading 83.06**.

(5) **Machines and mechanical appliances, and parts thereof, of headings 84.01 to 84.79**, for example :

(a) Boilers and boiler equipment (**heading 84.02** or **84.04**).

(b) Producer gas generators (e.g., for cars) (**heading 84.05**).

(c) Steam turbines of **heading 84.06**.

(d) Engines of all kinds including engines fitted with gear boxes and parts thereof, falling in **headings 84.07 to 84.12**.

(e) Pumps, compressors and fans (**heading 84.13** or **84.14**).

(f) Air-conditioning machines (**heading 84.15**).

(g) Mechanical appliances for projecting, dispersing or spraying liquids or powders; fire extinguishers (**heading 84.24**).

(h) Lifting, handling, loading or unloading machinery (e.g., hoists, jacks, derricks), moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores (**heading 84.25, 84.26, 84.28, 84.30** or **84.31**).

(ij) Agricultural machinery of **heading 84.32** or **84.33** (e.g., threshing, seed distributing, mowing, etc., attachments) constructed for mounting on vehicles.

(k) Machinery of a kind described in **heading 84.74**.

(l) Windscreen wiping mechanisms of **heading 84.79**.

(6) **Certain other goods of Chapter 84**, e.g. :

(a) Taps, cocks, valves and similar appliances (e.g., radiator drainage taps, inner-tube valves) (**heading 84.81**).

(b) Ball or roller bearings (**heading 84.82**).

(c) Internal parts of engines or motors (crank shafts, cam shafts, flywheels, etc.) falling in **heading 84.83**.

(7) **Electrical machinery or equipment of Chapter 85**, for example :

(a) Electric motors, generators, transformers, etc., of **heading 85.01** or **85.04**.

(b) Electro-magnets, electro-magnetic clutches, brakes, etc., of **heading 85.05**.

(c) Electric accumulators (**heading 85.07**).

(d) Electrical ignition or starting equipment of a kind used for spark-ignition or compression-ignition internal combustion engines (sparking plugs, starter motors, etc.) (**heading 85.11**).

(e) Electrical lighting, signalling, windscreen wiping, defrosting, demisting, equipment for cycles or motor vehicles (**heading 85.12**); electrical signalling apparatus for other vehicles (e.g., trains) or for aircraft or ships (**heading 85.31**); electrical defrosters or demisters for such other vehicles, aircraft or ships (**heading 85.43**).

(f) Electric heating units for motor or railway vehicles, aircraft, etc. (**heading 85.16**).

(g) Microphones, loudspeakers and audio-frequency electric amplifiers (**heading 85.18**).

(h) Radio transmitters and receivers (**heading 85.25** or **85.27**).

(ij) Electrical capacitors (**heading 85.32**).

(k) Pantographs and other current collectors for electric traction vehicles, and fuses, switches and other electrical apparatus of **heading 85.35** or **85.36**.

(l) Electric filament lamps and electric discharge lamps, including sealed beam lamp units, of **heading 85.39**.

(m) Other electrical fittings, such as insulated electric wire and cable (including wiring sets) and electrical articles of graphite or other carbon, whether or not fitted with terminals; insulators, insulating fittings (**headings 85.44 to 85.48**).

(8) **Instruments and apparatus of Chapter 90**, including those used on certain vehicles, such as :

(a) Photographic or cinematographic cameras (**heading 90.06** or **90.07**).

(b) Navigational instruments and appliances (**heading 90.14**).

(c) Instruments and appliances used in medical, surgical, dental or veterinary sciences (**heading 90.18**).

(d) Apparatus based on the use of X-rays and other apparatus of **heading 90.22**.

(e) Manometers (**heading 90.26**).

(f) Revolution counters, taximeters, speed indicators and tachometers and other instruments and apparatus of **heading 90.29**.

(g) Measuring or checking instruments, appliances and machines of **heading 90.31**.

(9) **Clocks** (e.g., instrument panel clocks) (**Chapter 91**).

(10) **Arms** (**Chapter 93**).

(11) **Luminaires and lighting fittings** (e.g., headlamps for aircraft or trains) of **heading 94.05**.

(12) **Brushes** (e.g., for road sweeper lorries) (**heading 96.03**).

(B) **Criterion of sole or principal use.**

(1) **Parts and accessories classifiable both in Section XVII and in another Section**.

Under Section Note 3, parts and accessories which are not suitable for use **solely or principally** with the articles of Chapters 86 to 88 are **excluded** from those Chapters.

The effect of Note 3 is therefore that when a part or accessory can fall in one or more other Sections as well as in Section XVII, its final classification is determined by its **principal use**. Thus the steering gear, braking systems, road wheels, mudguards, etc., used on many of the mobile machines falling in Chapter 84, are virtually identical with those used on the lorries of Chapter 87, and since their principal use is with lorries, such parts and accessories are classified in this Section.

(2) **Parts and accessories classifiable in two or more headings of the Section**.

Certain parts and accessories are suitable for use on more than one type of vehicle (motor cars, aircraft, motorcycles, etc.); examples of such goods include brakes, steering systems, wheels, axles, etc. Such parts and accessories are to be classified in the heading relating to the parts and accessories of the vehicles with which they are **principally used**.

(C) **Parts and accessories covered more specifically elsewhere in the Nomenclature**.

Parts and accessories, even if identifiable as for the articles of this Section, are **excluded** if they are covered more specifically by another heading elsewhere in the Nomenclature, e.g. :

(1) Profile shapes of vulcanised rubber other than hard rubber, whether or not cut to length (**heading 40.08**).

(2) Transmission belts of vulcanised rubber (**heading 40.10**).

(3) Rubber tyres, interchangeable tyre treads, tyre flaps and inner tubes (**headings 40.11 to 40.13**).

(4) Tool bags of leather or of composition leather, of vulcanised fibre, etc. (**heading 42.02**).

(5) Bicycle or balloon nets (**heading 56.08**).

(6) Towing ropes (**heading 56.09**).

(7) Textile carpets (**Chapter 57**).

(8) Unframed safety glass consisting of toughened or laminated glass, whether or not shaped (**heading 70.07**).

(9) Rear-view mirrors (**heading 70.09** or **Chapter 90** - see the corresponding Explanatory Notes).

(10) Unframed glass for vehicle headlamps (**heading 70.14**) and, in general, the goods of **Chapter 70**.

(11) Flexible shafts for speed indicators, revolution counters, etc. (**heading 84.83**).

(12) Vehicle seats of **heading 94.01**.

CLASSIFICATION OPINIONS

1. Ball bearing control cables :
(i) Identifiable as suitable for use solely or principally with a particular vehicle of Sect. XVI.
Classification as parts or accessories of the appropriate vehicle.
(ii) Equally suitable for use on several vehicles, aircraft, vessels, etc., of Sect. XVII.
Application of Note 3 to Sect. XVII.
See also Opinions Sect. XVI/1, 8487.90/2 and 9033.00/1.
Adoption : 1962

Chapter 86

Railway or tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electro-mechanical) traffic signalling equipment of all kinds

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Railway or tramway sleepers of wood or of concrete, or concrete guide-track sections for hovertrains (heading 44.06 or 68.10);

(b) Railway or tramway track construction material of iron or steel of heading 73.02; or

(c) Electrical signalling, safety or traffic control equipment of heading 85.30.

2.- Heading 86.07 applies, *inter alia*, to :

(a) Axles, wheels, wheel sets (running gear), metal tyres, hoops and hubs and other parts of wheels;

(b) Frames, underframes, bogies and bissel-bogies;

(c) Axle boxes; brake gear;

(d) Buffers for rolling-stock; hooks and other coupling gear and corridor connections;

(e) Coachwork.

3.- Subject to the provisions of Note 1 above, heading 86.08 applies, *inter alia*, to :

(a) Assembled track, turntables, platform buffers, loading gauges;

(b) Semaphores, mechanical signal discs, level crossing control gear, signal and point controls, and other mechanical (including electro-mechanical) signalling, safety or traffic control equipment, whether or not fitted for electric lighting, for railways, tramways, roads, inland waterways, parking facilities, port installations or airfields.

EXPLANATORY NOTES

Chapter 86

Railway or tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electro-mechanical) traffic signalling equipment of all kinds

Notes.

1.- This Chapter does not cover :

(a) Railway or tramway sleepers of wood or of concrete, or concrete guide-track sections for hovertrains (heading 44.06 or 68.10);

(b) Railway or tramway track construction material of iron or steel of heading 73.02; or

(c) Electrical signalling, safety or traffic control equipment of heading 85.30.

2.- Heading 86.07 applies, *inter alia*, to :

(a) Axles, wheels, wheel sets (running gear), metal tyres, hoops and hubs and other parts of wheels;

(b) Frames, underframes, bogies and bissel-bogies;

(c) Axle boxes; brake gear;

(d) Buffers for rolling-stock; hooks and other coupling gear and corridor connections;

(e) Coachwork.

3.- Subject to the provisions of Note 1 above, heading 86.08 applies, *inter alia*, to :

(a) Assembled track, turntables, platform buffers, loading gauges;

(b) Semaphores, mechanical signal discs, level crossing control gear, signal and point controls, and other mechanical (including electro-mechanical) signalling, safety or traffic control equipment, whether or not fitted for electric lighting, for railways, tramways, roads, inland waterways, parking facilities, port installations or airfields.

GENERAL

This Chapter covers locomotives and rolling-stock, and parts thereof, and certain track fixtures and fittings, for railways or tramways of any kind (including narrow gauge railways, single rail railways, etc.). It also covers containers specially designed and equipped for carriage by one or more modes of transport. Mechanical (including electro-mechanical) signalling, safety or traffic control equipment for traffic of all kinds (including that for parking facilities) is also covered.

Throughout this Chapter, the expressions “railway” and “tramway” refer not only to conventional railways and tramways using steel rails, but also to similar guided systems such as those using magnetic levitation or concrete tracks.

These various goods are classified as follows :

(A) Self-propelled railway vehicles of all types, such as locomotives, motorised railway or tramway coaches and rail-cars (headings 86.01 to 86.03). Heading 86.02 also includes locomotive tenders. Locomotives operated by two types of power are classified in the heading corresponding to the main type of power used.

(B) Railway or tramway maintenance or service vehicles, whether or not self-propelled (heading 86.04).

(C) Various types of hauled vehicles (railway or tramway passenger coaches and luggage vans, railway or tramway goods vans, wagons and trucks, etc.) (headings 86.05 and 86.06).

(D) Parts of railway or tramway locomotives and rolling-stock (heading 86.07), and also railway or tramway track fixtures and fittings, and mechanical (including electro-mechanical) equipment, for signalling to or controlling road, rail or other vehicles, ships or aircraft (heading 86.08).

(E) Containers specially designed and equipped for carriage by one or more modes of transport (heading 86.09).

The Chapter also includes air-cushion vehicles designed to travel on a guide-track (hovertrains), parts of these vehicles, and hovertrain track fixtures, fittings and mechanical (including electro-mechanical) signalling, safety or traffic control equipment for hovertrain transport systems (see Note 5 to Section XVII).

Incomplete or unfinished vehicles are classified with the corresponding complete or finished vehicles, **provided** they have the essential character thereof. Such vehicles may include :

(1) Locomotives or motorised railway or tramway coaches, not fitted with a power unit, measuring instruments, safety apparatus or service equipment.

(2) Passenger coaches not fitted with seats.

(3) Truck underframes complete with suspension and wheels.

On the other hand, bodies of motorised railway or tramway coaches, of vans, wagons or trucks or of tenders, **not mounted on underframes**, are classified as parts of railway or tramway locomotives or rolling-stock (heading 86.07).

The Chapter **excludes** :

(a) Model railway rolling-stock for demonstrational purposes, of **heading 90.23**.

(b) Heavy artillery mounted on railway trucks (**heading 93.01**).

(c) Toy trains (**heading 95.03**).

(d) Equipment not constituting rolling-stock proper, specially designed for use on amusement park rides, water park amusements or fairground amusements (**heading 95.08**).

Heading 8601

Rail locomotives powered from an external source of electricity or by electric accumulators.

EXPLANATORY NOTES

86.01 - Rail locomotives powered from an external source of electricity or by electric accumulators.

8601.10 - Powered from an external source of electricity

8601.20 - Powered by electric accumulators

This heading covers all types of electric locomotives in which the required electrical energy is derived either from powerful accumulators carried on the vehicle, or from an external conductor which may be either a rail or an overhead cable.

8601.10

- Powered from an external source of electricity

8601.20

- Powered by electric accumulators

Heading 8602

Other rail locomotives; locomotive tenders.

EXPLANATORY NOTES

86.02 - Other rail locomotives; locomotive tenders.

8602.10 - Diesel-electric locomotives

8602.90 - Other

(A) LOCOMOTIVES

This group covers all types of rail locomotives **other than** those powered from an external source of electricity or by electric accumulators (**heading 86.01**) whatever the type of power unit (steam engine, diesel engine, gas turbine, petrol engine, pneumatic power engine, etc).

These include :

(1) **Diesel locomotives** which are of three types :

(a) **Diesel-electric locomotives** in which the diesel engine drives a generator to produce electricity which in turn powers traction motors driving the wheels.

(b) **Diesel-hydraulic locomotives** in which power from a diesel engine is transmitted to the wheels using a hydraulic system.

(c) **Diesel-mechanical locomotives** where power from the diesel engine reaches the wheels through a clutch or fluid flywheel and gear box.

(2) **Steam locomotives** of all types, including turbine locomotives using an electric drive, tank locomotives and fireless locomotives, i.e., those fitted with a steam reservoir instead of a boiler which is charged from an industrial plant.

*

* *

The heading includes certain locomotives of moderate power which are not equipped with bogies and are usually fitted with only two driving axles. They are mainly used in stations for moving wagons and by industrial facilities connected with railways.

(B) LOCOMOTIVE TENDERS

Locomotive tenders are vehicles, coupled to steam locomotives, which carry the water and fuel required for the boiler. They consist essentially of a frame carried on two or more axles and a sheet metal superstructure comprising a closed tank for water and a coal bunker or fuel-oil tank.

*

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Tractors constructed to travel on both road and rail are **excluded** (**heading 87.01**).

8602.10

- Diesel-electric locomotives

8602.90

- Other

Heading 8603

Self-propelled railway or tramway coaches, vans and trucks, other than those of heading 86.04.

EXPLANATORY NOTES

86.03 - Self-propelled railway or tramway coaches, vans and trucks, other than those of heading 86.04.

8603.10 - Powered from an external source of electricity

8603.90 - Other

Self-propelled railway or tramway coaches, vans and trucks differ from locomotives because, in addition to being equipped with a power unit, they are also designed to carry passengers or freight. These vehicles may be designed to travel singly, or to be coupled to one or more vehicles of the same type, or to one or more trailer vehicles.

The main feature of these vehicles is that they are fitted with a control cab either at one or both ends, or in a raised position (conning-tower) in the middle.

The various types of self-propelled coaches, vans and trucks falling in the heading include :

(A) **Electrically-propelled coaches** in which electrical energy is received from a stationary external source, e.g., through a pantograph or trolley in the case of an overhead cable, or through collector shoes mounted on the bogies in the case of a third rail.

Tramway coaches. These sometimes use two conductor rails placed in a slot rail and current is collected via a special device known as a "plough".

(B) **Rail-cars**, i.e., self-contained vehicles running under their own power and equipped with diesel or other internal combustion engines, etc.

Some rail-cars are fitted with solid or pneumatic tyres and others are of the rack-rail type.

(C) **Self-propelled vehicles functioning by means of storage batteries**.

This heading also includes **electro-gyro rail vehicles**. The principle of this system is based on the accumulation of kinetic energy in a fast revolving flywheel. This energy is then by means of an electric generator transmitted to a driving motor in the form of electric current. The scope of this system is rather limited, but it may be applied in light rail-cars or in trams.

It should be noted that the heading **excludes** road motor-coaches convertible into rail-cars simply by changing the wheels and locking the steering, the motor remaining unchanged (**heading 87.02**).

8603.10

- Powered from an external source of electricity

CLASSIFICATION OPINIONS

1. Three uncoupled railway coaches, comprised of two electrically-propelled "M-Cars" and one trailer "T-Car", each being 22.6 m long, 2.9 m wide, and 3.8 m high. After coupling, the three coaches, also known as an Electric Multiple Unit (EMU), are intended to be used in a distributed traction system for an urban railway.
A pantograph in the upper part of the T-car provides electricity, which passes through the main transformer and is transmitted to converters in the M-Cars. The converters transform the electric current from AC (alternating current) to DC (direct current) and send it to inverters, which change the DC into three-phase AC to activate the electric motors.
Application of GIRs 1, 2 (a) and 6.
Adoption : 2016

8603.90

- Other

Heading 8604

Railway or tramway maintenance or service vehicles, whether or not self-propelled (for example, workshops, cranes, ballast tampers, trackliners, testing coaches and track inspection vehicles).

EXPLANATORY NOTES

86.04 - Railway or tramway maintenance or service vehicles, whether or not self-propelled (for example, workshops, cranes, ballast tampers, trackliners, testing coaches and track inspection vehicles).

The vehicles covered by this heading, whether or not self-propelled, are specially designed for use, e.g., in the installation, servicing and maintenance of the permanent way and structures alongside the track.

The heading includes :

(1) Workshop vans and trucks fitted with tools, machine-tools, electric generators, lifting machinery (jacks, hoists, etc.), welding equipment, chains, cables, etc.

(2) Breakdown and other crane-vehicles; locomotive or coach lifting crane-vehicles; crane-vehicles for lifting or placing rails; crane-vehicles for loading and unloading at station platforms.

(3) Winch trucks.

(4) Trucks fitted with special equipment for cleaning or tamping ballast.

(5) Trucks fitted with machinery for mixing cement for use on the track (for the foundations of electric cable pylons, etc.).

(6) Trucks for calibrating weigh-bridges.

(7) Scaffold trucks for the installation and maintenance of electric cables.

(8) Spraying vans for weed-killing.

(9) Self-propelled vehicles for track maintenance (in particular, railway trackliners), equipped with one or more engines which not only power the working machines mounted thereon (track-setters, ballast tampers, etc.), and propel the vehicle while work is in progress but also enable it to travel rapidly along the track, as a self-propelled unit, when the working machines are not in operation.

(10) Railway testing coaches fitted with special equipment such as automatic instruments for checking the working of the engine, brakes, etc. (for example, for measuring the load hauled, detecting defects in the rails, track base, bridges, etc.); track checking coaches which record, whilst travelling, any track irregularity.

(11) Mechanically-propelled track inspection trolleys, including motorised rail-cycles, used by the railway staff for track maintenance. They are usually fitted with internal combustion engines, are self-propelled, and provide a rapid means of transport both for maintenance personnel and for materials to be carried or picked up along the track.

(12) Non-mechanically-propelled track inspection trolleys, including rail-cycles, used by railway inspection staff (e.g., hand- or foot-propelled types).

*

* *

When mounted on simple wheeled platforms and not on true railway or tramway underframes (not constituting, therefore, true railway or tramway rolling-stock), machines, measuring instruments and

other equipment, are **excluded** from this heading and fall in other more specific headings (**headings 84.25**, **84.26**, **84.28**, **84.29**, **84.30**, etc.).

8604.00

Railway or tramway maintenance or service vehicles, whether or not self-propelled (for example, workshops, cranes, ballast tampers, trackliners, testing coaches and track inspection vehicles).

Heading 8605

Railway or tramway passenger coaches, not self-propelled; luggage vans, post office coaches and other special purpose railway or tramway coaches, not self-propelled (excluding those of heading 86.04).

EXPLANATORY NOTES

86.05 - Railway or tramway passenger coaches, not self-propelled; luggage vans, post office coaches and other special purpose railway or tramway coaches, not self-propelled (excluding those of heading 86.04).

This heading covers a group of railway or tramway rolling-stock **not** self-propelled (including tramway trailer coaches and funicular (cable) railway coaches), of the type usually coupled into passenger trains.

The heading includes :

(1) Passenger coaches of all kinds, including sleeping cars, restaurant cars, saloon coaches, recreation coaches (specially fitted for entertainment, dancing, etc.).

(2) Funicular (cable) railway coaches.

(3) Tramway trailer coaches.

(4) Special coaches for underground transportation of miners.

(5) Living coaches for railway staff.

(6) Luggage vans and combined passenger-luggage coaches.

(7) Travelling post office coaches.

(8) Ambulance, hospital, X-ray or similar coaches.

(9) Prison coaches.

(10) Armoured coaches.

(11) Coaches specially equipped with radio or telegraph apparatus.

(12) Instruction coaches fitted with apparatus, machines or scale models (e.g., for instruction of the staff).

(13) Exhibition coaches.

8605.00

Railway or tramway passenger coaches, not self-propelled; luggage vans, post office coaches and other special purpose railway or tramway coaches, not self-propelled (excluding those of heading 86.04).

Heading 8606

Railway or tramway goods vans and wagons, not self-propelled.

EXPLANATORY NOTES

86.06 - Railway or tramway goods vans and wagons, not self-propelled.

8606.10 - Tank wagons and the like

8606.30 - Self-discharging vans and wagons, other than those of subheading 8606.10

- Other :

8606.91 - - Covered and closed

8606.92 - - Open, with non-removable sides of a height exceeding 60 cm

8606.99 - - Other

This heading covers vehicles for the transport of goods on railway networks (of any gauge). It also covers small vehicles or trucks for the transport of goods by rail, in mines, on building sites, in factories, warehouses, etc. These latter generally differ from true wagons, carriages, etc., in that they are not fitted with springs.

In addition to the usual open wagons and trucks (flat trucks, tipping wagons, etc.) and covered vans, the heading includes the following specialised types :

(1) Tank wagons and the like (e.g., reservoir wagons, cask wagons).

(2) Insulated or refrigerated vans and wagons.

(3) Self-discharging vans and wagons (tipping wagons, hopper wagons, etc.).

(4) Underslung flat trucks for the transport of heavy goods.

(5) Timber carrying trucks.

(6) Reservoir wagons fitted with stoneware, etc., reservoirs for the transport of chemicals.

(7) Horse boxes.

(8) Double deck wagons (e.g., for carrying cars).

(9) Vans specially equipped for the transport of live poultry or live fish.

(10) Platform trucks for carrying other trucks.

(11) Narrow gauge wagons of all kinds.

(12) Mining wagons.

(13) Trolleys for the transport of rails, girders, etc.

(14) Trucks fitted with rails, for carrying rail-road trailers.

(15) Wagons and trucks specially designed for the transport of highly radioactive products.

"Road-rail" trailers devised for transport by special trucks fitted with guide rails are **excluded** (**heading 87.16**).

8606.10

- Tank wagons and the like

8606.30

- Self-discharging vans and wagons, other than those of subheading 8606.10

8606.9

- Other :

8606.91

-- Covered and closed

8606.92

-- Open, with non-removable sides of a height exceeding 60 cm

8606.99

-- Other

Heading 8607

Parts of railway or tramway locomotives or rolling-stock.

EXPLANATORY NOTES

86.07 - Parts of railway or tramway locomotives or rolling-stock.

- Bogies, bissel-bogies, axles and wheels, and parts thereof :

8607.11 - - Driving bogies and bissel-bogies

8607.12 - - Other bogies and bissel-bogies

8607.19 - - Other, including parts

- Brakes and parts thereof :

8607.21 - - Air brakes and parts thereof

8607.29 - - Other

8607.30 - Hooks and other coupling devices, buffers, and parts thereof

- Other :

8607.91 - - Of locomotives

8607.99 - - Other

This heading covers parts of railway or tramway locomotives or rolling-stock, **provided** the parts fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with the above-mentioned vehicles;

(ii) They must not be excluded by the provisions of the Notes to Section XVII.

Parts of railway or tramway locomotives or rolling-stock include :

(1) Bogies, with two or more axles, and bissel-bogies consisting of a frame with only one axle.

(2) Straight or cranked axles, whether or not assembled.

(3) Wheels and parts thereof (wheel centres, metal tyres, etc.).

(4) Axle-boxes, also known as lubricating or grease-boxes, and parts thereof (e.g., axle-box bodies).

(5) All types of brake gear, including :

(a) Hand-brakes, controlled directly from each individual vehicle (lever and screw brakes).

(b) Continuous brakes with a single control for all the vehicles of the train. These include compressed air and vacuum brakes.

(c) Parts of brake gear including shoes, cylinders, levers, etc.

(6) Buffers.

(7) Coupling gear (e.g., hook, screw or chain type, draft gears); some coupling devices may be automatic.

(8) Frames and parts thereof (longerons, cross-girders, axle-box guides, etc.); frames cast in one piece.

(9) Corridor connections and connecting platforms.

(10) Bodies (**not** mounted on underframes) for motorised or non-self-propelled railway or tramway rolling-stock (e.g., for coaches, trucks, wagons, etc.); parts of such bodies (e.g., coach or truck doors, partitions, hinged sides of wagons, side stanchions, running boards, water tanks for tenders).

(11) Pipes with coupling heads for the braking or heating systems.

(12) Hydraulic shock absorbers for bogies.

It should be noted, however, that angles, shapes, sections, sheets, plates and other parts of frames, and also tubes and pipes, etc., of base metal, remain classified in **Section XV unless** they have been worked to such an extent that they are clearly identifiable as parts of locomotives or rolling-stock.

8607.1

- Bogies, bissel-bogies, axles and wheels, and parts thereof :

8607.11

-- Driving bogies and bissel-bogies

8607.12

-- Other bogies and bissel-bogies

8607.19

-- Other, including parts

8607.2

- Brakes and parts thereof :

8607.21

-- Air brakes and parts thereof

8607.29

-- Other

8607.30

- Hooks and other coupling devices, buffers, and parts thereof

8607.9

- Other :

8607.91

-- Of locomotives

8607.99

-- Other

Heading 8608

Railway or tramway track fixtures and fittings; mechanical (including electro-mechanical) signalling, safety or traffic control equipment for railways, tramways, roads, inland waterways, parking facilities, port installations or airfields; parts of the foregoing.

EXPLANATORY NOTES

86.08 - Railway or tramway track fixtures and fittings; mechanical (including electro-mechanical) signalling, safety or traffic control equipment for railways, tramways, roads, inland waterways, parking facilities, port installations or airfields; parts of the foregoing.

(A) RAILWAY OR TRAMWAY TRACK FIXTURES AND FITTINGS

This group includes :

(1) **Assembled track**, i.e., rails already fixed to sleepers or other supports. Such track may be in the form of junction, switch or cross-over points, curves, straight runs, etc.

(2) **Turntables, whether or not electrically operated**, i.e., large platforms usually circular, which can rotate about the centre, and which are fitted with railway or tramway tracks; most are also equipped with rollers carrying the perimeter of the platform.

Locomotives, etc., can therefore be rotated on the turntable and driven off in a new direction. The heading also includes hand-operated turntables, for narrow gauge railways on building sites, quarries, etc.

However, the heading **excludes** locomotives or wagon traversers which transfer railway vehicles from one track to another. These and other machines for handling rolling-stock (e.g., wagon tippers, wagon pushers) fall in **heading 84.28**.

(3) **Platform buffers**, i.e., hydraulic or spring-loaded stopping devices placed at the end of each run of track to minimise the shock if rolling-stock does not stop before reaching the track terminal. They are designed either to be embedded into the masonry (e.g., of terminal stations) or into robust frameworks (e.g., in shunting yards).

(4) **Loading gauges**, i.e., arch-shaped structures which ensure that trains passing beneath them do not exceed the maximum clearance height and width prescribed for the route involved.

The heading **does not cover** wooden sleepers (**heading 44.06**), concrete sleepers (**heading 68.10**) or sleepers, rails or other items of unassembled track construction material, of iron or steel specified in **heading 73.02** (see the corresponding Explanatory Note).

Pylons and portals for carrying overhead cables are not regarded as railway or tramway fixtures or fittings and are classified according to their constituent materials in **headings 68.10**, **73.08**, etc.

(B) MECHANICAL (INCLUDING ELECTRO-MECHANICAL) SIGNALLING, SAFETY OR TRAFFIC CONTROL EQUIPMENT FOR RAILWAYS, TRAMWAYS, ROADS, INLAND WATERWAYS, PARKING FACILITIES, PORT INSTALLATIONS OR AIRFIELDS

This group covers essentially apparatus in which the signal, etc., is operated from a control point, generally at some distance, by the movement of levers, cranks, rods, wires, chains, etc., or by hydro-pneumatic devices or electric motors. Electropneumatically operated equipment (e.g., for railways) is also classified in this heading. In this type, the signals or points are activated by a pneumatic power engine, the admission or release of air into or from the motor cylinder being controlled by an electro-magnetic valve which is in turn controlled by the electric control board in the signal box. The signal and its pneumatic activating device is regarded as mechanical equipment of this heading, but the electric control board, etc., is proper to **Chapter 85**.

The term “signalling equipment” refers to apparatus which can be made to show two or more aspects each conveying instructions to vehicles, ships or aircraft. It **does not cover** road, rail, etc., sign-plates

with no mechanical features (e.g., speed limit, direction or gradient sign-plates); these are classified according to the constituent material (e.g., in **heading 44.21** or **83.10**).

Provided they are mechanically or electro-mechanically operated as described above, the following types of apparatus fall in this group :

(1) **Signal box equipment**. A complete unit consists of a number of control levers with their transmission wheels, rods, wires, etc., mounted in a frame. In most cases interlocking devices are incorporated to prevent signals or points being set in a conflicting manner.

(2) **Signal arms, signal discs, complete signal posts or signal gantries**.

(3) **Controlling or slotting lever mechanisms** fitted to interdependent signals to ensure their co-ordinated action.

(4) **Trackside mechanisms** (ground frames, etc., of the lever, pedal, crank or other types) for operating points, signals, etc.

(5) **Point detectors**. These are activated by the movement of the points themselves; their movements are transmitted back to the signal box so that the signalman knows that the points are in the position he intends.

(6) **Point locks and locking bars**. These devices, fitted to the track itself, ensure that the passage of a train automatically locks the points, so that they cannot be changed from the signal box until the train is clear.

(7) **Railbrakes**. These devices are used to slow down or stop rolling-stock (e.g., to slow shunted wagons entering a marshalling yard siding). They usually consist essentially of a pair of bars fitted to each rail of the track; under hydraulic or compressed air control, these bars can be made to exert braking pressure on the wheels of rolling-stock passing over the track.

(8) **Derailers and stop blocks**. When slid free of the rail, these allow the passage of a wagon, but when slid on to the running surface of the rail they act as a stop block or as a deflecting blade to "jump" a wagon off the track.

(9) **Train stops**. These usually consist of a T shaped bar device fixed alongside the track and operated by compressed air. The bar is interconnected with the signal so that when the latter is at danger, the bar is raised to a position where it will "trip" a brake control lever on any train overrunning the signal.

(10) **Automatic fog-signalling apparatus**. These devices, also usually pneumatically operated, automatically place a fog signal on the track each time the signal is at danger.

(11) **Level crossing control gear for raising and lowering, or opening and closing the gates**. This gear usually consists of a hand-operated crank wheel and gearing device, or of a leverage system operated from the signal box as with signal or point control gear.

Level crossing gates themselves are classified according to their constituent material (**heading 73.08** if made of iron or steel, or **heading 44.21** if made of wood), but mechanically or

electro-mechanically operated signals indicating whether the gates are open or shut fall in this heading.

(12) **Hand- or electro-mechanically operated signals** designed to show “Stop” and “Go” signs to road or maritime traffic.

PARTS

The heading also includes identifiable parts of the apparatus referred to above (e.g., turntable platforms, signal arms and discs, control levers, point lock cases, interlocking slot mechanisms).

*

* *

The heading also **excludes** :

(a) Chains and other parts of general use as defined in Note 2 to Section XV, of base metal (**Section XV**), and similar goods of plastics (**Chapter 39**); general purpose material (such as wire and rodding) and metal structures and metal parts of such structures, falling in **Section XV**. It should be noted that point rods which run beneath the rails to connect the trackside control mechanism to the switch blades fall in **heading 73.02** together with certain other specified railway or tramway track construction material of iron or steel.

(b) Signal lamps (**heading 85.30** or **94.05**).

(c) Sirens, fog horns and other sound signalling instruments (classified in their own appropriate headings).

(d) Apparatus for signalling on board vehicles, ships, etc., (e.g., alarm signalling apparatus on trains, emergency station signalling apparatus for ships, etc.) (classified in their own appropriate headings).

8608.00

Railway or tramway track fixtures and fittings; mechanical (including electro-mechanical) signalling, safety or traffic control equipment for railways, tramways, roads, inland waterways, parking facilities, port installations or airfields; parts of the foregoing.

Heading 8609

Containers (including containers for the transport of fluids) specially designed and equipped for carriage by one or more modes of transport.

EXPLANATORY NOTES

86.09 - Containers (including containers for the transport of fluids) specially designed and equipped for carriage by one or modes of transport.

These containers (including lift vans) are packing receptacles specially designed and equipped for carriage by one or more modes of transport (e.g., road, rail, water or air). They are equipped with fittings (hooks, rings, castors, supports, etc.) to facilitate handling and securing on the transporting

vehicle, aircraft or vessel. They are thus suitable for the “door-to-door” transport of goods without intermediate repacking and, being of robust construction, are intended to be used repeatedly.

The more usual type, which may be of wood or metal, consists of a large box equipped with doors, or with removable sides.

The principal types of container include :

(1) Furniture removal containers.

(2) Insulated containers for perishable foods or goods.

(3) Containers (generally cylindrical) for the transport of liquids or gases. These containers fall in this heading **only** if they incorporate a support enabling them to be fitted to any type of transporting vehicle or vessel; otherwise they are classified according to their constituent material.

(4) Open containers for bulk transport of coal, ores, paving blocks, bricks, tiles, etc. These often have hinged bottoms or sides to facilitate unloading.

(5) Special types for particular goods, especially for fragile goods such as glassware, ceramics, etc., or for live animals.

Containers usually vary in size from 4 to 145 m^3 capacity. Certain types are however smaller, but their capacity is not normally less than 1 m^3.

The heading **excludes** :

(a) Cases, crates, etc., which though designed for the “door-to-door” transport of goods are not specially constructed as described above to be secured to the transporting vehicle, aircraft or vessel; these are classified according to their constituent material.

(b) Road-rail trailers (intended mainly for use as road trailers, but so designed that they may be transported on special railway wagons fitted with guide rails) (**heading 87.16**).

(c) Modular building units (**heading 94.06**).

8609.00

Containers (including containers for the transport of fluids) specially designed and equipped for carriage by one or more modes of transport.

CLASSIFICATION OPINIONS

1. **Tube bundle container**, consisting of a number of cylinders used for the transportation of compressed natural gas (CNG). Each cylinder is equipped with a separate valve and gauge for the discharge and filling of gas. The cylinders are not welded or permanently combined, but enclosed within an outer metal frame of the same dimension as a regular 6 or 12 metre (20 or 40 foot) container. The product is also equipped with holes on the frame, which makes it possible to be attached to a road trailer or other modes of transport.

Application of GIR 1.
Adoption : 2017



Chapter 87

Vehicles other than railway or tramway rolling-stock, and parts and accessories thereof

LEGAL NOTES

Notes.

1.- This Chapter does not cover railway or tramway rolling-stock designed solely for running on rails.

2.- For the purposes of this Chapter, “tractors” means vehicles constructed essentially for hauling or pushing another vehicle, appliance or load, whether or not they contain subsidiary provision for the transport, in connection with the main use of the tractor, of tools, seeds, fertilisers or other goods.

Machines and working tools designed for fitting to tractors of heading 87.01 as interchangeable equipment remain classified in their respective headings even if presented with the tractor, and whether or not mounted on it.

3.- Motor chassis fitted with cabs fall in headings 87.02 to 87.04, and not in heading 87.06.

4.- Heading 87.12 includes all children’s bicycles. Other children’s cycles fall in heading 95.03.

Subheading Note.

1.- Subheading 8708.22 covers :

(a)- front windscreens (windshields), rear windows and other windows, framed; and
(b)- front windscreens (windshields), rear windows and other windows, whether or not framed, incorporating heating devices or other electrical or electronic devices,

when suitable for use solely or principally with the motor vehicles of headings 87.01 to 87.05.

EXPLANATORY NOTES

Chapter 87

Vehicles other than railway or tramway rolling-stock, and parts and accessories thereof

Notes.

1.- This Chapter does not cover railway or tramway rolling-stock designed solely for running on rails.

2.- For the purposes of this Chapter, “tractors” means vehicles constructed essentially for hauling or pushing another vehicle, appliance or load, whether or not they contain subsidiary provision for the transport, in connection with the main use of the tractor, of tools, seeds, fertilisers or other goods.

Machines and working tools designed for fitting to tractors of heading 87.01 as interchangeable equipment remain classified in their respective headings even if presented with the tractor, and whether or not mounted on it.

3.- Motor chassis fitted with cabs fall in headings 87.02 to 87.04, and not in heading 87.06.

4.- Heading 87.12 includes all children's bicycles. Other children's cycles fall in heading 95.03.

Subheading Note.

1.- Subheading 8708.22 covers :

(a)- front windscreens (windshields), rear windows and other windows, framed; and
(b)- front windscreens (windshields), rear windows and other windows, whether or not framed, incorporating heating devices or other electrical or electronic devices,

when suitable for use solely or principally with the motor vehicles of headings 87.01 to 87.05.

GENERAL

This Chapter covers the following vehicles, with the **exception** of certain mobile machines of **Section XVI** (see the Explanatory Notes to headings 87.01, 87.05 and 87.16) :

(1) Tractors (heading 87.01).

(2) Motor vehicles designed for the transport of persons (heading 87.02 or 87.03) or goods (heading 87.04) or for special purposes (heading 87.05).

(3) Works trucks, self-propelled, not fitted with lifting or handling equipment, of the type used in factories, warehouses, dock areas or airports for short distance transport of goods, and tractors of the type used on railway station platforms (heading 87.09).

(4) Armoured fighting vehicles, motorised (heading 87.10).

(5) Motorcycles and side-cars; cycles and carriages for disabled persons, whether or not motorised (headings 87.11 to 87.13).

(6) Baby carriages (heading 87.15).

(7) Trailers and semi-trailers, and other vehicles, not mechanically propelled, i.e., vehicles for towing by another vehicle, pushing or pulling by hand or drawing by animals (heading 87.16).

The Chapter also covers air-cushion vehicles designed to travel over land or over both land and certain tracts of water (swamps, etc.) (see Note 5 to Section XVII).

The classification of a motor vehicle is not affected by operations which are carried out after assembling all parts into a complete motor vehicle, such as : vehicle identification number fixation, brake system charging and bleeding air from brakes, charging of the steering booster system (power steering) and cooling and conditioning systems, headlights regulation, wheel geometry regulation

(alignment) and regulation of brakes. This includes classification by the application of General Interpretative Rule 2 (a).

An incomplete or unfinished vehicle, whether or not assembled, is classified as the corresponding complete or finished vehicle **provided** it has the essential character of the latter (see General Interpretative Rule 2 (a)), as for example :

(A) A motor vehicle, not yet fitted with the wheels or tyres and battery.

(B) A motor vehicle not equipped with its engine or with its interior fittings.

(C) A bicycle without saddle and tyres.

This Chapter also covers parts and accessories which are identifiable as being suitable for use **solely or principally** with the vehicles included therein, **subject** to the provisions of the Notes to Section XVII (see the General Explanatory Note to the Section).

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It should be noted that amphibious motor vehicles are classified as motor vehicles of this Chapter. But aircraft specially constructed so that they can also be used as road vehicles remain classified as aircraft (**heading 88.02**).

The Chapter also **excludes** :

(a) Vehicles and parts thereof, cross-sectioned, designed for demonstrational purposes, unsuitable for other uses (**heading 90.23**).

(b) Wheeled toys designed to be ridden by children, and children's cycles (other than children's bicycles) (**heading 95.03**).

(c) Winter sports equipment such as bobsleighs, toboggans and the like (**heading 95.06**).

(d) Vehicles specially designed for use on amusement park rides, or fairground amusements (**heading 95.08**).

Heading 8701

Tractors (other than tractors of heading 87.09).

EXPLANATORY NOTES

87.01 - Tractors (other than tractors of heading 87.09) (+).

8701.10 - Single axle tractors

- Road tractors for semi-trailers :

8701.21 - - With only compression-ignition internal combustion piston engine (diesel or semi-diesel)

8701.22 - - With both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion

8701.23 - - With both spark-ignition internal combustion piston engine and electric motor as motors for propulsion

8701.24 - - With only electric motor for propulsion

8701.29 - - Other

8701.30 - Track-laying tractors

- Other, of an engine power :

8701.91 - - Not exceeding 18 kW

8701.92 - - Exceeding 18 kW but not exceeding 37 kW

8701.93 - - Exceeding 37 kW but not exceeding 75 kW

8701.94 - - Exceeding 75 kW but not exceeding 130 kW

8701.95 - - Exceeding 130 kW

For the purposes of this heading, **tractors** means wheeled or track-laying vehicles constructed essentially for hauling or pushing another vehicle, appliance or load. They may contain subsidiary provision for the transport, in connection with the main use of the tractor, of tools, seeds, fertilisers or other goods, or provision for fitting with working tools as a subsidiary function.

The heading **does not cover** propelling bases specially designed, constructed or reinforced to form an integral part of a machine performing a function such as lifting, excavating, levelling, etc., even if the propelling base uses traction or propulsion for the execution of this function.

The heading covers tractors (**other than** tractors of the type used on railway station platforms, falling in **heading 87.09**) of various types (tractors for agricultural or forestry work, road tractors, heavy duty tractors for constructional engineering work, winch tractors, etc.), whatever their mode of propulsion (internal combustion piston engine, electric motor, etc.). It also includes tractors which can be used both on rails and on road, but **not** those which are designed exclusively for use on rails.

The tractors of this heading may be fitted with coachwork (a body) or may have seats for the crew or a driving cab. They may be equipped with a tool box, with provision for raising and lowering agricultural implements, with a coupling device for trailers or semi-trailers (e.g., on mechanical horses and similar tractive units), or with a power take-off for driving machines such as threshers and circular saws.

The chassis of a tractor may be mounted on wheels, on tracks or on a combination of wheels and tracks. In the last case, only the front steering axle is fitted with wheels.

This heading also covers **single axle tractors**. These are small agricultural tractors equipped with a single driving axle carried on one or two wheels; like normal tractors, they are designed for use with interchangeable implements which they may operate by means of a general purpose power take-off. They are not usually fitted with a seat and the steering is effected by means of two handles. Some types, however, also have a one- or two-wheeled rear carriage with a seat for the driver.

Similar single axle tractorsare also used for industrial purposes.

The heading includes **tractors fitted with winches** (e.g., as used for hauling out bogged-down vehicles; for up-rooting and hauling trees; or for the remote haulage of agricultural implements).

The heading further includes straddle-type tractors (stilt tractors) used, for example, in vineyards and forestry plantations.

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The heading also **excludes** motor breakdown lorries equipped with cranes, lifting tackle, winches, etc. (**heading 87.05**).

TRACTORS FITTED WITH OTHER MACHINERY

It should be noted that agricultural machines designed for fitting to tractors as interchangeable equipment (ploughs, harrows, hoes, etc.) remain classified in their respective headings even if mounted on the tractor at the time of presentation. The tractive unit in such cases is separately classified in this heading.

Tractors and industrial working tools are also classified separately when the tractor is designed essentially for hauling or pushing another vehicle or load, and includes, in the same way as an agricultural tractor, simple devices for operating (raising, lowering, etc.) the working tools. In such a case, the interchangeable working tools are **classified in their appropriate headings**, even if presented with the tractor, and whether or not mounted on it, while the tractor with its operating equipment is classified in this heading.

In the case of articulated motor lorries with semi-trailers, tractors coupled to semi-trailers, and heavy duty tractors coupled, in the same way as to semi-trailers, to working machines of Chapter 84, the hauling element is classified in this heading whereas the semi-trailer or the working machine is classified in its appropriate heading.

On the other hand, this heading **does not cover** the propelling bases of machines referred to, for example, in **headings 84.25**, **84.26**, **84.29**, **84.30** and **84.32**, in which the propelling base, the operating controls, the working tools and their actuating equipment are specially designed for fitting together to form an integral mechanical unit. Such is the case with loaders, bulldozers, motorised ploughs, etc.

As a general rule, propelling bases forming an integral part of a machine designed for handling, excavating, etc., can be distinguished from the tractors of this heading by their special constructional features (shape, chassis, means of locomotion, etc.). For propelling bases of the tractor type, various technical features relating essentially to the structure of the complete unit and to equipment specially designed for functions other than hauling or pushing should be taken into consideration. For instance, the propelling bases **not covered** by this heading incorporate robust elements (such as supporting blocks, plates or beams, platforms for swivelling cranes) forming a part of or fixed, generally by welding, to the chassis-body framework to carry the actuating equipment for the working tools. In addition, such propelling bases may comprise several of the following typical parts : powerful equipment with built-in hydraulic system for operating the working tools; special gear boxes, in which, for example, the top speed in reverse gear is not less than the top speed in forward gear; hydraulic clutch and torque converter; balancing counterweight; longer tracks to increase stability of the base; special frame for rear mounted engine, etc.

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Subheading Explanatory Notes.

Subheading 8701.10

See the Explanatory Note to heading 87.01, sixth and seventh paragraphs.

Subheadings 8701.21 to 8701.29

For the purposes of these subheadings, the expression “road tractors” refers to motor vehicles which are designed to haul semi-trailers over long distances. The road tractor and semi-trailer form a combination known by various names (e.g., “articulated lorries”, “tractor-trailers”, etc.). These vehicles usually contain diesel engines and may be driven at speeds in excess of urban traffic speeds on the road network (i.e., streets in the general sense, including avenues, boulevards and motorways) with fully loaded trailers. Such vehicles have a closed cab for the driver and passengers (sometimes with sleeping facilities), headlamps and dimensions authorized domestically, and are usually equipped with a fifth wheel coupling allowing rapid shift between semi-trailers performing different functions.

Similar vehicles used to haul semi-trailers over short distances are excluded from these subheadings (generally subheadings 8701.91 to8701.95).

Subheading 8701.30

This subheading also covers tractors with a combination of wheels and tracks.

Subheadings 8701.91 to 8701.95

These subheadings include vehicles used to haul semi-trailers over short distances. These types of vehicles are known by various names (e.g., “terminal tractors”, “port tractors”, etc.) and they are intended to position or shuttle trailers within a defined area. They are not suitable for long-haul road use for which road tractors of subheadings 8701.21 to 8701.29 are designed. They are distinguishable from road tractors in that they are usually equipped with diesel engines with a maximum speed

normally not exceeding 50 km/h and are generally equipped with a small, single-seat enclosed cab for the driver only.

8701.10

- Single axle tractors

CLASSIFICATION OPINIONS

1. Self-powered, pedestrian controlled, propelling units (pedestrian controlled tractors) with one driving axle, an internal combustion engine (single cylinder, four-stroke cycle, air cooled, max. power : 4.8 (6.5) or 4.4 (6.0) kW(hp)/3600 rpm), fuel tank (6.5 or 3.5 l) and handle bar type steering.
These units are presented disassembled and together with two wheels with tyres, 4-4 blades (2+2) and disc dry land blade, in a single box.
They are designed for use with different interchangeable implements (such as, ridger, plough, ditching blade, etc. which are not presented with the units) and can also be used for short distance transportation or as a fixed motive power machine.
The 4-4 blades (2+2) and disc dry land blade presented together with the units are classified separately.
Application of GIRs 1 (Note 2 to Chapter 87), 2 (a) and 6. *See also Opinion 8432.29/1.*
Adoption : 2016





8701.2

- Road tractors for semi-trailers

8701.21

-- With only compression-ignition internal combustion piston engine (diesel or semi-diesel)

8701.22

-- With both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion

8701.23

-- With both spark-ignition internal combustion piston engine and electric motor as motors for propulsion

8701.24

-- With only electric motor for propulsion

8701.29

-- Other

8701.30

- Track-laying tractors

CLASSIFICATION OPINIONS

1. **Snow-scooters and snow-sledges, motorised,** track-laying, with a seat for the driver and essentially designed for hauling another vehicle, appliance or load. Adoption : 1966

2. "**Basic**" **tractors,** track-laying, with some of the features typical of self-propelling bases, but suitable for fitting with various attachments either for work of the kind described in, inter alia, heading 84.28, 84.30 or 84.32, or for operation as a tractor within the meaning of Note 2 to Ch. 87. *Adoption : 1966*

8701.9

- Other, of an engine power :

8701.91

-- Not exceeding 18 kW

8701.92

-- Exceeding 18 kW but not exceeding 37 kW

8701.93

-- Exceeding 37 kW but not exceeding 75 kW

8701.94

-- Exceeding 75 kW but not exceeding 130 kW

CLASSIFICATION OPINIONS

1. **Six-wheeled off-road motor vehicle (two front wheels and four rear wheels) on two axles**, with a 138 hp (103 kW) diesel engine and a maximum speed of 40 km/h. The vehicle, which is 3,048 mm high, 2,514 mm wide and 4,877 mm long, has electronic automatic transmission, an enclosed cab with a single seat for the driver, and one traction axle (rear wheel drive). This vehicle has a 2,946 mm wheelbase, and the tyre type is 11R22.5. The chassis is equipped with a fifth wheel coupling for the semi-trailer, and has a maximum combined gross weight of 36,700 kg. This vehicle is specially designed to pull semi-trailers. **Application of GIRs 1 (Note 2 of Chapter 87) and 6.** *Adoption : 2015*



2. Six-wheeled off-road motor vehicle (two front wheels and four rear wheels) on two axles, with a 160 hp (119 kW) diesel engine and a maximum speed of 40 km/h. The vehicle, which is 3,200 mm high, 2,464 mm wide and 4,597 mm long, has three-speed electronic automatic transmission, an enclosed cab with a single seat for the driver, and one traction axle (rear wheel drive). This vehicle has a 2,794 mm wheelbase, and the tyre type is 11R22.5. The chassis is equipped with a fifth wheel coupling for the semi-trailer, and has a maximum combined gross weight of 43,500 kg. This vehicle is specially designed to pull semi-trailers. **Application of GIRs 1 (Note 2 of Chapter 87) and 6.** *Adoption : 2015*



8701.95

-- Exceeding 130 kW

Heading 8702

Motor vehicles for the transport of ten or more persons, including the driver.

EXPLANATORY NOTES

87.02 - Motor vehicles for the transport of ten or more persons, including the driver.

8702.10 - With only compression-ignition internal combustion piston engine (diesel or semi-diesel)

8702.20 - With both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion

8702.30 - With both spark-ignition internal combustion piston engine and electric motor as motors for propulsion

8702.40 - With only electric motor for propulsion

8702.90 - Other

This heading covers all motor vehicles designed for the transport of ten persons or more (including the driver).

This heading includes motor buses, coaches, trolleybuses and gyrobuses.

The vehicles of this heading may have any type of motor (internal combustion piston engine, electric motor, combination of an internal combustion piston engine and one or more electric motors, etc.).

Vehicles which have the combination of an internal combustion piston engine and one or more electric motors are known as “Hybrid Electric Vehicles (HEVs)”. For the purpose of mechanical propulsion, these vehicles draw energy from both a consumable fuel and an electrical energy/power storage device (e.g., electric accumulator, capacitor, flywheel/generator). There are various types of Hybrid Electric Vehicles (HEVs), which can be differentiated by their powertrain configuration (such as, parallel hybrids, series hybrids, power-split or series-parallel hybrids) and degree of hybridization (i.e., full hybrids, mild hybrids and plug-in hybrids).

Electric vehicles are propelled by an electric motor or motors powered by electric accumulator packs.

Trolleybuses obtain current from overhead wires and “gyrobuses” operate on the principle that kinetic energy can be stored in a high-speed flywheel and used to drive an electric generator which supplies current to a motor.

This heading also includes motor coaches convertible into rail-cars by changing the wheels and locking the steering, the motor remaining unchanged.

8702.10

- With only compression-ignition internal combustion piston engine (diesel or semi-diesel)

CLASSIFICATION OPINIONS

1. **Van type motor vehicle** (monocoque body type having a chassis-body framework and a single enclosed space for the transport of both persons and goods) powered by a compression ignition engine of a cylinder capacity of 2,380 cc or by a spark-ignition engine of a cylinder capacity of 1,994 cc, and having window side panels only, a sliding door on one side, a lift-up rear door with window and three or four benches (part of the benches can be folded away to allow passengers to pass) behind the front seats. It can transport twelve or fifteen people, including the driver, and has a small space at the back of the passenger compartment for the transport of goods. The vehicle is often referred to as a "minibus" and has a well-finished interior (e.g., upholstered seats or benches and decorative wall panels). *Adoption : 1998*



2. **Van type motor vehicle** (monocoque body type having a chassis-body framework and a single enclosed space for the transport of both persons and goods) powered by a compression ignition engine of a cylinder capacity of 2,380 cc or by a spark-ignition engine of a cylinder

capacity of 1,994 cc, and having window side panels only, a sliding door on one side, a lift-up rear door with window and three or four benches (part of the benches can be folded away to allow passengers to pass) behind the front seats. It can transport twelve or fifteen people, including the driver, and has a small space at the back of the passenger compartment for the transport of goods. The vehicle is often referred to as a "minibus" and has a well-finished interior (e.g., upholstered seats or benches and decorative wall panels). *Adoption : 1998*



3. **Ten-seat motor vehicle**, with a compression-ignition engine of a cylinder capacity of 1948 cc, equipped with window side panels, four doors, a lift-up rear door with window, two front seats for the transport of three persons, a bench seat for the transport of three persons behind the front seats, and two fold-away bench seats, 78 cm long, fixed on lateral panels in the rear section of the vehicle. The fold-away bench seats permit the rear section to be used for the transport of either persons or goods. The two bench seats, for two persons each in the rear section of the vehicle, are made of the same fabric and upholstered in the same fashion as the front seats. All of the seats are equipped with safety seat belts or anchor points for safety seat belts. The motor vehicle is designed for the transport of ten persons, including the driver. **Application of GIRs 1 and 6.** *Adoption : 2000*





8702.20

- With both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion

8702.30

- With both spark-ignition internal combustion piston engine and electric motor as motors for propulsion

8702.40

- With only electric motor for propulsion

8702.90

- Other

CLASSIFICATION OPINIONS

1. Van type motor vehicle (monocoque body type having a chassis-body framework and a single enclosed space for the transport of both persons and goods) powered by a compression ignition engine of a cylinder capacity of 2,380 cc or by a spark-ignition engine of a cylinder capacity of 1,994 cc, and having window side panels only, a sliding door on one side, a lift-up rear door with window and three or four benches (part of the benches can be folded away to allow passengers to pass) behind the front seats. It can transport twelve or fifteen people, including the driver, and has a small space at the back of the passenger compartment for the transport of goods. The vehicle is often referred to as a "minibus" and has a well-finished interior (e.g., upholstered seats or benches and decorative wall panels).
Adoption : 1998

Heading 8703

Motor cars and other motor vehicles principally designed for the transport of persons (other than those of heading 87.02), including station wagons and racing cars.

EXPLANATORY NOTES

87.03 - Motor cars and other motor vehicles principally designed for the transport of persons (other than those of heading 87.02), including station wagons and racing cars.

8703.10 - Vehicles specially designed for travelling on snow; golf cars and similar vehicles

- Other vehicles, with only spark-ignition internal combustion piston engine :

8703.21 - - Of a cylinder capacity not exceeding 1,000 cc

8703.22 - - Of a cylinder capacity exceeding 1,000 cc but not exceeding 1,500 cc

8703.23 - - Of a cylinder capacity exceeding 1,500 cc but not exceeding 3,000 cc

8703.24 - - Of a cylinder capacity exceeding 3,000 cc

- Other vehicles, with only compression-ignition internal combustion piston engine (diesel or semi-diesel) :

8703.31 - - Of a cylinder capacity not exceeding 1,500 cc

8703.32 - - Of a cylinder capacity exceeding 1,500 cc but not exceeding 2,500 cc

8703.33 - - Of a cylinder capacity exceeding 2,500 cc

8703.40 - Other vehicles, with both spark-ignition internal combustion piston engine and electric motor as motors for propulsion, other than those capable of being charged by plugging to external source of electric power

8703.50 - Other vehicles, with both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion, other than those capable of being charged by plugging to external source of electric power

8703.60 - Other vehicles, with both spark-ignition internal combustion piston engine and electric motor as motors for propulsion, capable of being charged by plugging to external source of electric power

8703.70 - Other vehicles, with both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion, capable of being charged by plugging to external source of electric power

8703.80 - Other vehicles, with only electric motor for propulsion

8703.90 - Other

This heading covers motor vehicles of various types (including amphibious motor vehicles) designed for the transport of persons; it **does not**, however, **cover** the motor vehicles of **heading 87.02**. The vehicles of this heading may have any type of motor (internal combustion piston engine, electric motor, gas turbine, combination of an internal combustion piston engine and one or more electric motors, etc.).

The heading includes :

(1) Vehicles specially designed for travelling on snow; golf cars and similar vehicles.

(a) **Vehicles specially designed for travelling on snow** (e.g., snowmobiles).

(b) **Golf cars and similar vehicles**.

(2) Other vehicles.

(a) **Motor cars** (e.g., limousines, taxis, sports cars and racing cars).

(b) **Specialised transport vehicles** such as ambulances, prison vans and hearses.

(c) **Motor-homes** (*campers*, etc.), vehicles for the transport of persons, specially equipped for habitation (with sleeping, cooking, toilet facilities, etc.).

(d) **Four-wheeled motor vehicles** with tube chassis, having a motor-car type steering system (e.g., a steering system based on the Ackerman principle).

For the purposes of this heading, the expression “station wagons” means vehicles with a maximum seating capacity of nine persons (including the driver), the interior of which may be used, without structural alteration, for the transport of both persons and goods.

The classification of certain motor vehicles in this heading is determined by certain features which indicate that the vehicles are principally designed for the transport of persons rather than for the transport of goods (**heading 87.04**). These features are especially helpful in determining the

classification of motor vehicles which generally have a gross vehicle weight rating of less than 5 tonnes and which have a single enclosed interior space comprising an area for the driver and passengers and another area that may be used for the transport of both persons and goods. Included in this category of motor vehicles are those commonly known as "multipurpose" vehicles (e.g., van-type vehicles, sports utility vehicles, certain pick-up type vehicles). The following features are indicative of the design characteristics generally applicable to the vehicles which fall in this heading :

(a) Presence of permanent seats with safety equipment (e.g., safety seat belts or anchor points and fittings for installing safety seat belts) for each person or the presence of permanent anchor points and fittings for installing seats and safety equipment in the rear area behind the area for the driver and front passengers; such seats may be fixed, fold-away, removable from anchor points or collapsible;

(b) Presence of rear windows along the two side panels;

(c) Presence of sliding, swing-out or lift-up door or doors, with windows, on the side panels or in the rear;

(d) Absence of a permanent panel or barrier between the area for the driver and front passengers and the rear area that may be used for the transport of both persons and goods;

(e) Presence of comfort features and interior finish and fittings throughout the vehicle interior that are associated with the passenger areas of vehicles (e.g., floor carpeting, ventilation, interior lighting, ashtrays).

The heading also covers lightweight three-wheeled vehicles such as :

- those fitted with motorcycle engine and wheels, etc. which, by virtue of their mechanical structure, possess the characteristics of conventional motor cars, that is motor car type steering system or both reverse gear and differential;

- those mounted on a T-shaped chassis, whose two rear wheels are independently driven by separate electric accumulator-powered electric motors. These vehicles are normally operated by means of a single central control stick with which the driver can start, accelerate, brake, stop and reverse the vehicle, as well as steer it to the right or to the left by applying a differential torque to the drive wheels or by turning the front wheel.

Three-wheeled vehicles of the above-described character are classified under heading 87.04 if they are designed for the transport of goods.

The vehicles of this heading may be of the wheeled or track-laying type.

Vehicles which have the combination of an internal combustion piston engine and one or more electric motors, are known as “Hybrid Electric Vehicles (HEVs)”. For the purpose of mechanical propulsion, these vehicles draw energy from both a consumable fuel and an electrical energy/power storage device (e.g., electric accumulator, capacitor, flywheel/generator). There are various types of Hybrid Electric Vehicles (HEVs), which can be differentiated by their powertrain configuration (such as, parallel hybrids, series hybrids, power-split or series-parallel hybrids) and degree of hybridization (i.e., full hybrids, mild hybrids and plug-in hybrids).

Plug-in Hybrid Electric Vehicles (PHEVs) are those which can recharge their electric accumulators by plugging them into an electrical power grid outlet or charging station.

Vehicles propelled by one or more electric motors powered by electric accumulator packs are known as “Electric Vehicles (EVs)”.

However, vehicles with an electric power source, such as an integrated alternator/starter, that is used **only** for non-propulsion functions are not classified as HEVs. These power sources can be used for running stop-start systems and may have regenerative braking and charge management systems. Such vehicles may be referred to as having “hybrid technology" or being a "micro hybrid", but do not have an electric motor for propulsion.

Vehicles specially designed for use on amusement park rides and fairground amusements, e.g., “dodge’em” cars, are classified in **heading 95.08**.

8703.10

- Vehicles specially designed for travelling on snow; golf cars and similar vehicles

CLASSIFICATION OPINIONS

1. **Three- or four-wheeled vehicles**, driven by battery-powered electric motors (150 W continuous and 1700 W maximum power), having a horizontal platform which joins their front and rear portions, small tyres (290 mm in diameter), a rotating adjustable seat with foldable armrests at the rear, and handgrips on a steering column. This steering column can be moved forward and is equipped with a small control panel with an ignition switch, four speed buttons and levers for accelerating, braking and reversing the vehicle. The motor is started with a key and, after selection of the desired speed, the vehicle is accelerated when the speed lever on handgrip is squeezed and automatically braked when the lever is released. The vehicle is operated in reverse by squeezing the opposite speed lever. It can be equipped with a range of hand controls for one-handed or arthritic users, or with right/left handed options or other custom options for a driver. The vehicles can be used on footpaths and in public places to go shopping, fishing, to golf courses, etc.
   The three-wheeled model is 650 mm in width, 1170 mm in length, and weighs 44 kg total (without batteries); it has a 100 kg maximum payload capacity, and is equipped with one 150 W electric motor. Two four-wheeled models are 650 mm in width, 1260 and 1290 mm in length, and weigh 54 kg and 60 kg total (without batteries), respectively; they have a 127 kg maximum payload capacity, and two electric motors (150 W each).
   Application of GIRs 1 and 6.
   Adoption : 2001



2. **Four-wheeled vehicle equipped with a battery powered electric motor** (eight 6-volt batteries) having an output of 3.7 hp. The vehicle, which is 122 cm high, 125 cm wide and 339 cm long and has a 250 cm wheelbase, is equipped with an automatic, computer-controlled charger (48-volt DC, 17 amp), self-adjusting rack and pinion steering, front suspension (independent leaf spring) with dual hydraulic shock-absorbers, mechanical drum brakes on all

four wheels and a foot-operated, multi-lock parking brake. This vehicle, which has a gross vehicle weight of 681 kg and a maximum speed of 27.3 km/h, is fitted with small wheels and can carry up to six people (including the driver).
It is intended for use as a utility vehicle in locations (camping or leisure sites, theme parks, resort hotels, industrial sites) which are not suitable for road traffic.
Application of GIRs 1 and 6.
Adoption : 2015



3. **Four-wheeled vehicle equipped with a 351cc single cylinder internal combustion engine** having an output of 11.5 hp. The vehicle, which is 122 cm high, 120 cm wide and 399 cm long and has a 334 cm wheelbase, is equipped with a 12-volt battery, self-adjusting rack and pinion steering, front suspension (independent leaf spring) with dual hydraulic shock-absorbers, mechanical drum brakes on all four wheels and a foot-operated, multi-lock parking brake. This vehicle, which has a gross vehicle weight of 681 kg and a maximum speed of 25.7 km/h, is fitted with small wheels and can carry up to eight people (including the driver).
It is intended for use as a utility vehicle in locations (camping or leisure sites, theme parks, resort hotels, industrial sites) which are not suitable for road traffic.
Application of GIRs 1 and 6.
Adoption : 2015



8703.2

- Other vehicles, with only spark-ignition internal combustion piston engine :

8703.21

-- Of a cylinder capacity not exceeding 1,000 cc

CLASSIFICATION OPINIONS

1. **Four-wheeled (two wheel-driven) All Terrain Vehicle** (" ATV ") with tube chassis, equipped with a motorcycle type saddle, handlebars for steering and off-the-road balloon tyres. Steering is achieved by turning the two front wheels and is based on a motor-car type steering system (Ackerman principle). The vehicle is fitted with an automatic transmission with reverse gear, chain-driven rear axle, and front and rear drum brakes. It is powered by a four-stroke single cylinder engine of a cylinder capacity of 124 cc. It is not fitted with cargo racks or with a trailer hitch. *Adoption : 1998*

2. **Four-wheel-driven All Terrain Vehicle** ("ATV") with tube chassis, equipped with a motorcycle-type saddle, handlebars for steering and off-road balloon tyres. Steering is achieved by turning the two front wheels and is based on a motor-car-type steering system (Ackerman principle). The vehicle is fitted with a five-speed dual range transmission with one reverse gear, front-wheel dual drum brakes and rear-wheel single drum brakes. It is powered by a four-stroke single cylinder engine of a cylinder capacity of 386 cc, the power being transmitted to the rear and front wheels by shafts. It is fitted with cargo racks to carry goods (total load capacity of 120 kg, excluding the driver) and a trailer hitch, and has a towing capacity of 410 kg (the vehicle itself has a weight of 273 kg). *Adoption : 1999*

8703.22

-- Of a cylinder capacity exceeding 1,000 cc but not exceeding 1,500 cc

CLASSIFICATION OPINIONS

1. Vehicle called a "mild hybrid" with a 1.5-litre turbocharged four-cylinder spark-ignition engine producing 135 kW and 280 Nm of torque. It is equipped with a starter / generator that can boost the engine's output by an additional 10 kW and 160 Nm of torque. This starter / generator allows for smoother engine start-stop operation and energy recovery during coasting. This vehicle does not have an exclusive electric driving mode.
This vehicle cannot be charged by plugging to an external source of electric power. **Application of GIRs 1 and .**
Adoption : 2022

8703.23

-- Of a cylinder capacity exceeding 1,500 cc but not exceeding 3,000 cc

CLASSIFICATION OPINIONS

1. On-road or off-road **motor vehicle** with a minimum ground clearance of 22 cm, with spark-ignition internal combustion reciprocating piston engine of a cylinder capacity of 2,960 cm3, two doors, with a tail-gate, two front bucket seats and foldaway rear seats. It can transport five people, including the driver, and has space at the back of the passenger compartment for transporting goods. The interior trimmings are similar to those found in other vehicles for the transport of persons. There are three windows on each side and a rear window. *Adoption : 1990*

2. **Two-wheel-driven motor vehicle,** with spark-ignition internal combustion piston engine of a cylinder capacity of 1,800 cc. The vehicle has two doors, two front seats, a non-collapsible rear bench for three persons in the passenger area (so-called double cab), and a well-finished interior (e.g., upholstered seats, decorative wall panels). The rear part, which is open and intended for the transport of cargo, is separated from the passenger area and has a drop-down tailgate. The total

load capacity (persons, including the driver, and cargo) is 495 kg, with a cargo capacity estimated at approximately 145 kg. The g.v.w. (gross vehicle weight) of the vehicle is 1,566 kg. *Adoption : 1999*

3. **Motor vehicle components, presented together and unassembled**, comprising all the components for the assembly of a complete four-wheeled motor car with a spark ignition internal combustion reciprocating piston engine of a cylinder capacity of 2,792 cc. After the assembly of all components into a complete motor car, the following operations are carried out : vehicle identification number fixation, brake system charging and bleeding air from brakes, charging of the steering booster system (power steering) and cooling and conditioning systems, headlights regulation, wheel geometry regulation (alignment), and regulation of brakes. **Application of GIRs 1, 2 (a) and 6.** *Adoption : 2012*

8703.24

-- Of a cylinder capacity exceeding 3,000 cc

8703.3

- Other vehicles, with only compression-ignition internal combustion piston engine (diesel or semi-diesel) :

8703.31

-- Of a cylinder capacity not exceeding 1,500 cc

8703.32

-- Of a cylinder capacity exceeding 1,500 cc but not exceeding 2,500 cc

CLASSIFICATION OPINIONS

Van type motor vehicle (monocoque body type having a chassis-body framework and a single enclosed space for the transport of both persons and goods) powered by a compression ignition engine of a cylinder capacity of 2,299 cc and having window side panels (for the passenger area (dual-purpose area)) and closed side panels (for the cargo area), a sliding door on one side, a lift-up rear door with window and a non-collapsible bench behind the front seats. Behind the bench is a loading space, which is separated from the passenger area by a removable partition (metal plate in the lower part and grill in the upper part). A panel of plywood is placed on the floor to provide a flat floor in the cargo area and the rear part of the passenger area (dualpurpose area). The panel has openings for mounting the bench on anchor points in the passenger area (dual-purpose area). There is no anchor point in the cargo area. The total load capacity (cargo and persons, excluding the driver) is 945 kg. The vehicle has a well-finished interior (e.g., upholstered seats or benches with headrests and decorative wall panels).
Adoption : 1998

Van type motor vehicle (monocoque body type having a chassis-body framework and a single enclosed space for the transport of both persons and goods) powered by a compression ignition engine of a cylinder capacity of 2,270 cc and having window side panels only, a sliding door on one or both sides, a lift-up rear door with window and a collapsible bench for three persons behind the front seats. Behind the bench is a loading space. A partition in the form of a grill to protect the driver and the passengers has been fixed to the side walls directly behind the bench. There is no anchor point for additional seats or benches in the cargo area. The total load capacity (without persons) is 1,000 kg when the bench is not collapsed and 1,250 kg when it is collapsed. The vehicle has a well-finished interior (e.g., upholstered seats or benches with headrests and decorative wall panels).
Adoption : 1998

8703.33

-- Of a cylinder capacity exceeding 2,500 cc
CLASSIFICATION OPINIONS

1. **On-road or off-road motor vehicle** with compression ignition engine of a cylinder capacity of 2,874 cc, two doors, a rear door with window, two foldable front seats, anchor points for a rear bench and provisions for the installation of seat belts, ashtrays and armrests in the area behind the front seats. The rear panels have windowshaped PVC sheets. The vehicle has a GVW of 2,410 kg, a load capacity of 500 kg and a net weight of 1,780 kg. *Adoption : 1998*

2. **Vehicle for the transport of goods permanently converted into a "motor-home" to provide accommodation for persons** by mounting on the chassis a body with a single access door, incorporating :
- a bedroom with a double bed;
- a kitchenette equipped with electrical appliances;
- a shower, a washbasin and toilets; and
- a sitting room equipped with a three-seat sofa, a table, a cupboard, etc.
The vehicle has a net weight of 10,250 kg and a gross vehicle weight of 11,990 kg. It is powered by a compression-ignition internal combustion piston engine of a cylinder capacity of 5,861 cc.
Application of GIRs 1 and 6.
Adoption : 2013



8703.40

- Other vehicles, with both spark-ignition internal combustion piston engine and electric motor as motors for propulsion, other than those capable of being charged by plugging to external source of electric power
CLASSIFICATION OPINIONS

1. Motor car, equipped with a "hybrid" power system which allows a spark-ignition internal combustion piston engine and an electric motor to work in combination. The engine has a cylinder capacity of 1497 cc and a maximum output of 53 kW (72 DIN hp) at 4500 rpm, and the electric motor (permanent magnet) has a maximum output of 33 kW (45 DIN hp) at 1040-5600 rpm. In the "hybrid" system, a sophisticated controller allows the spark-ignition internal combustion piston engine and electric motor to work together.

Application of GIRs 1 and 6.
Adoption : 2002

8703.50

- Other vehicles, with both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion, other than those capable of being charged by plugging to external source of electric power

8703.60

- Other vehicles, with both spark-ignition internal combustion piston engine and electric motor as motors for propulsion, capable of being charged by plugging to external source of electric power

8703.70

- Other vehicles, with both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion, capable of being charged by plugging to external source of electric power

8703.80

- Other vehicles, with only electric motor for propulsion

8703.90

- Other

Heading 8704

Motor vehicles for the transport of goods.

EXPLANATORY NOTES

87.04 - Motor vehicles for the transport of goods (+).

8704.10 - Dumpers designed for off-highway use

- Other, with only compression-ignition internal combustion piston engine (diesel or semi-diesel) :

8704.21 - - g.v.w. not exceeding 5 tonnes

8704.22 - - g.v.w. exceeding 5 tonnes but not exceeding 20 tonnes

8704.23 - - g.v.w. exceeding 20 tonnes

- Other, with only spark-ignition internal combustion piston engine :

8704.31 - - g.v.w. not exceeding 5 tonnes

8704.32 - - g.v.w. exceeding 5 tonnes

- Other, with both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion :

8704.41 - - g.v.w. not exceeding 5 tonnes

8704.42 - - g.v.w. exceeding 5 tonnes but not exceeding 20 tonnes

8704.43 - - g.v.w. exceeding 20 tonnes

- Other, with both spark-ignition internal combustion piston engine and electric motor as motors for propulsion :

8704.51 - - g.v.w. not exceeding 5 tonnes

8704.52 - - g.v.w. exceeding 5 tonnes

8704.60 - Other with only electric motor for propulsion.

8704.90 - Other

This heading covers in particular :

Ordinary lorries (trucks) and vans (flat, tarpaulin-covered, closed, etc.); delivery trucks and vans of all kinds, removal vans; lorries (trucks) with automatic discharging devices (tipping lorries (trucks), etc.); tankers (whether or not fitted with pumps); refrigerated or insulated lorries (trucks); multi-floored lorries (trucks) for the transport of acid in carboys, cylinders of butane, etc.; dropframe heavy-duty lorries (trucks) with loading ramps for the transport of tanks, lifting or excavating machinery, electrical transformers, etc.; lorries (trucks) specially constructed for the transport of fresh concrete, **other than** concrete-mixer lorries (trucks) of **heading 87.05**; refuse collectors whether or not fitted with loading, compressing, damping, etc., devices.

The heading also covers lightweight three-wheeled vehicles, such as :

- those fitted with motorcycle engine and wheels, etc. which, by virtue of their mechanical structure, possess the characteristics of conventional motor cars, that is motor car type steering system or both reverse gear and differential;

- those mounted on a T-shaped chassis, whose two rear wheels are independently driven by separate battery-powered electric motors. These vehicles are normally operated by means of a single central control stick with which the driver can start, accelerate, brake, stop and reverse the vehicle, as well as steer it to the right or to the left by applying a differential torque to the drive wheels or by turning the front wheel.

Three-wheeled vehicles of the above-described character are classified in **heading 87.03** if they are designed for the transport of persons.

The classification of certain motor vehicles in this heading is determined by certain features which indicate that the vehicles are designed for the transport of goods rather than for the transport of persons (**heading 87.03**). These features are especially helpful in determining the classification of motor vehicles, generally vehicles having a gross vehicle weight rating of less than 5 tonnes, which have either a separate closed rear area or an open rear platform normally used for the transport of goods, but may have rear bench-type seats that are without safety seat belts, anchor points or passenger amenities and that fold flat against the sides to permit full use of the rear platform for the transport of goods. Included in this category of motor vehicles are those commonly known as “multipurpose” vehicles (e.g., van-type vehicles, pick-up type vehicles and certain sports utility

vehicles). The following features are indicative of the design characteristics generally applicable to the vehicles which fall in this heading :

(a) Presence of bench-type seats without safety equipment (e.g., safety seat belts or anchor points and fittings for installing safety seat belts) or passenger amenities in the rear area behind the area for the driver and front passengers. Such seats are normally fold-away or collapsible to allow full use of the rear floor (van-type vehicles) or a separate platform (pick-up vehicles) for the transport of goods;

(b) Presence of a separate cabin for the driver and passengers and a separate open platform with side panels and a drop-down tailgate (pick-up vehicles);

(c) Absence of rear windows along the two side panels; presence of sliding, swing-out or lift-up door or doors, without windows, on the side panels or in the rear for loading and unloading goods (van-type vehicles);

(d) Presence of a permanent panel or barrier between the area for the driver and front passengers and the rear area;

(e) Absence of comfort features and interior finish and fittings in the cargo bed area which are associated with the passenger areas of vehicles (e.g., floor carpeting, ventilation, interior lighting, ashtrays).

This heading also covers :

(1) **Dumpers**, sturdily built vehicles with a tipping or bottom opening body, designed for the transport of excavated or other materials. These vehicles, which may have a rigid or articulated chassis, are generally fitted with off-the-road wheels and can work over soft ground. Both heavy and light dumpers are included in this group; the latter are sometimes characterised by a two-way seat, two seats facing in opposite directions or by two steering wheels, to enable the vehicles to be steered with the driver facing the body for unloading.

(2) **Shuttle cars**. These vehicles are used in mines to transport coal or ore from the hewing machinery to the conveyor belts. They are heavy, underslung vehicles, equipped with tyres and fitted with internal combustion piston engines or electric motors; they unload automatically by means of a conveyor belt which forms the floor of the vehicle.

(3) **Self-loading vehicles** equipped with winches, elevating devices, etc., but designed essentially for transport purposes.

(4) **Road-rail lorries (trucks)** specially equipped to travel both by road and rail. These vehicles, the road-wheels of which rest on the railway track, are fitted at the front and rear with a bogie-type device which can be raised by means of a jack to allow the vehicle to travel by road.

Motor vehicle chassis, fitted with an engine and cab, are also classified here.

*

* *

The heading also **excludes** :

(a) Straddle carriers used in factories, warehouses, dock areas or airports, etc., for the handling of long loads or containers (**heading 84.26**).

(b) Loader-transporters used in mines (**heading 84.29**).

(c) Motorcycles, motor-scooters or motorized cycles equipped for the transport of goods**,** such as delivery motorcycles, tricycles, etc., which do not have the characteristics of three-wheeled vehicles of this heading (**heading 87.11**).

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Subheading Explanatory Notes.

Subheading 8704.10

These dumpers can generally be distinguished from other vehicles for the transport of goods (in particular, tipping lorries (trucks)) by the following characteristics :

- the dumper body is made of very strong steel sheets; its front part is extended over the driver's cab to protect the cab; the whole or part of the floor slopes upwards towards the rear;

- in some cases the driver's cab is half-width only;

- lack of axle suspension;

- high braking capacity;

- limited speed and area of operation;

- special earth-moving tyres;

- because of their sturdy construction the tare weight/payload ratio does not exceed 1 : 1.6;

- the body may be heated by exhaust gases to prevent materials from sticking or freezing.

It should be noted, however, that certain dumpers are specially designed for working in mines or tunnels, for example, those with a bottom-opening body. These have some of the characteristics mentioned above, but do not have a cab or an extended protective front part of the body.

Subheadings 8704.21, 8704.22, 8704.23, 8704.31, 8704.32, 8704.41, 8704.42, 8704.43, 8704.51 and 8704.52

The **g.v.w.** (gross vehicle weight) is the road weight specified by the manufacturer as being the maximum design weight capacity of the vehicle. This weight is the combined weight of the vehicle, the maximum specified load, the driver and a tank full of fuel.

8704.10

- Dumpers designed for off-highway use

8704.2

- Other, with only compression-ignition internal combustion piston engine (diesel or semi-diesel) :

8704.21

-- g.v.w. not exceeding 5 tonnes

CLASSIFICATION OPINIONS

1. **Four-wheel-driven motor vehicle** with a compression-ignition internal combustion piston engine of a cylinder capacity of 2,779 cc, having a double cab and a separate loading platform, built on a separate chassis. The total load capacity (persons, including the driver, and cargo) is 625 kg, with a cargo capacity estimated at approximately 350 kg. The vehicle has four doors and a non-collapsible bench for three persons behind the two front seats, and has a well-finished interior, e.g., upholstered seats with headrests and decorative side panels. The loading platform has a dropdown rear tailgate and is covered by a canvas material over a metal frame. A removable board of plastics on which a bench seat is mounted is placed on the loading platform.
   The vehicle and the board with the bench are classified separately in subheadings 8704.21 and 9401.20, respectively.
   Adoption : 1999

2. **Three-wheeled vehicle**, enclosed for the transport of beverages and incorporating a driver's cab, propelled by a four-stroke, single-cylinder, compression-ignition engine with a cylinder capacity of 395 cc. The load capacity is 500 kg. The front wheel is steered using handlebars. The vehicle has a differential, a four-speed gear box with a reverse gear, a transmission shaft and drum brakes. The front wheel suspension consists of shock-absorbers and spiral springs, and the rear wheel suspension consists of leaf springs assisted by two telescopic shock-absorbers.
   Application of GIRs 1 and 6.
   Adoption : 2012



3. **Two-wheel-driven motor vehicle**, with a compression-ignition internal combustion piston (diesel) engine of a cylinder capacity of 1,686 cc. The vehicle has a single enclosed space with only two doors with windows and two seats with safety equipment for the driver and one passenger and comfort features in the front area. Behind the two seats, there is a barrier (bolted into place) separating the front part of the vehicle from the rear part with a platform intended to be loaded with goods; no permanent seats, nor permanent anchor points and fittings for installing seats and safety equipment; no comfort or safety features; and four rings on the platform to secure the load by using straps. There are two spaces behind the front seats, which can be used to install other seats to form a second row. The only access to the

load area is through the lift-up tailgate in the rear. The g.v.w. (gross vehicle weight) is 1,950 kg and the unladen vehicle weight is 1,290 kg.
Application of GIRs 1 and 6.
Adoption : 2015



8704.22

-- g.v.w. exceeding 5 tonnes but not exceeding 20 tonnes

8704.23

-- g.v.w. exceeding 20 tonnes

CLASSIFICATION OPINIONS

Tipping lorry (truck), with a six cylinder compression-ignition internal combustion piston engine of a cylinder capacity of 11,051 cc. The vehicle is 7,775 mm in length, 2,555 mm in width and 3,060 mm in height, and has a g.v.w. (gross vehicle weight) of 33.5 tonnes. The structure of the vehicle consists of a cab and tipping body mounted on a ladder type rigid truck chassis.

- The tipping body is made of rolled steel for welded structure; its front part is not extended over the driver's cab but covers only the back side of the cab; the whole or part of the floor does not slope upwards towards the rear; it has a tailgate;
- The cab occupies the full-width of the vehicle;
- The front and rear suspensions contain semi-elliptical leaf springs, and the front axle has shock absorbers;
- The front and rear brake systems are full air dual circuit;
- The maximum speed is 97 km/h;
- The tyre type is 315/80R22.5;
- The curb weight is 11.17 tonnes and the tare weight/payload ratio is calculated as 1:2 (11.17 tonnes : 22.33 tonnes).

The vehicle is intended for the transport and dumping of excavated or other materials.
Application of GIRs 1 and 6.
Adoption : 2010

8704.3

- Other, with only spark-ignition internal combustion piston engine :

8704.31

-- g.v.w. not exceeding 5 tonnes

CLASSIFICATION OPINIONS

1. **Two-wheel-driven motor vehicle,** with a spark-ignition internal combustion piston engine of a cylinder capacity of 2,254 cc. The vehicle has four doors, two seats in the front and a non-collapsible bench for three persons in the passenger area (so-called double cab). The superstructure of the vehicle consists of two separate bodies, one for the driver and passenger area, and one for the cargo area. The cargo area is open and has a drop-down tailgate to facilitate the loading or unloading of cargo. The total load capacity (persons, including the driver, and cargo) is 1,140 kg. The g.v.w. (gross vehicle weight) of the vehicle is 2,450 kg. Adoption : 1999

2. **Four-wheel-driven motor vehicle,** with a spark-ignition internal combustion piston engine of a cylinder capacity of 2,254 cc. The vehicle has four doors, two seats in the front and a non-collapsible bench for three persons in the passenger area (so-called double cab). The superstructure of the vehicle consists of two separate bodies, one for the driver and passenger area, and one for the cargo area. The cargo area is open and has a drop-down tailgate to facilitate the loading or unloading of cargo. The total load capacity (persons, including the driver, and cargo) is 950 kg. The g.v.w. (gross vehicle weight) of the vehicle is 2,450 kg. Adoption : 1999

3. **Multipurpose four-wheeled utility motor vehicle** that features a front seat and an open rear cargo area. It is powered by a gasoline engine with a top speed of 21 kilometres per hour and has a load capacity of 545 kilograms (including operator, passenger, accessories and cargo). The vehicle is 2.8 metres in length and 1.26 metres in width with a turning clearance diameter of 6.7 metres. This vehicle is used for all kinds of jobs including turf care jobs. **Application of GIRs 1 and 6.** *See also Opinion 8704.60/1* Adoption : 2009



4. **Three-wheeled vehicle** that features an open rear cargo area, propelled by a four-stroke, single-cylinder, spark-ignition engine with a cylinder capacity of 175 cc. The vehicle is 2900 mm long, 1050 mm wide and 1250 mm high. The dimensions of the cargo area (L x W x H) are 1250 x 1000 x 280 mm. The vehicle has a net weight of 260 kg and a maximum load capacity of 230 kg. The front wheel is steered using handlebars. The vehicle has a differential, a four-speed gear box with a reverse gear, a transmission shaft and drum brakes. The brakes are operated via the handlebars and by a pedal. The front wheel has cylinder suspension, and the rear wheels have leaf-spring suspension.

Application of GIRs 1 and 6.
Adoption : 2012



5. **Three-wheeled vehicle** that features a driver's cab, constructed and fitted out in the manner of a motor vehicle cab and an open rear cargo area. The vehicle is propelled by a four-stroke, single-cylinder, spark-ignition engine with a cylinder capacity of 249 cc. It is 3380 mm long, 1435 mm wide and 1545 mm high. The dimensions of the cargo area (L x W x H) are 1530 x 1412 x 300 mm. The vehicle is steered using a steering wheel. It has a differential, a four-speed gear box with a reverse gear and an electric starter. **Application of GIRs 1 and 6.**
Adoption : 2012



8704.32

-- g.v.w. exceeding 5 tonnes

8704.4

- Other, with both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion :

8704.41

-- g.v.w. not exceeding 5 tonnes

8704.42

-- g.v.w. exceeding 5 tonnes but not exceeding 20 tonnes

8704.43

-- g.v.w. exceeding 20 tonnes

8704.5

- Other, with both spark-ignition internal combustion piston engine and electric motor as motors for propulsion :

8704.51

-- g.v.w. not exceeding 5 tonnes

8704.52

-- g.v.w. exceeding 5 tonnes

8704.60

- Other with only electric motor for propulsion

CLASSIFICATION OPINIONS

1. Multipurpose four-wheeled utility motor vehicle that features a front seat and an open rear cargo area. It is powered by an electrical motor, having a top speed of 21 kilometres per hour and load capacity of 450 kilograms (including operator, passenger, accessories and cargo). The vehicle is 2.8 metres in length and 1.26 metres in width with a turning clearance diameter of 6.7 metres. This vehicle is used for all kinds of jobs including turf care jobs. **Application of GIRs 1 and 6.** *See also Opinion 8704.31/3. Adoption : 2009*

8704.90

- Other

Heading 8705

Special purpose motor vehicles, other than those principally designed for the transport of persons or goods (for example, breakdown lorries, crane lorries, fire fighting vehicles, concrete-mixer lorries, road sweeper lorries, spraying lorries, mobile workshops, mobile radiological units).

EXPLANATORY NOTES

87.05 - Special purpose motor vehicles, other than those principally designed for the transport of persons or goods (for example, breakdown lorries, crane lorries, fire fighting vehicles, concrete-mixer lorries, road sweeper lorries, spraying lorries, mobile workshops, mobile radiological units) (+).

8705.10 - Crane lorries

8705.20 - Mobile drilling derricks

8705.30 - Fire fighting vehicles

8705.40 - Concrete-mixer lorries

8705.90 - Other

This heading covers a range of motor vehicles, specially constructed or adapted, equipped with various devices that enable them to **perform certain non-transport functions**, i.e., the primary purpose of a vehicle of this heading is **not** the transport of persons or goods.

The heading includes :

(1) Motor breakdown lorries (trucks) consisting of a lorry (truck) chassis, with or without a floor, equipped with lifting gear such as non-rotating cranes, trestles, pulleys or winches, designed for lifting and towing broken-down vehicles.

(2) Motor pump vehicles, with a pump usually driven by the vehicle's engine (e.g., fire fighting vehicles).

(3) Lorries (trucks) fitted with ladders or elevator platforms for the maintenance of overhead cables, street lighting, etc.; lorries (trucks) with an adjustable arm and platform ("dollies") for cinematographic or television work.

(4) Lorries (trucks) used for cleansing streets, gutters, airfield runways, etc., (e.g., sweepers, sprinklers, sprinklersweepers and cesspool emptiers).

(5) Snow-ploughs and snow-blowers, **with built-in equipment**; i.e., vehicles constructed **solely** for snow clearance, and usually equipped with turbines, rotating blades, etc., driven either by the vehicle engine or by a separate engine.

Interchangeable snow-plough or snow-blower equipment of all types is in all cases **excluded** (**heading 84.30**), whether or not presented mounted on a vehicle.

(6) Spraying lorries (trucks) of all kinds, whether or not fitted with heating equipment, for spreading tar or gravel, for agricultural use, etc.

(7) Crane lorries (trucks), not for the transport of goods, consisting of a motor vehicle chassis on which a cab and a rotating crane are permanently mounted. However, lorries (trucks) with self-loading devices are **excluded** (**heading 87.04**).

(8) Mobile drilling derricks (i.e., lorries (trucks) fitted with a derrick assembly, winches and other appliances for drilling, etc.).

(9) Lorries (trucks) fitted with stacking mechanisms (i.e., with a platform which moves on a vertical support and is generally powered by the vehicle engine). But the heading **excludes** self-loading motor vehicles equipped with winches, elevating devices, etc., but which are constructed essentially for the transport of goods (**heading 87.04**).

(10) Concrete-mixer lorries (trucks) consisting of a cab and a motor vehicle chassis, on which is permanently mounted a concrete-mixer, capable of use for both making and transporting concrete.

(11) Mobile electric generator sets, consisting of a motor lorry (truck) on which is mounted an electric generator driven either by the vehicle engine or by a separate motor.

(12) Mobile radiological units (e.g., fitted with an examination room, dark room and complete radiological equipment).

(13) Mobile clinics (medical or dental) with operating theatre, anaesthetic equipment and other surgical apparatus.

(14) Searchlight lorries (trucks), consisting of a searchlight mounted on a vehicle, with current usually supplied by a generator driven by the vehicle motor.

(15) Outside broadcast vans.

(16) Telegraphy, radio-telegraphy or radio-telephony transmitting and receiving vans; radar vehicles.

(17) "Tote" vans, fitted with calculating machines for automatic calculation of wins and odds on racecourses.

(18) Mobile laboratories (e.g., for checking the performance of agricultural machinery).

(19) Test lorries (trucks), fitted with recording instruments for determining the tractive power of motor vehicles towing them.

(20) Mobile bakeries fully equipped (kneader, oven, etc.); field kitchens.

(21) Workshop vans, equipped with various machines and tools, welding appliances, etc.

(22) Mobile banks, travelling libraries, and mobile showrooms for the display of goods.

The heading also **excludes** :

(a) Self-propelled road rollers (**heading 84.29**).

(b) Agricultural rollers (**heading 84.32**).

(c) Small mobile pedestrian-controlled appliances, fitted with an auxiliary engine (e.g. sweepers for parks, public gardens, etc., and appliances used to mark lines on roads) (**heading 84.79**).

(d) Motor-homes (**heading 87.03**).

MOTOR VEHICLE CHASSIS OR LORRIES (TRUCKS) COMBINED WITH WORKING MACHINES

It should be noted that to be classified in this heading, a vehicle comprising lifting or handling machinery, earth levelling, excavating or boring machinery, etc., **must** form what is in fact an essentially complete motor vehicle chassis or lorry (truck) in that it comprises at least the following mechanical features : propelling engine, gear box and controls for gear-changing, and steering and braking facilities.

On the other hand, self-propelled machines (e.g., cranes, excavators) in which one or more of the propelling or control elements referred to above are located in the cab of a working machine mounted on a wheeled or track-laying chassis, whether or not the whole can be driven on the road under its own power, remain classified in, for example, **heading 84.26**, **84.29** or **84.30**.

Similarly, this heading **excludes** self-propelled wheeled machines in which the chassis and the working machine are specially designed for each other and form an integral mechanical unit (e.g., self-propelled motor graders). In this case, the machine is not simply mounted on a **motor vehicle**

chassis, but is completely integrated with a chassis that cannot be used for other purposes and may incorporate the essential automobile features referred to above.

It should be noted, however, that **self-propelled snow-ploughs or snow-blowers with built-in equipment** always fall in this heading.

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Subheading Explanatory Note.

Subheading 8705.10

See the Explanatory Note to heading 87.05, Item (7).

8705.10

- Crane lorries

8705.20

- Mobile drilling derricks

8705.30

- Fire fighting vehicles

8705.40

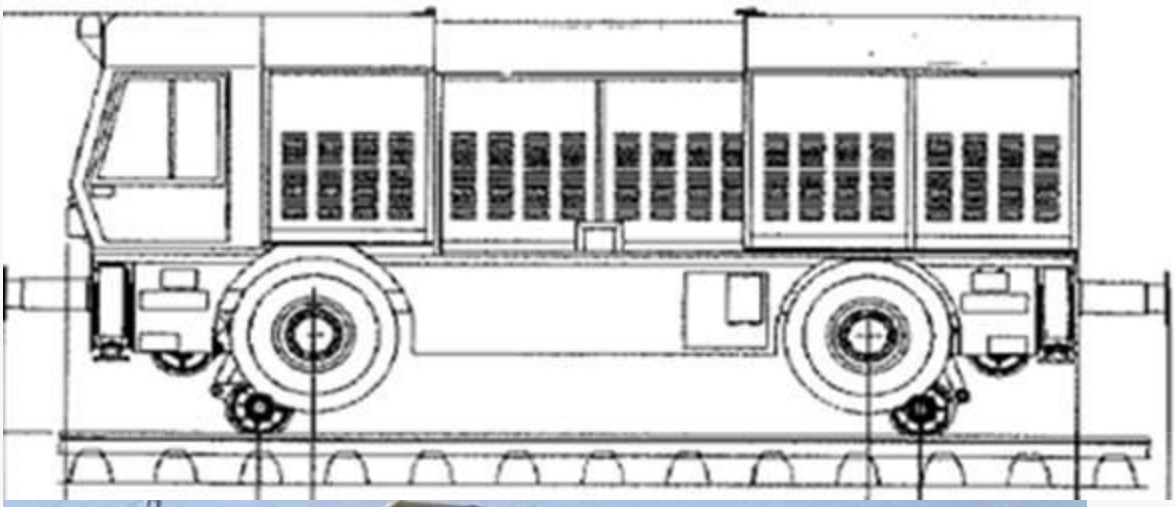
- Concrete-mixer lorries

8705.90

- Other

CLASSIFICATION OPINIONS

1. **Motor vehicle** constructed on a chassis frame with solid longitudinal rails and four tubular cross members, of steel. It is equipped with two traction axles fitted with two pneumatic tyres each, retractable bogies and differentials, a diesel propelling engine, a hydrostatic automatic transmission by cardan shafts from the engine to the two axles and three braking systems. The vehicle has a driving cabin with controls, a welding head attached to a double boom mounted on a rotating turret designed for electric rail welding operations, and a generator. It is capable of being driven on the railway track (with a maximum speed of 47 km/h) as well as on road (with a maximum speed of 32 km/h). **Application of GIRs 1 (Note 4 (a) to Section XVII) and 6.** Adoption : 2013





Heading 8706

Chassis fitted with engines, for the motor vehicles of headings 87.01 to 87.05.

EXPLANATORY NOTES

87.06 - Chassis fitted with engines, for the motor vehicles of headings 87.01 to 87.05.

This heading covers the chassis-frames or the combined chassis-body framework (unibody or monocoque construction), for the motor vehicles of headings 87.01 to 87.05, fitted with their engines and with their transmission and steering gear and axles (with or without wheels). That is to say, goods of this heading are motor vehicles without bodies.

The chassis classified in this heading may, however, be fitted with bonnets (hoods), windscreens (windshields), mudguards, running-boards and dashboards (whether or not equipped with instruments). Chassis also remain classified here whether or not fitted with tyres, carburettors or

batteries or other electrical equipment. However, if the article is a complete or substantially complete tractor or other vehicle it is **not covered** by this heading.

The heading also **excludes** :

(a) Chassis fitted with engines and cabs, whether or not the cab is complete (e.g., without seat) (**headings 87.02 to 87.04**) (see Note 3 to this Chapter).

(b) Chassis not fitted with engines, whether or not equipped with various mechanical parts (**heading 87.08**).

8706.00

Chassis fitted with engines, for the motor vehicles of headings 87.01 to 87.05.

Heading 8707

Bodies (including cabs), for the motor vehicles of headings 87.01 to 87.05.

EXPLANATORY NOTES

87.07 - Bodies (including cabs), for the motor vehicles of headings 87.01 to 87.05.

8707.10 - For the vehicles of heading 87.03

8707.90 - Other

This heading covers the bodies (including cabs) for the motor vehicles of headings 87.01 to 87.05.

It covers not only bodies designed to be mounted on a chassis, but also bodies for vehicles without chassis (in which case the body itself supports the engine and axles); it further includes unit construction bodies in which certain elements of the chassis are incorporated in the body.

The heading covers a wide range of bodies for various types of vehicles (e.g., passenger vehicles, lorries (trucks) and special purpose vehicles). They are generally made of steel, lightweight alloys, wood or plastics.

They may be completely equipped (e.g., with all their fittings and accessories such as dashboards, boots (trunks), seats and cushions, mats, luggage racks and electrical fittings).

Incomplete bodies also fall in this heading, for example, those in which parts such as windscreens or doors remain to be added, or those in which the upholstery or paintwork has not been completely finished.

Driving cabs (e.g., for lorries (trucks) and tractors) are also classified in this heading.

8707.10

- For the vehicles of heading 87.03

8707.90

- Other

Heading 8708

Parts and accessories of the motor vehicles of headings 87.01 to 87.05.
EXPLANATORY NOTES

87.08 - Parts and accessories of the motor vehicles of headings 87.01 to 87.05.

8708.10 - Bumpers and parts thereof

- Other parts and accessories of bodies (including cabs) :

8708.21 - - Safety seat belts

8708.22 - - Front windscreens (windshields), rear windows and other windows specified in Subheading Note 1 to this Chapter.

8708.29 - - Other

8708.30 - Brakes and servo-brakes; parts thereof

8708.40 - Gear boxes and parts thereof

8708.50 - Drive-axles with differential, whether or not provided with other transmission components, and non-driving axles; parts thereof

8708.70 - Road wheels and parts and accessories thereof

8708.80 - Suspension systems and parts thereof (including shock-absorbers)

- Other parts and accessories :

8708.91 - - Radiators and parts thereof

8708.92 - - Silencers (mufflers) and exhaust pipes; parts thereof

8708.93 - - Clutches and parts thereof

8708.94 - - Steering wheels, steering columns and steering boxes; parts thereof

8708.95 - - Safety airbags with inflater system; parts thereof

8708.99 - - Other

This heading covers parts and accessories of the motor vehicles of headings 87.01 to 87.05, **provided** the parts and accessories fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with the above-mentioned vehicles;

and (ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

Parts and accessories of this heading include :

(A) Assembled motor vehicle chassis-frames (whether or not fitted with wheels **but without engines**) and parts thereof (side-members, braces, cross-members; suspension mountings; supports and brackets for the coachwork, engine, running-boards, battery or fuel tanks, etc.).

(B) Parts of bodies and associated accessories, for example, floor boards, sides, front or rear panels, luggage compartments, etc.; doors and parts thereof; bonnets (hoods); framed windows, windows equipped with heating resistors and electrical connectors, window frames; running-boards; wings (fenders), mudguards; dashboards; radiator cowlings; number-plate brackets; bumpers and over-riders; steering column brackets; exterior luggage racks; visors; non-electric heating and defrosting appliances which use the heat produced by the engine of the vehicle; safety seat belts designed to be permanently fixed into motor vehicles for the protection of persons; floor mats (**other than** of textile material or unhardened vulcanised rubber), etc. Assemblies (including unit construction chassis-bodies) **not** yet having the character of incomplete bodies, e.g., not yet fitted with doors, wings (fenders), bonnets (hoods) and rear compartment covers, etc., are classified in this heading and not in heading 87.07.

(C) Clutches (cone, plate, hydraulic, automatic, etc., but **not** the electro-magnetic clutches of **heading 85.05**), clutch casings, plates and levers, and mounted linings.

(D) Gear boxes (transmissions) of all types (mechanical, overdrive, preselector, electro-mechanical, automatic, etc.); torque converters; gear box (transmission) casings; shafts (**other than** internal parts of engines or motors); gear pinions; direct-drive dog-clutches and selector rods, etc.

(E) Drive-axles, with differential; non-driving axles (front or rear); casings for differentials; sun and planet gear pinions; hubs, stub-axles (axle journals), stub-axle brackets.

(F) Other transmission parts and components (for example, propeller shafts, half-shafts; gears, gearing; plain shaft bearings; reduction gear assemblies; universal joints). But the heading **excludes** internal parts of engines, such as connecting-rods, push-rods and valvelifters of **heading 84.09** and crank shafts, cam shafts and flywheels of **heading 84.83**.

(G) Steering gear parts (for example, steering column tubes, steering track rods and levers, steering knuckle tie rods; casings; racks and pinions; servo-steering mechanisms).

(H) Brakes (shoe, segment, disc, etc.) and parts thereof (plates, drums, cylinders, mounted linings, oil reservoirs for hydraulic brakes, etc.); servo-brakes and parts thereof.

(IJ) Suspension shock-absorbers (friction, hydraulic, etc.) and other suspension parts (**other than** springs), torsion bars.

(K) Road wheels (pressed steel, wire-spoked, etc.), whether or not fitted with tyres; tracks and sets of wheels for tracked vehicles; rims, discs, hub-caps and spokes.

(L) Control equipment, for example, steering wheels, steering columns and steering boxes, steering wheel axles; gear-change and hand-brake levers; accelerator, brake and clutch pedals; connecting-rods for brakes, clutches.

(M) Radiators, silencers (mufflers) and exhaust pipes, fuel tanks, etc.

(N) Clutch cables, brakes cables, accelerator cables and similar cables, consisting of a flexible outer casing and a moveable inner cable. They are presented cut to length and equipped with end fittings.

(O) Safety airbags of all types with inflater system (e.g., driver-side airbags, passenger-side airbags, airbags to be installed in door panels for side-impact protection or airbags to be installed in the ceiling of the vehicle for extra protection for the head) and parts thereof. The inflater systems include the igniter and propellant in a container that directs the expansion of gas into the airbag. The heading **excludes** remote sensors or electronic controllers, as they are not considered to be parts of the inflater system.

The heading **does not cover** hydraulic or pneumatic cylinders of **heading 84.12**.

8708.10

- Bumpers and parts thereof

8708.2

- Other parts and accessories of bodies (including cabs) :

8708.21

-- Safety seat belts

8708.22

-- Front windscreens (windshields), rear windows and other windows specified in Subheading Note 1 to this Chapter

CLASSIFICATION OPINIONS

1. Coated heating automotive glass, of dimensions and in a format suitable for use as a windscreen (windshield) for motor vehicles, consisting of laminated glass interlayered with several sheets of metal film 50-250 nm thick attached to electrical connectors. When connected to the activated power system of the vehicle, the film acts as a heating resistor, heating the surface of the glass and removing frost and snow. **Application of GIRs 1 and 6.** *Adoption : 2018*

2. Print heating automotive glass, of dimensions and in a format suitable for use as a windscreen (windshield) for motor vehicles. The heating-resistor function is obtained by applying a silkscreen printing technique in order to affix silver paste to the glass, with the heating loop being formed by high temperature sintering. The electrical connector is soldered to the silver paste. It is then connected to the power system of the vehicle. When the power is switched on, the surface of the glass heats up, removing frost and snow. **Application of GIRs 1 and 6.** *Adoption : 2018*

3. Automotive glass with a rubber strip, of dimensions and in a format suitable for use as a windscreen (windshield) for motor vehicles. The strip, produced by injection moulding, has a

stiffness of between 60 and 95 (shore hardness) and is between 3 and 15 mm thick. It is permanently attached to the automotive glass, forming its frame. The framed product is intended to be installed directly in the motor vehicle as a windscreen (windshield). **Application of GIRs 1 and 6.**
Adoption : 2019

8708.29

-- Other
CLASSIFICATION OPINIONS

1. Bonnet opener cable and fuel cap cover cable, which consist of a flexible outer casing and a moveable inner cable. The outer casing is a tube made of spiral steel wire and covered with plastics. They are presented cut to length and designed for use in motor vehicles. The bonnet opener cable is designed to connect at one end to a bonnet release mechanism and is fitted at the other end with a handle for operating the inside cable to open the bonnet; the fuel cap cover cable, whose cross-section is significantly smaller than the other, is fitted with ends consisting of metal and plastic fittings. These cables are designed to form parts of bodies of motor vehicles. **Application of Note 1 (g) to Section XV.**
See also Opinions 8708.30/1, 8708.93/1 and 8708.99/2.
Adoption : 1993

8708.30

- Brakes and servo-brakes; parts thereof
CLASSIFICATION OPINIONS

Hand-brake cable, which is similar in construction to the cables described in Opinion 8708.29/1, consisting of a flexible outer casing and a moveable inner cable. The outer casing is a tube made of spiral steel wire and covered with plastics; it is fitted with a formed cap and a bellows at one end and a formed cap at the other. The moveable cable inside the flexible tube is a cable obtained by tightly twisting together several wires; each end of the cable is fitted with a stop. The hand-brake cable is presented cut to length and is designed to connect the parking brake hold and release mechanisms to a motor-vehicle brake system. **Application of Note 1 (g) to Section XV.**
See also Opinions 8708.29/1, 8708.93/1 and 8708.99/2.
Adoption : 1993

8708.40

- Gear boxes and parts thereof

8708.50

- Drive-axles with differential, whether or not provided with other transmission components, and non-driving axles; parts thereof
CLASSIFICATION OPINIONS

1. Flanged tapered roller bearing hub unit for inner ring rotating type, also called "2nd Generation Tapered Roller Bearing Hub Unit", with double rows of rollers consisting of (i) two steel inner rings (internal diameter: 54 mm), (ii) a flanged steel outer ring (outer diameter: 96 mm, flange diameter 159 mm), (iii) 40 pieces of steel rollers (20 pieces x 2 rows), (iv) two plastic cages and (v) two rubber seals. The flanged outer ring has tapped holes for bolts to allow attachment to the body of a motor vehicle.

This product is designed to be mounted onto the body of a motor vehicle by the flanged outer ring (ii). The inner rings (i) of the product are designed to be engaged to a wheel hub and driving shaft, when they are attached to a driving wheel. The functions include supporting the weight of a vehicle and making the driving shaft rotate smoothly, in addition to enabling friction to be considerably reduced. This product can be used on both driving wheels and non-driving wheels.
Application of GIRs 1 (Note 3 to Section XVII) and 6.
Adoption : 2019

A Inner rings

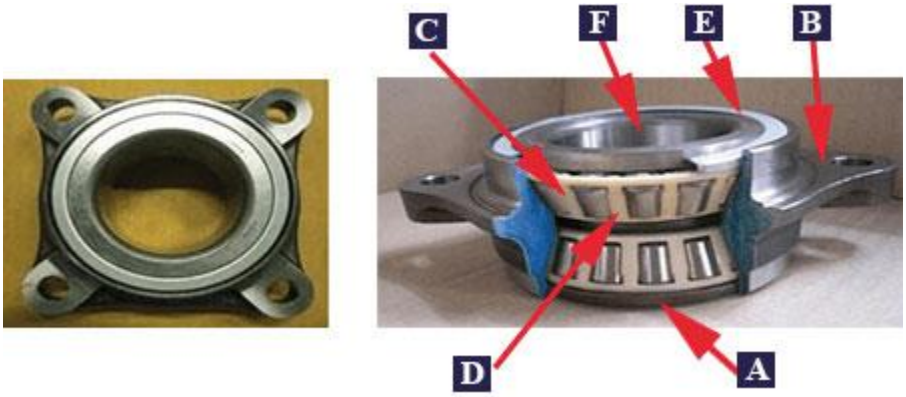
B Flanged outer ring

C Rollers

D Cages

E Rubber seals

F Inner rings



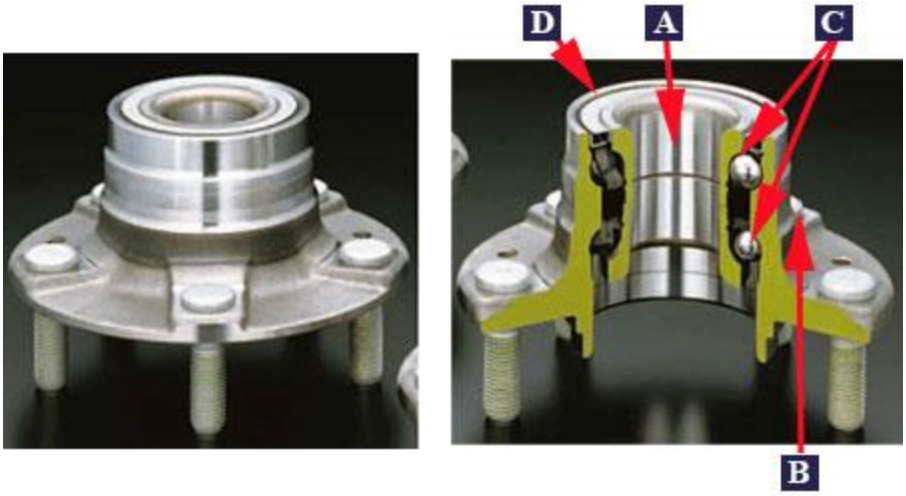
2. Bearing hub unit for outer ring rotating type (137 mm (diameter) x 68 mm (thickness)), also called "2nd Generation Hub Unit Bearing of the outer ring rotating type," consisting of (i) two inner rings, (ii) an outer ring, (iii) steel balls, (iv) cages and (v) rubber seals. The outer ring is integrally formed with a flange with five holes for mounting the wheel of a motor vehicle by bolts. The wheels rotate on a spindle attached through the hub unit bearing. The functions of this product are to support the weight of a vehicle, to attach the wheel, and to allow the wheel to rotate smoothly. It is used on non-driving wheels.
Application of GIRs 1 (Note 3 to Section XVII) and 6.
Adoption : 2019

A Inner rings

B Outer ring

C Steel balls

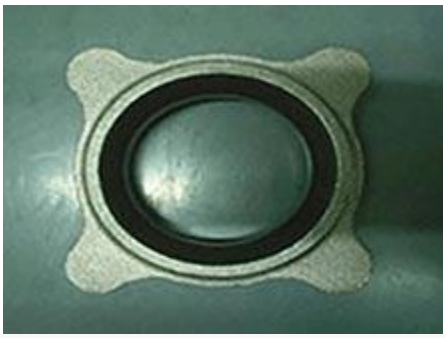
D Rubber seals



3. Finished outer ring for a Flanged Tapered Roller Bearing Hub Unit (outer diameter: 96 mm, flange diameter: 159 mm). It has tapped holes for bolts to allow attachment to the body of a motor vehicle after assembly into a Flanged Tapered Roller Bearing Hub Unit.
Application of GIRs 1 (Note 3 to Section XVII) and 6.
Adoption : 2019



4. Forged, unfinished, outer ring for a Flanged Tapered Roller Bearing Hub Unit (outer diameter: 96 mm, flange diameter: 159 mm). The outer ring has the shape and dimensions of a finished flange, but will be turned, heattreated and ground before being used as an outer ring. It has no double rows raceway for rolling elements and no holes for bolts in the flange.
Application of GIRs 1 (Note 3 to Section XVII and Note 1 (f) to Section XV), 2 (a) and 6.
Adoption : 2019



8708.70

- Road wheels and parts and accessories thereof

8708.80

- Suspension systems and parts thereof (including shock-absorbers)

8708.9

- Other parts and accessories

8708.91

-- Radiators and parts thereof

8708.92

-- Silencers (mufflers) and exhaust pipes; parts thereof

8708.93

-- Clutches and parts thereof

CLASSIFICATION OPINIONS

Clutch cable, which is similar in construction to the cables described in Opinion 8708.29/1 except for the ends, one of which is fitted with a rod and the other with a stop. It is also presented cut to length and is designed to connect a motor vehicle clutch pedal to the clutch. **Application of Note 1 (g) to Section XV.** *See also Opinions 8708.29/1, 8708.30/1 and 8708.99/2.* Adoption : 1993

8708.94

-- Steering wheels, steering columns and steering boxes; parts thereof

8708.95

-- Safety airbags with inflater system; parts thereof

8708.99

-- Other

CLASSIFICATION OPINIONS

1. **Track link assembly :** Identifiable as suitable, after fitting with shoes, as tracks for use solely or principally : On a vehicle of headings 87.01 to 87.05. *See also Opinions 8431.49/1, 8487.90/4 and 8710.00/1.* Adoption : 1965

2. **Accelerator cable,** which is similar in construction to the cables described in Opinion 8708.29/1 and is also presented cut to length and designed for use in motor vehicles. The accelerator cable is designed to connect a vehicle accelerator pedal with the engine fuel control system. **Application of Note 1 (g) to Section XV.** *See also Opinions 8708.29/1, 8708.30/1 and 8708.93/1.* Adoption : 1993

3. **Front section of a used motor vehicle** cut from a vehicle of unspecified make. This section, as presented, comprises an engine, a gear box, a bonnet, two front doors, front seat(s), a dashboard, a windscreen and a section of the chassis. Adoption : 1996

4. **Roof cargo box** (dimensions : 226 cm (L) x 55 cm (W) x 37 cm (H); weight : 12 kg; volume : 290 l; load capacity : 50 kg) for storing and protecting personal effects, such as skiing equipment, camping equipment, luggage, etc., during travel. It is designed to be mounted on exterior roof luggage racks of a motor vehicle by specific hardware delivered with the box. The box is composed of a top shell, which has a streamlined design, and a bottom shell, both of moulded plastics that are attached together on one side. It has an integrated lock to restrict access into the box.
Application of GIRs 1 and 6.
Adoption : 2013





5. **Foldable roof cargo box** (dimensions : 110 cm (L) x 80 cm (W) x 40 cm (H); weight : 7 kg; volume : 280 l; load capacity : 50 kg) for storing and protecting personal effects, such as camping equipment, luggage, etc., during travel. It is designed to be mounted on exterior roof luggage racks of a motor vehicle by specific hardware delivered with the box. The box is composed of a base of moulded plastics and an exterior surface made of waterproof textile material with welded seams. It is equipped with an integrated padlock, and a zipper which runs most of the way around the base. The box can be folded up and kept in a storage bag with a carrying strap delivered with the box.
Application of GIRs 1 and 6.
Adoption : 2013





6. **Demountable mobile camper pop-top**, designed to fit, or to be mounted onto, the back of vehicles with a tray back ("pick-up trucks"). It can be moved with ease from one place to another using the vehicle upon which it is fitted or mounted. The camper pop-top is fully equipped with fixed appliances, such as a refrigerator, stove, fresh water tank, on-board power, mattresses, etc. It can be used for accommodation while on the vehicle or in a dismounted (freestanding) position.
Application of GIRs 1 and 6.
Adoption : 2021





Heading 8709

Works trucks, self-propelled, not fitted with lifting or handling equipment, of the type used in factories, warehouses, dock areas or airports for short distance transport of goods; tractors of the type used on railway station platforms; parts of the foregoing vehicles.

EXPLANATORY NOTES

87.09 - Works trucks, self-propelled, not fitted with lifting or handling equipment, of the type used in factories, warehouses, dock areas or airports for short distance transport of goods; tractors of the type used on railway station platforms; parts of the foregoing vehicles.

- Vehicles :

8709.11 - - Electrical

8709.19 - - Other

8709.90 - Parts

This heading covers a group of self-propelled vehicles of the types used in factories, warehouses, dock areas or airports for the short distance transport of various loads (goods or containers) or, on railway station platforms, to haul small trailers.

Such vehicles are of many types and sizes. They may be driven either by an electric motor with current supplied by accumulators or by an internal combustion piston engine or other engine.

The main features common to the vehicles of this heading which generally distinguish them from the vehicles of heading 87.01, 87.03 or 87.04 may be summarised as follows :

(1) Their construction and, as a rule, their special design features, make them unsuitable for the transport of passengers or for the transport of goods by road or other public ways.

(2) Their top speed when laden is generally not more than 30 to 35 km/h.

(3) Their turning radius is approximately equal to the length of the vehicle itself.

Vehicles of this heading do not usually have a closed driving cab, the accommodation for the driver often being no more than a platform on which he stands to steer the vehicle. Certain types may be equipped with a protective frame, metal screen, etc., over the driver's seat.

The vehicles of this heading may be pedestrian controlled.

Works trucks are self-propelled trucks for the transport of goods which are fitted with, for example, a platform or container on which the goods are loaded.

Small tank trucks of a kind generally used in railway stations, whether or not fitted with subsidiary pumps, are also classified here.

Tractorsof the type used on railway station platforms are designed primarily to tow or push other vehicles, e.g., small trailers. They do not themselves carry goods, and are generally lighter and less powerful than the tractors of heading 87.01. Tractors of this type may also be used on wharfs, in warehouses, etc.

PARTS

This heading also covers parts of the vehicles specified in the heading, **provided** the parts fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with such vehicles;

and (ii) They must not be excluded from this heading by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

Parts of this heading include :

(1) Chassis.

(2) Bodies, platforms, detachable sides, tipping bodies.

(3) Wheels, whether or not fitted with tyres.

(4) Clutches.

(5) Gear boxes (transmissions), differentials.

(6) Axles.

(7) Steering wheels or bars.

(8) Braking systems and parts thereof.

(9) Clutch cables, brake cables, accelerator cables and similar cables, consisting of a flexible outer casing and a moveable inner cable. They are presented cut to length and equipped with end fittings.

The heading **excludes** :

(a) Straddle carriers and works trucks fitted with a crane (**heading 84.26**).

(b) Fork-lift trucks and other works trucks fitted with lifting or handling equipment (**heading 84.27**).

(c) Dumpers (**heading 87.04**).

8709.1

- Vehicles :

8709.11

-- Electrical

8709.19

-- Other

8709.90

- Parts

Heading 8710

Tanks and other armoured fighting vehicles, motorised, whether or not fitted with weapons, and parts of such vehicles.

EXPLANATORY NOTES

87.10 - Tanks and other armoured fighting vehicles, motorised, whether or not fitted with weapons, and parts of such vehicles.

This heading covers tanks and other armoured fighting “Vehicles, motorised, whether or not fitted with weapons, and” parts of such vehicles.

Tanks are armoured fighting vehicles mounted on tracks, and armed with various weapons (guns, machine-guns, flame-throwers, etc.) usually housed in a traversing turret. They are sometimes fitted with a special gyroscopic stabilisation gear to keep the sights on the target, irrespective of the movement of the vehicle. They may also be equipped with anti-mining devices, such as a “flail” (a rotating drum which is carried on arms in front of the tank and to which are attached chains with ball ends) or a number of heavy rollers attached to the front of the tanks.

The heading also includes amphibious tanks.

Armoured cars are faster and lighter than tanks and cannot carry such heavy armour or mount such large guns. Sometimes they are only partly armoured. They are mainly used for police duties, reconnaissance or for transport in fighting areas. Some armoured cars are track-laying, but the majority are of the road-wheel type. They may be amphibious (e.g., track-laying armoured landing vehicles).

This heading also covers :

(A) Tanks equipped with a crane for the recovery of fighting vehicles.

(B) Armoured supply vehicles, generally of the track-laying type, whether or not they are designed to be armed; these are used for the transport of petrol, ammunition, etc., in fighting areas.

(C) Small remote-controlled “tanks” which carry ammunition to advanced fighting vehicles or artillery units.

(D) Armoured vehicles permanently fitted with special demolition equipment.

(E) Armoured personnel carriers.

The heading **excludes** cars and lorries of the conventional type, lightly armoured or equipped with subsidiary removable armour (**headings 87.02 to 87.05** as appropriate).

Self-propelled artillery weapons fall in **heading 93.01**; they are characterised by the fact that they are designed to fire when stationary, the weapon itself having a limited traverse.

PARTS

The heading also covers parts of the above-mentioned vehicles **provided** the parts fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with such vehicles;

and (ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

Parts of this heading include :

(1) Bodies of armoured vehicles and parts thereof (turrets, armoured doors and bonnets, etc.).

(2) Tracks, specially constructed for use with tanks.

(3) Special road-wheels for armoured cars.

(4) Propulsion wheels for tank tracks.

(5) Armour plates, worked to such an extent that they are identifiable as parts of the vehicles of this heading.

(6) Clutch cables, brake cables, accelerator cables and similar cables, consisting of a flexible outer casing and a moveable inner cable. They are presented cut to length and equipped with end fittings.

8710.00

Tanks and other armoured fighting vehicles, motorised, whether or not fitted with weapons, and parts of such vehicles.

Heading 8711

Motorcycles (including mopeds) and cycles fitted with an auxiliary motor, with or without side-cars; side-cars.

EXPLANATORY NOTES

87.11 - Motorcycles (including mopeds) and cycles fitted with an auxiliary motor, with or without side-cars; side-cars.

8711.10 - With internal combustion piston engine of a cylinder capacity not exceeding 50 cc

8711.20 - With internal combustion piston engine of a cylinder capacity exceeding 50 cc but not exceeding 250 cc

8711.30 - With internal combustion piston engine of a cylinder capacity exceeding 250 cc but not exceeding 500 cc

8711.40 - With internal combustion piston engine of a cylinder capacity exceeding 500 cc but not exceeding 800 cc

8711.50 - With internal combustion piston engine of a cylinder capacity exceeding 800 cc

8711.60 - With electric motor for propulsion

8711.90 - Other

This heading covers a group of two-wheeled motorised vehicles which are essentially designed for carrying persons.

In addition to motorcycles of the conventional type, the heading includes motor-scooters, characterised by their small wheels and by a horizontal platform which joins the front and rear portions of the vehicle; mopeds, equipped with both a built-in engine and a pedal system; and cycles fitted with an auxiliary motor.

This heading also covers two-wheeled, electrically-powered transportation devices, designed for carrying a single person, for use within low speed areas such as pavements (sidewalks), paths, and bicycle lanes. Their technology allows the rider to stand upright while a system composed of gyroscope sensors and multiple onboard microprocessors maintains both the device's and rider's balance on two independent, non-tandem wheels. Motorcycles of this heading, which are propelled by one or more electric motors, are known as "Electric Motorcycles". These motorcycles incorporate an electric accumulator pack supplying power to the electric motors. The electric accumulators of these "plug-in" type motorcycles can be recharged by plugging them into an electrical power grid outlet or charging station.

Motorcycles may be equipped to protect the driver against the weather or be fitted with a side-car.

Three-wheeled vehicles (e.g., the "delivery tricycle" type) are also classified here **provided** they do not have the characteristics of motor vehicles of heading 87.03 or heading 87.04 (see the Explanatory Notes to headings 87.03 and 87.04).

The heading further covers side-cars of all kinds, a type of vehicle which is designed for the transport of passengers or goods, and which cannot be used independently. They are equipped with a wheel on one side, the other side bearing fittings enabling the side-car to be attached to, and to travel alongside, a cycle or motorcycle.

The heading **excludes** :

(a) Four-wheeled motor vehicles, for the transport of persons, with tube chassis, having a motor-car type steering system (e.g., a steering system based on the Ackerman principle) (**heading 87.03**).

(b) Trailers designed for attachment to a cycle or motorcycle (**heading 87.16**).

8711.10

- With internal combustion piston engine of a cylinder capacity not exceeding 50 cc

8711.20

- With internal combustion piston engine of a cylinder capacity exceeding 50 cc but not exceeding 250 cc

CLASSIFICATION OPINIONS

Motorcycle components, presented together and unassembled, belonging to the same model of motorcycle, consisting of the following :

- an instrument panel;
- a spark-ignition internal combustion reciprocating piston engine, of a cylinder capacity of 124.1 cc;
- a frame body;
- a fuel tank;
- a harness wire;
- a seat;
- a steering handle pipe;
- a headlight;
- a front mudguard ;
- a fork top bridge;
- a set/starting motor;
- two front fork tubes, right and left;
- two rear cushions;
- an exhaust silencer (muffler).

Application of GIRs 1, 2 (a) and 6.
Adoption : 2012

8711.30

- With internal combustion piston engine of a cylinder capacity exceeding 250 cc but not exceeding 500 cc

8711.40

- With internal combustion piston engine of a cylinder capacity exceeding 500 cc but not exceeding 800 cc

8711.50

- With internal combustion piston engine of a cylinder capacity exceeding 800 cc

CLASSIFICATION OPINIONS

1. **Motorcycle**, specially modified and equipped with fire-fighting equipment. The fire-fighting equipment, which is mounted on to an added stainless steel frame, consists of two interconnected 25 litre tanks for premixed water and foam, a 6.8 litre tank filled to 300 bars pressure for delivering compressed air, a 30 metre hose, a hose reel, nozzles/lance attachment, and emergency lights and sirens. A backup battery and separate circuit boards are also installed to accommodate additional electrical devices. In order to support the fire-fighting equipment, some parts of the motorcycle have been removed, such as the rear part of the motor bike, side panniers, top box, rear protection frame and passenger footrest.
Application of GIRs 1 and 6.
Adoption : 2015



8711.60

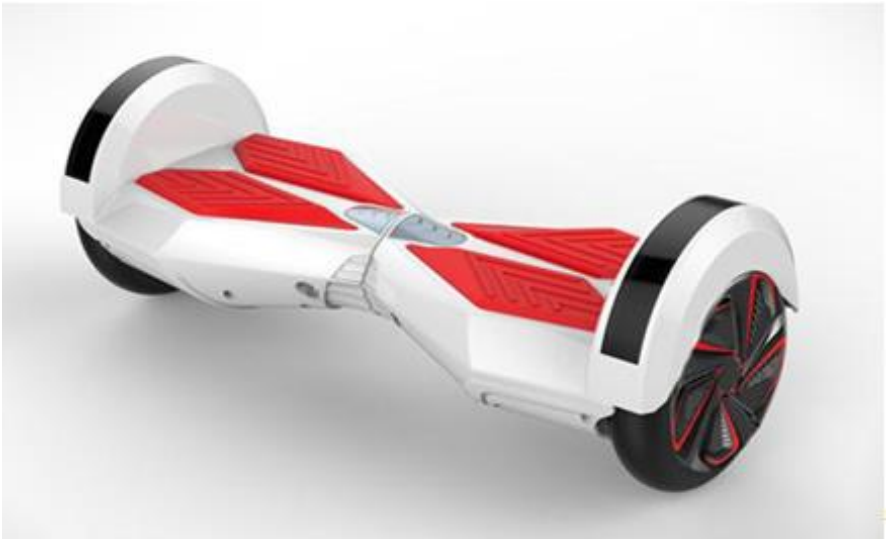
- With electric motor for propulsion

CLASSIFICATION OPINIONS

1. **A two-wheeled, electrically-powered transportation device,** designed for carrying a single person, for use within low speed areas such as pavements (sidewalks), paths, and bicycle lanes. Its technology allows the rider to stand upright while a system composed of gyroscope sensors and multiple onboard microprocessors maintains both the device's and rider's balance on two independent, non-tandem wheels.
It has a sensor system comprising five solid-state silicon gyroscopes, a control system comprising 10 onboard microprocessors, and an electric drive system comprising two brushless servo motors that have a maximum output of 2 hp. It is powered by two rechargeable batteries.
Application of GIRs 1 and 6.
Adoption : 2007 + 2016



2. **Two-wheeled, self-balancing, electrically-powered transportation device**, designed for carrying a single person, for use within low speed areas such as pavements (sidewalks), paths, and bicycle lanes. The maximum speed of the device is 10 km/h and the maximum distance per charge is 15-20 km.
Through the built-in gyroscope and acceleration sensors, the device uses the dynamic balance principle to control moving forward, backward, turning and stopping. It is controlled by the changes of the operator's body posture.
Application of GIRs 1 and 6.
Adoption : 2017



8711.90

- Other

Heading 8712

Bicycles and other cycles (including delivery tricycles), not motorised.

EXPLANATORY NOTES

87.12 - Bicycles and other cycles (including delivery tricycles), not motorised.

This heading covers non-motorised cycles, i.e., pedal-operated vehicles equipped with one or more wheels (e.g., bicycles (including those for children), tricycles and quadricycles).

The heading includes, in addition to cycles of conventional design, various specialised types such as the following :

(1) Delivery tricycles, usually in the form of an articulated unit incorporating a container (sometimes insulated) which is constructed over the two leading wheels.

(2) Tandem bicycles.

(3) Monocycles (unicycles) and bicycles specially designed for music-hall artists and characterised by their light weight, fixed wheel, etc.

(4) Bicycles specially constructed for the disabled (e.g., with a special attachment so that the bicycle can be pedalled with one foot).

(5) Bicycles equipped with a wheeled balancing-support fitted to a hub of the rear-wheel.

(6) Racing bicycles.

(7) Quadricycles, equipped with several seats and several sets of pedals, the whole being enclosed within a lightweight structure.

(8) Pedal-driven bicycle-like scooters designed to be ridden by children, youngsters and adults, with bicycle-type adjustable steering column and handle-bar, inflatable wheels, frame and hand brakes, equipped with a single pedal attached to a chain and sprocket system.

The cycles of this heading equipped with side-cars remain classified here, but side-cars presented separately are **excluded** (**heading 87.11**).

The heading also **excludes** :

(a) Cycles fitted with an auxiliary motor (**heading 87.11**).

(b) Children’s cycles (other than children’s bicycles) (**heading 95.03**).

(c) Special cycles suitable only for fairground use (**heading 95.08**).

8712.00

Bicycles and other cycles (including delivery tricycles), not motorised.

CLASSIFICATION OPINIONS

1. **Bicycle components, presented together and unassembled**, suitable for the same model of bicycle, not including all of the parts necessary to assemble a finished bicycle, with the following configuration :

- Frame;
- Fork;
- Handlebar;
- Brake levers;
- Stem (connecting the fork and handlebar);
- Grip;
- Complete crank set;
- Shifter(s);
- Brake mechanism/brakes;
- Bottom bracket (BB) parts;
- Saddle;
- Seat post;
- Chain wheel.

Application of GIRs 1 and 2 (a).
Adoption : 2017

2. **Bicycle components, presented together and unassembled**, suitable for the same model of bicycle, not including all of the parts necessary to assemble a finished bicycle, with the following configuration :

- Frame;
- Fork;
- Handlebar;
- Stem (connecting the fork and handlebar);
- Brake and gear levers and cables;
- Brakes;
- Crank arms;
- Crank set;
- Chain ring;
- Chain ring bolts;
- Front derailleur;
- Seat post clamp.

Application of GIRs 1 and 2 (a).
Adoption : 2017

3. **Bicycle components, presented together and unassembled**, suitable for the same model of bicycle, not including all of the parts necessary to assemble a finished bicycle, with the following configuration :

- Frame;
- Fork;
- Handlebar;
- Stem (connecting the fork and handlebar);
- Brake handles and cables.

Application of GIRs 1 and 2 (a).
Adoption : 2017

Heading 8713

Carriages for disabled persons, whether or not motorised or otherwise mechanically propelled.
EXPLANATORY NOTES

87.13 - Carriages for disabled persons, whether or not motorised or otherwise mechanically propelled.

8713.10 - Not mechanically propelled

8713.90 - Other

This heading covers carriages, wheelchairs, or similar vehicles, specially designed for the transport of disabled persons, whether or not fitted with means of mechanical propulsion.

Vehicles fitted with means of mechanical propulsion are usually driven by a light motor, or propelled by hand by means of a lever or handle-operated mechanism. The other carriages for disabled persons are pushed by hand or propelled by direct manual operation of the wheels.

The heading **excludes** :

(a) Normal vehicles simply adapted for use by disabled persons (for example, a motor car fitted with a hand-operated clutch, accelerator, etc. (**heading 87.03**), or a bicycle fitted with a special attachment and pedalled with one foot (**heading 87.12**)).

(b) Trolley-stretchers (**heading 94.02**).

8713.10

- Not mechanically propelled

8713.90

- Other

Heading 8714

Parts and accessories of vehicles of headings 87.11 to 87.13.
EXPLANATORY NOTES

87.14 - Parts and accessories of vehicles of headings 87.11 to 87.13.

8714.10 - Of motorcycles (including mopeds)

8714.20 - Of carriages for disabled persons

- Other :

8714.91 - - Frames and forks, and parts thereof

8714.92 - - Wheel rims and spokes

8714.93 - - Hubs, other than coaster braking hubs and hub brakes, and free-wheel sprocket-wheels

8714.94 - - Brakes, including coaster braking hubs and hub brakes, and parts thereof

8714.95 - - Saddles

8714.96 - - Pedals and crank-gear, and parts thereof

8714.99 - - Other

This heading covers parts and accessories of a kind used with motorcycles (including mopeds), cycles fitted with an auxiliary motor, side-cars, non-motorised cycles, or carriages for disabled persons, **provided** the parts and accessories fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with the above-mentioned vehicles;

and (ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

Parts and accessories of this heading include :

(1) Bodies and parts thereof for delivery tricycles, side-cars or carriages for disabled persons (hoods, doors, floors, etc.).

(2) Chassis and frames, and parts thereof.

(3) Gearing, gear boxes, clutches and other transmission equipment, and parts thereof, for motorcycles.

(4) Wheels and parts thereof (hubs, rims, spokes, etc.).

(5) Free-wheel sprocket-wheels.

(6) Derailleurs and other gear mechanisms, and parts thereof.

(7) Crank-gear and parts thereof (crank-wheels, cranks, axles, etc.), pedals and parts thereof (axles, etc.); toe-clips.

(8) Kickstarters, levers and other control gear.

(9) Brakes of all kinds (cantilever brakes, caliper brakes, drum brakes, hub brakes, disc brakes, coaster braking hubs, etc.), and parts thereof (levers, block-holder levers, drums and shoes for hub brakes, yokes for cantilever brakes).

(10) Handle-bars, handle-bar stems, and handle-bar grips (of cork, plastics, etc.).

(11) Saddles (seats) and saddle-pillars (seat-posts); saddle-covers.

(12) Forks, including telescopic forks, and parts thereof (fork crowns and blades, etc.).

(13) Tubes and lugs for cycle frames.

(14) Hydraulic shock-absorbers and parts thereof.

(15) Mudguards and their supports (stays, fastening rods, etc.).

(16) Reflectors (mounted).

(17) Clothes protectors (**other than** nets of **heading 56.08**); transmission-chain covers; foot-rests and leg-protectors.

(18) Stands for motorcycles.

(19) Tilting cowls and spare-wheel covers, for scooters.

(20) Silencers (mufflers) and parts thereof.

(21) Fuel tanks.

(22) Windscreens (windshields).

(23) Luggage racks; lamp brackets; water-bottle brackets.

(24) Propelling levers and crank-handles, back-rests and back-rest steering columns, foot-rests, leg-supports, armrests, etc., for carriages for disabled persons.

(25) Clutch cables, brake cables, accelerator cables and similar cables, consisting of a flexible outer casing and a moveable inner cable. They are presented cut to length and equipped with end fittings.

8714.10

- Of motorcycles (including mopeds)

CLASSIFICATION OPINIONS

1. Aluminium radiator (359 mm x 181 mm) for a motorcycle. It is designed to cool down the coolant fluid coming from the engine of the motorcycle by transferring excess heat from the coolant into the air. The coolant is then returned back to the engine. **Application of GIRs 1 and 6.** *See also Opinion 8431.49/2.*
Adoption : 2014



8714.20

- Of carriages for disabled persons

8714.9

- Other :

8714.91

-- Frames and forks, and parts thereof

8714.92

-- Wheel rims and spokes

8714.93

-- Hubs, other than coaster braking hubs and hub brakes, and free-wheel sprocket-wheels

8714.94

-- Brakes, including coaster braking hubs and hub brakes, and parts thereof

8714.95

-- Saddles

8714.96

-- Pedals and crank-gear, and parts thereof

8714.99

-- Other

Heading 8715

Baby carriages and parts thereof.

EXPLANATORY NOTES

87.15 - Baby carriages and parts thereof.

The heading covers :

(I) **Baby carriages**, whether or not folding, fitted with two or more wheels and generally pushed by hand (push-chairs, perambulators, strollers, etc.).

(II) **Parts of the above-mentioned carriages, provided** the parts fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with the carriages of this heading;

and (ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

Parts of this heading include :

(1) Bodywork for mounting on chassis, including the removable type of perambulator bodies which can be used as cradles.

(2) Chassis and parts thereof.

(3) Wheels (whether or not fitted with their tyres) and parts thereof.

8715.00

Baby carriages and parts thereof.

Heading 8716

Trailers and semi-trailers; other vehicles, not mechanically propelled; parts thereof.

EXPLANATORY NOTES

87.16 - Trailers and semi-trailers; other vehicles, not mechanically propelled; parts thereof.

8716.10 - Trailers and semi-trailers of the caravan type, for housing or camping

8716.20 - Self-loading or self-unloading trailers and semi-trailers for agricultural purposes

- Other trailers and semi-trailers for the transport of goods :

8716.31 - - Tanker trailers and tanker semi-trailers

8716.39 - - Other

8716.40 - Other trailers and semi-trailers

8716.80 - Other vehicles

8716.90 - Parts

This heading covers a group of **non-mechanically** propelled vehicles (**other than** those of the preceding headings) equipped with one or more wheels and constructed for the transport of goods or persons. It also includes non-mechanical vehicles not fitted with wheels (e.g., sledges, special sleds running on timber trackways).

The vehicles of this heading are designed to be towed by other vehicles (tractors, lorries, trucks, motorcycles, bicycles, etc.), to be pushed or pulled by hand, to be pushed by foot or to be drawn by animals.

The heading includes :

(A) **Trailers and semi-trailers**.

For the purposes of this heading, the terms “trailers” and “semi-trailers” means vehicles (other than side-cars) of a kind designed solely to be coupled to another vehicle by means of a special coupling device (whether or not automatic).

The most important types of trailers and semi-trailers falling in this group are those designed for use with motor vehicles. Trailers usually have two or more sets of wheels, and a coupling system mounted on the swivelling front wheels which steer the vehicles. Semi-trailers are fitted with rear wheels only, the forward end resting on the platform of the towing vehicle to which it is coupled by a special coupling device.

For the purposes of the following Explanatory Note, the term “trailers” includes semi-trailers.

Trailers falling here include :

(1) Trailers of the caravan type (travel trailers), for housing or camping.

(2) Self-loading agricultural trailers fitted with automatic loading devices and possibly also with attachments for chopping forage, maize (corn) stalks, etc.

This heading **does not cover** self-loading trailers permanently mounted with harvesting equipment, for cutting, chopping and transporting grass, maize (corn), etc. (**heading 84.33**).

(3) Self-unloading trailers for carrying different products (forage, manure, etc.), with a moving floor for unloading purposes; these vehicles can be fitted with various attachments (manure chopper, forage shredder, etc.) to adapt them for use as a muck spreader, forage box or root trailer.

(4) Other trailers for the transport of goods such as :

(a) Tanker trailers (whether or not fitted with pumps).

(b) Agricultural, public works, etc., trailers (whether or not tipping).

(c) Refrigerator or insulated trailers for the transport of perishable goods.

(d) Removal trailers.

(e) Single or double-decker trailers for the transport of livestock, motor cars, cycles, etc.

(f) Trailers adapted for the transport of certain goods (e.g., plate glass).

(g) “Road-rail” (intermodal) trailers (intended mainly for use as road trailers, but so designed that they may be transported on special railway wagons fitted with guide rails).

(h) Trailers fitted with rails for road transport of railway wagons.

(ij) Drop-frame trailers with loading ramps for the transport of heavy equipment (tanks, cranes, bulldozers, electrical transformers, etc.).

(k) Two- or four-wheel independent timber-carrying bogies.

(l) Logging trailers for the transport of timber.

(m) Small trailers towed by cycles or motor cycles.

(5) Other trailers such as :

(a) Motor vehicle trailers specially designed for the conveyance of persons.

(b) Fairground caravan or trailers (other than those specially designed for and forming part of fairground amusements (**95.08**)).

(c) Exhibition trailers.

(d) Library-trailers.

(B) **Hand- or foot-propelled vehicles**.

This group includes :

(1) Trucks and trolleys of various kinds including those specialised for use in particular industries (in the textile or ceramic industries, in dairies, etc.).

(2) Wheelbarrows, luggage-trucks, hopper-trucks and tipping-trucks.

(3) Food carts, buffet trolleys (**other than** the type falling in **heading 94.03**), of a kind used in railway stations.

(4) Hand-carts, e.g., for waste disposal.

(5) Rickshaws.

(6) Small insulated barrows for use by ice cream vendors.

(7) Tradesmen’s barrows of all kinds. These lightweight vehicles are sometimes fitted with pneumatic tyres.

(8) Sledges (hand-drawn) for the transport of wood in mountainous country.

(9) “Kicksleds”, propelled by the direct pressure of the rider's foot on the snow covered ground, designed particularly for the transport of persons in subarctic regions.

This heading **does not cover** :

(a) Mobile garbage bins (including those for outside use) (e.g., **heading 39.24** or **73.23**).

(b) Walking aids known as “walker-rollators”, which generally consist of a tubular metal frame on three or four wheels (some or all of which may swivel), handles and hand-brakes (**heading 90.21**).

(c) Small wheeled-containers (e.g., wheeled-baskets) of basketwork, metal, etc., not incorporating a chassis, of a kind used in shops (classification according to their constituent material).

(C) **Vehicles drawn by animals**.

This group includes :

(1) State (ceremonial) -coaches, coupés, calashes, hackney-coaches, cabriolets.

(2) Hearses.

(3) Sulkies.

(4) Children’s donkey-carts and pony-carts used in public gardens, squares, etc.

(5) Delivery vehicles of all kinds; removal vans.

(6) Carts of all kinds, including tipping-carts.

(7) Sledges and sleighs.

VEHICLES FITTED WITH MACHINERY, ETC.

The classification of units consisting of vehicles with **permanently built-on** machines or appliances is determined according to the **essential character of the whole**. The heading therefore covers such units which derive their essential character from the vehicle itself. On the other hand, units deriving their essential character from the machine or appliance they incorporate are **excluded**.

It follows from the above that :

(I) Trucks, carts or trailers with built-on tanks, whether or not they are fitted with subsidiary pumps for filling or emptying purposes, are classified here.

(II) The following, for example, are **excluded** and fall in the heading relating to the machine or appliance :

(a) Hand-truck, animal cart or trailer-type spraying appliances of **heading 84.24**.

(b) Machines and appliances mounted on a simple wheeled chassis, designed to be towed, such as mobile pumps and compressors (**heading 84.13** or **84.14**) and mobile cranes and ladders (**heading 84.26** or **84.28**).

(c) Trailed concrete mixers (**heading 84.74**).

PARTS

This heading also includes parts of the vehicles mentioned above, **provided** the parts comply with **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with such vehicles;

and (ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

Parts of this heading include :

(1) Chassis and component parts thereof (frame side members, cross members, etc.).

(2) Axles.

(3) Bodies and parts thereof.

(4) Wooden or steel wheels and parts thereof, including wheels fitted with their tyres.

(5) Coupling devices.

(6) Brakes and parts thereof.

(7) Shafts, swingle-bars and similar parts.

*

* *

Winter sports equipment, such as toboggans, bobsleighs (bobsleds), etc., is **excluded** (**heading 95.06**).

8716.10

- Trailers and semi-trailers of the caravan type, for housing or camping

8716.20

- Self-loading or self-unloading trailers and semi-trailers for agricultural purposes

8716.3

- Other trailers and semi-trailers for the transport of goods :

8716.31

-- Tanker trailers and tanker semi-trailers

8716.39

-- Other

8716.40

- Other trailers and semi-trailers

8716.80

- Other vehicles

CLASSIFICATION OPINIONS

Golf carts of base metal, to be pushed or pulled by hand, fitted with two wheels and a handbar and equipped with accessories (e.g., scorecard holder, cigarette holder, semitransparent rain-cover), designed to carry golf bags and other golf equipment.
Adoption : 2000

8716.90

- Parts

CLASSIFICATION OPINIONS

Reflectors for road trailers, consisting of a triangular sign plate of red plastics, with small pyramid-shaped bosses to improve the reflecting properties, mounted in a frame complete with bolts for fixing in position.
See also Opinion 3926.90/3.
Adoption : 1965

Chapter 88

Aircraft, spacecraft, and parts thereof

LEGAL NOTES

Notes.

1.- For the purposes of this Chapter, the expression “unmanned aircraft” means any aircraft, other than those of heading 88.01, designed to be flown without a pilot on board. They may be designed to carry a payload or equipped with permanently integrated digital cameras or other equipment which would enable them to perform utilitarian functions during their flight.

The expression “unmanned aircraft,”, however does not cover flying toys, designed solely for amusement purposes (heading 95.03).

Subheading Notes.

1.- For the purposes of subheadings 8802.11 to 8802.40, the expression “unladen weight” means the weight of the machine in normal flying order, excluding the weight of the crew and of fuel and equipment other than permanently fitted items of equipment.

2.- For the purposes of subheadings 8806.21 to 8806.24 and 8806.91 to 8806.94, the expression "maximum take-off weight" means the maximum weight of the machine in normal flying order, at take-off, including the weight of payload, equipment and fuel.

EXPLANATORY NOTES

Chapter 88

Aircraft, spacecraft, and parts thereof

Notes.

1.- For the purposes of this Chapter, the expression “unmanned aircraft” means any aircraft, other than those of heading 88.01, designed to be flown without a pilot on board. They may be designed to carry a payload or equipped with permanently integrated digital cameras or other equipment which would enable them to perform utilitarian functions during their flight.

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GENERAL

This Chapter covers balloons and dirigibles and non-powered aircraft (heading 88.01), other aircraft (headings 88.02 or 88.06), spacecraft (including satellites) and spacecraft launch vehicles (heading 88.02), certain allied equipment such as parachutes (heading 88.04), aircraft launching gear, deck-arrestor gear and ground flying trainers (heading 88.05).

Incomplete or unfinished aircraft (e.g., aircraft not equipped with engines or internal equipment) are classified as the corresponding complete or finished aircraft, **provided** they have the essential character of the latter.

Heading 8801

Balloons and dirigibles; gliders, hang gliders and other non-powered aircraft.

EXPLANATORY NOTES

88.01 - Balloons and dirigibles; gliders, hang gliders and other non-powered aircraft.

(I) BALLOONS AND DIRIGIBLES

This group covers lighter-than-air aircraft whatever their intended use (military, sporting, scientific, publicity, etc.). These comprise **balloons**, free or captive (i.e., moored to the ground by a cable), and mechanically driven **dirigibles**.

This group also includes balloons of the following types, used in aeronautics or meteorology :

(1) **Sounding balloons**. These are used to carry radio-sounding instruments to high altitudes. They may weigh up to 4,500 g, but their normal weight varies between 350 and 1,500 g.

(2) **Pilot balloons**. These are released to indicate the speed and direction of wind. Normally they weigh from 50 to 100 g.

(3) **Ceiling balloons**. These are smaller than the balloons in (1) and (2) above and normally weigh 4 to 30 g. They are used to determine cloud height.

In most cases balloons used in meteorology are of very thin, high quality rubber allowing a high degree of expansion. Children's toy balloons are **excluded** (**heading 95.03**). They may be distinguished by their inferior quality, short inflation necks and the advertisements or decorations often found on them.

(II) GLIDERS AND HANG GLIDERS

Glidersare heavier-than-air aircraft which stay airborne using atmospheric currents. However, gliders fitted with or designed to be fitted with an engine are classified in **heading 88.02**.

Hang gliders include, in particular, delta wings which enable one or two persons, suspended by a harness, to perform certain aerial manoeuvres. These wings consist of material (generally textile) stretched over a rigid structure, usually tubular and of metal, incorporating a horizontal steering bar in the centre. Other types of hang gliders may be otherwise shaped, but are similar to delta wings in their structure and aerodynamic behaviour.

(III) OTHER NON-POWERED AIRCRAFT

This group includes **kites** which are heavier-than-air aircraft without mechanical propulsion. Kites are moored to the ground by a line in the same way as captive balloons and may be used, for example, to carry meteorological instruments.

Kites clearly designed as toys are **excluded** (**heading 95.03**).

*

* *

The heading also **excludes** models, whether or not built accurately to scale, used, for example, for decoration (e.g., **heading 44.20** or **83.06**), for purely demonstrational purposes (**heading 90.23**), or as toys or models for recreational purposes (**heading 95.03**).

8801.00

Balloons and dirigibles; gliders, hang gliders and other non-powered aircraft.

Heading 8802

Other aircraft (for example, helicopters, aeroplanes), except unmanned aircraft of heading 88.06; spacecraft (including satellites) and suborbital and spacecraft launch vehicles.

EXPLANATORY NOTES

88.02 - Other aircraft (for example, helicopters, aeroplanes), except unmanned aircraft of heading 88.06; spacecraft (including satellites) and suborbital and spacecraft launch vehicles.

- Helicopters :

8802.11 - - Of an unladen weight not exceeding 2,000 kg

8802.12 - - Of an unladen weight exceeding 2,000 kg

8802.20 - Aeroplanes and other aircraft, of an unladen weight not exceeding 2,000 kg

8802.30 - Aeroplanes and other aircraft, of an unladen weight exceeding 2,000 kg but not exceeding 15,000 kg

8802.40 - Aeroplanes and other aircraft, of an unladen weight exceeding 15,000 kg

8802.60 - Spacecraft (including satellites) and suborbital and spacecraft launch vehicles

This heading covers :

(1) **Heavier-than-air aircraft**, which are mechanically propelled. This group includes **aeroplanes** (landplanes, seaplanes and amphibians), **gyroplanes** (equipped with one or more rotors rotating freely on vertical axes), and **helicopters** (equipped with one or more mechanically driven rotors).

Such aircraft may be used for military purposes, the transport of persons or goods or for such activities as training, aerial photography, agricultural work, rescue duties, fire fighting or for meteorological or other scientific purposes.

Aircraft specially constructed so that they can be used as road vehicles are covered by this heading.

(2) **Spacecraft**, which are vehicles able to travel outside the earth's atmosphere (e.g., telecommunications or meteorological satellites).

(3) **Spacecraft launch vehicles** whose function is to place a given payload on a trajectory orbiting the earth ("satellite launch vehicles") or falling under the influence of a gravitational field other than that of the earth ("spacecraft launch vehicles"). These vehicles impart to the payload a terminal velocity exceeding 7,000 m/s at the end of the powered flight.

(4) **Suborbital launch vehicles** that follow a parabolic trajectory and generally carry instrumentation for scientific or other technical purposes, whether or not in the form of a retrievable payload, beyond the earth's atmosphere. In cases where payloads are released, these vehicles do not impart a terminal velocity exceeding 7,000 m/s. Payloads are often returned to the earth's surface by parachute for recovery.

The heading **excludes**, however, artillery rockets, guided missiles, e.g., "ballistic missiles", and similar munitions of war which do not impart a terminal velocity exceeding 7,000 m/s to the payload (**heading 93.06**). They deliver munitions of war, e.g., explosives, submunitions, chemical agents, and after following a parabolic trajectory cause the payload to impact on a target.

The heading also **excludes** :

(a) Models, whether or not built accurately to scale, used, for example, for decoration (e.g., **heading 44.20** or **83.06**) or for purely demonstrational purposes (**heading 90.23**).

(b) Unmanned aircraft specified in Note 1 to this Chapter (**heading 88.06**).

(c) Toys or models for recreational purposes (**heading 95.03**).

(d) Models specially designed for amusement park rides and fairground amusements **(heading 95.08**).

8802.1

- Helicopters :

8802.11

-- Of an unladen weight not exceeding 2,000 kg

8802.12

-- Of an unladen weight exceeding 2,000 kg

8802.20

- Aeroplanes and other aircraft, of an unladen weight not exceeding 2,000 kg

CLASSIFICATION OPINIONS

1. Ultralight motorized (ULM) hydroplane, pneumatic pendulum type, with integral motor, a wing, a propeller and a semi-rigid hull, enabling the vehicle to land on or take off from or on a water surface (sea, lake etc.).

The product has the following features:

-Twin cylinder, 2-stroke engine;
-Two-seats-in-tandem cockpit;
-Empty weight : 216 kg;
-Maximum gross weight : 406 kg;
-Stall speed : 48 km/h;
-Cruise speed : 70 km/h;
-Maximum speed : 80 km/h;
-Wingspan : 11.15 m;
-Wing area : 19.6 m^2

Application of GIR 1 and 6.
Adoption : 2021





8802.30

- Aeroplanes and other aircraft, of an unladen weight exceeding 2,000 kg but not exceeding 15,000 kg

8802.40

- Aeroplanes and other aircraft, of an unladen weight exceeding 15,000 kg

8802.60

- Spacecraft (including satellites) and suborbital and spacecraft launch vehicles

Heading 8804

Parachutes (including dirigible parachutes and paragliders) and rotochutes; parts thereof and accessories thereto.

EXPLANATORY NOTES

88.04 - Parachutes (including dirigible parachutes and paragliders) and rotochutes; parts thereof and accessories thereto.

This heading covers parachutes used for the descent of personnel, military supplies or equipment, meteorological instruments, flares, etc.; certain types are used as tail chutes for slowing jet propelled aircraft. According to their use, they may be of various sizes, and may be made of silk, man-made fibre materials, linen, cotton, paper, etc.

The upper part of the conventional type of parachute, as used by personnel, usually consists of a small **pilot chute** which opens when the rip cord is pulled. This, in turn, opens the **main chute canopy** to which are attached a certain number of **shroud lines**. These cords are brought together at the bottom into two or more **risers**, attached to the **harness** which is worn by the parachutist and which consists of an assembly of straps, fitted with buckles and snap-hooks. The pilot chute, the main chute canopy and the shroud lines are packed carefully in a **container** which is opened by means of the rip cords.

This heading also covers **paragliders** which are designed for launching oneself from the side of a mountain, the top of a cliff, etc., and which consist of a folding canopy or shroud (wing), cord shroud lines for steering in air currents and a harness for the pilot.

However, their similarity to parachutes does not extend to aerodynamic behaviour, since under certain conditions and if air currents so permit, paragliders may follow ascending trajectories.

The heading also includes **rotochutes**, a type of apparatus with a rotating wing unit, used in meteorology to control the descent of rocket-launched radio-sounding instruments.

The heading also covers parts and accessories for parachutes, such as the container, harness and spring frames for opening the parachute, and parts and accessories for rotochutes.

8804.00

Parachutes (including dirigible parachutes and paragliders) and rotochutes; parts thereof and accessories thereto.

Heading 8805

Aircraft launching gear; deck-arrestor or similar gear; ground flying trainers; parts of the foregoing articles.

EXPLANATORY NOTES

88.05 - Aircraft launching gear; deck-arrestor or similar gear; ground flying trainers; parts of the foregoing articles.

8805.10 - Aircraft launching gear and parts thereof; deck-arrestor or similar gear and parts thereof

- Ground flying trainers and parts thereof :

8805.21 - - Air combat simulators and parts thereof

8805.29 - - Other

This heading covers three entirely distinct types of goods, viz. :

(A) **Aircraft launching gear**.

Aircraft launching gear, generally used on board ships, incorporates a metal structure which guides the aircraft to be launched. The acceleration required for the take-off is provided by the action of compressed air, steam, exploding cartridges, etc., exerted on a trolley or ram on which the aircraft is mounted.

The heading **excludes** :

(a) Motor driven winch gear used for launching gliders (**heading 84.25**).

(b) Rocket-launching ramps and towers which merely guide rockets during take-off without propelling them, the rockets climbing under their own power (**heading 84.79**).

(B) **Deck-arrestor or similar gear**.

This gear, used on aircraft carriers and at some aerodromes, serves to reduce the speed of an aircraft at the moment of landing, in order to shorten the length of runway needed for the aircraft to come to a halt.

The heading **does not**, however, **cover** other equipment, such as safety equipment (nets, for example).

(C) **Ground flying trainers**.

Examples of these devices which are used for training pilots include :

(1) **Flight simulators** which function electronically. Flying conditions are simulated by electronic apparatus which feed into the controls the correct combination of “feel” and reading corresponding to given flying conditions. **Air combat simulators** refer to any electronic or mechanical system for training aircraft pilots by simulating air combat conditions during flight.

When mounted on a motor vehicle chassis or trailer, this type of equipment is classified in **heading 87.05** or **87.16** respectively (but see the Explanatory Note to heading 87.16).

(2) A device known as a “**link trainer**” comprising a small cabin pivoting on a base and equipped as an aeroplane cockpit enabling the pupil to carry out all the manoeuvres required in normal flying.

PARTS

This heading also covers parts of the above-mentioned articles, **provided** the parts fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with such articles;

and (ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

*

* *

The heading **excludes**, however, equipment principally intended to register human reactions under arduous flying conditions (e.g., high acceleration, shortage of oxygen); such equipment (e.g., compartments built on a rotating arm which simulate supersonic flying conditions) is in the nature of reflex-testing apparatus and as such is classified in **heading 90.19**.

Equipment which is not specially designed for the flying training of pilots but for the general instruction of aircrews (e.g., large scale models of gyroscopes) is also **excluded** (**heading 90.23**).

_____

8805.10

- Aircraft launching gear and parts thereof; deck-arrestor or similar gear and parts thereof

8805.2

- Ground flying trainers and parts thereof :

8805.21

-- Air combat simulators and parts thereof

8805.29

-- Other

Heading 8806

Unmanned aircraft.

EXPLANATORY NOTES

88.06 - Unmanned aircraft.

8806.10 - - Designed for the carriage of passengers

- Other, for remote-controlled flight only :

8806.21 - - With maximum take-off weight not more than 250 g

8806.22 - - With maximum take-off weight more than 250 g but not more than 7 kg

8806.23 - - With maximum take-off weight more than 7 kg but not more than 25 kg

8806.24 - - With maximum take-off weight more than 25 kg but not more than 150 kg

8806.29 - - Other

- Other :

8806.91 - - With maximum take-off weight not more than 250 g

8806.92 - - With maximum take-off weight more than 250 g but not more than 7 kg

8806.93 - - With maximum take-off weight more than 7 kg but not more than 25 kg

8806.94 - - With maximum take-off weight more than 25 kg but not more than 150 kg

8806.99 - - Other

In accordance with Note 1 to this Chapter, this heading covers unmanned aircraft, designed to be flown without a pilot on board, other than those specified in heading 88.01. Unmanned aircraft may be capable of remote-controlled flight only which is operated by an operator from another place (for example, ground, ship, another aircraft, or space) at all times during the flight operation, or capable of flight which is programmed to be performed without the intervention by an operator.

Although unmanned aircraft may have various shapes and sizes, they are commonly equipped with one or more propellers or rotors driven by motors, or fixed wings, and communication systems for command and control by a remote operator. They may also incorporate Global Navigation Satellite System (GNSS) receivers, (e.g., GPS, GLONASS or BEIDOU) for stable hovering and flying back to the take-off point and systems for obstacle avoidance, object recognition and tracking function.

Unmanned aircraft may be designed to carry a payload or equipped with permanently integrated digital cameras or other equipment to be used for utilitarian functions such as the carriage of cargo or passengers, aerial photography, agricultural or scientific work, rescue duties, fire-fighting, surveillance, or for military purposes.

The heading also excludes flying toys or models designed solely for recreational or amusement purposes, and that are not designed to perform utilitarian functions. They can be distinguished**,** for example by their low weight, limited height, distance or time they can fly, maximum speed, inability to fly autonomously or inability to carry a load/cargo, or because they are not equipped with sophisticated electronic apparatus(e.g. Global Positioning Systems, night flight requirements or nocturnal visibility) (**heading 95.03)**.

8806.10

- Designed for the carriage of passengers

8806.2

- Other, for remote-controlled flight only :

8806.21

-- With maximum take-off weight not more than 250 g

8806.22

-- With maximum take-off weight more than 250 g but not more than 7 kg

CLASSIFICATION OPINIONS

1. **Digital camera (14 MP) integrated on to a remote-controlled four-rotor helicopter**, also called “drone” or “quadcopter”, (dimensions : 29 cm long x 29 cm wide x 18 cm high; weight : 1,160 g) presented as a set for retail sale in a single cardboard box along with a radio remote

controller, Wi-Fi range extender and a mobile telephone mount. The range of the supplied Wi Fi range extender is approximately 300 metres and flying time is approximately 25 minutes before the battery must be recharged. The operator may use a separate program ("app") from the manufacturer to control the camera via a mobile telephone. **Application of GIRs 1 (Note 1 of Chapter 88) and 6.** Adoption : 2015

The mobile telephone is not included in the set.



2. **Digital camera integrated on to a remote-controlled four-rotor helicopter**, also called a "drone" or "quadcopter" (diagonal size: 35 cm; weight : 1,388 g), presented as a set for retail sale in a single box along with a remote controller with a 14 cm (5.5 inch) built-in monitor and Wi-Fi connectivity, a battery and a charger, cables and other accessories. The digital camera is equipped with a 2.54 cm (1 inch) 20 megapixel CMOS sensor and is capable of taking still photos at 14 fps and of recording video of 4K at 60 fps. The product includes GPS and GLONASS modules for stable hovering and fly back to the take-off point. It also has a computer vision system for avoiding obstacles, and active tracking function for automatic recognition of objects. The maximum flight height is 500 m but it is restricted to 120 m and flying time is approximately 30 minutes before the battery must be recharged. **Application of GIRs 1 (Note 1 of Chapter 88) and 6.** *Adoption : 2019*



8806.23

-- With maximum take-off weight more than 7 kg but not more than 25 kg

8806.24

-- With maximum take-off weight more than 25 kg but not more than 150 kg

8806.29

-- Other

8806.9

- Other :

8806.91

-- With maximum take-off weight not more than 250 g

8806.92

-- With maximum take-off weight more than 250 g but not more than 7 kg

8806.93

-- With maximum take-off weight more than 7 kg but not more than 25 kg

8806.94

-- With maximum take-off weight more than 25 kg but not more than 150 kg

8806.99

-- Other

Heading 8807

Parts of goods of heading 88.01, 88.02 or 88.06.

EXPLANATORY NOTES

88.07 - Parts of goods of heading 88.01, 88.02 or 88.06.

8807.10 - Propellers and rotors and parts thereof

8807.20 - Under-carriages and parts thereof

8807.30 - Other parts of aeroplanes, helicopters or unmanned aircraft

8807.90 - Other

This heading covers parts of the goods falling in heading 88.01, 88.02 or 88.06, **provided** the parts fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with the goods of the above-mentioned headings; and

(ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

The parts of this heading include :

(I) **Parts of balloons and dirigibles**, such as :

(1) Nacelles.

(2) Envelopes and parts thereof (strips or panels).

(3) Carrier hoops.

(4) Ballonets.

(5) Rigid frames and sections thereof.

(6) Stabilisers and rudders.

(7) Propellers for dirigibles.

(II) **Parts of aircraft, manned or unmanned, including gliders and kites**, such as :

(1) Fuselages and hulls; fuselage or hull sections; also their internal or external parts (radomes, tail cones, fairings, panels, partitions, luggage compartments, floors, instrument panels, frames, doors, escape chutes and slides, windows, port-holes, etc.).

(2) Wings and their components (spars, ribs, cross-members).

(3) Control surfaces, whether or not movable (ailerons, slats, spoilers, flaps, elevators, rudders, stabilisers, servo-tabs, etc.).

(4) Nacelles, cowlings, engine pods and pylons.

(5) Undercarriages (including brakes and brake assemblies) and their retracting equipment; wheels (with or without tyres); landing skis.

(6) Seaplane floats.

(7) Propellers (airscrews), rotors; blades for propellers and rotors; pitch control mechanisms for propellers and rotors.

(8) Control levers (control columns, rudder-bars and various other operational levers).

(9) Fuel tanks, including auxiliary fuel tanks.

8807.10

- Propellers and rotors and parts thereof

8807.20

- Under-carriages and parts thereof

8807.30

- Other parts of aeroplanes, helicopters or unmanned aircraft

8807.90

- Other

Chapter 89

Ships, boats and floating structures

LEGAL NOTES

Note.

1.- A hull, an unfinished or incomplete vessel, assembled, unassembled or disassembled, or a complete vessel unassembled or disassembled, is to be classified in heading 89.06 if it does not have the essential character of a vessel of a particular kind.

EXPLANATORY NOTES

Chapter 89

Ships, boats and floating structures

Note.

1.- A hull, an unfinished or incomplete vessel, assembled, unassembled or disassembled, or a complete vessel unassembled or disassembled, is to be classified in heading 89.06 if it does not have the essential character of a vessel of a particular kind.

GENERAL

This Chapter covers ships, boats and other vessels of all kinds (whether or not self-propelled), and also floating structures such as coffer-dams, landing stages and buoys. It also includes air-cushion vehicles (hovercraft) designed to travel over water (sea, estuaries, lakes), whether or not able to land on beaches or landing-stages or also able to travel over ice (see Note 5 to Section XVII).

The Chapter also includes :

(A) Unfinished or incomplete vessels (e.g., those not equipped with their propelling machinery, navigational instruments, lifting or handling machinery or interior furnishings).

(B) Hulls of any material.

Complete vessels presented unassembled or disassembled, and hulls, unfinished or incomplete vessels (whether assembled or not), are classified as vessels of a particular kind, if they have the essential character of that kind of vessel. In other cases, such goods are classified in heading 89.06.

Contrary to the provisions relating to the transport equipment falling in other Chapters of Section XVII, this Chapter **excludes** all separately presented parts (**other than** hulls) and accessories of vessels or floating structures, even if they are clearly identifiable as such. Such parts and accessories are classified in the appropriate headings elsewhere in the Nomenclature, for example :

(1) The parts and accessories specified in Note 2 to Section XVII.

(2) Wooden oars and paddles (**heading 44.21**).

(3) Ropes and cables of textile material (**heading 56.07**).

(4) Sails (**heading 63.06**).

(5) Masts, hatchways, gangways, rails and bulkheads for ships or boats and parts of hulls, having the character of metal structures of **heading 73.08**.

(6) Cables of iron or steel (**heading 73.12**).

(7) Anchors of iron or steel (**heading 73.16**).

(8) Propellers and paddle-wheels (**heading 84.87**).

(9) Rudders (**headings 44.21**, **73.25**, **73.26**, etc.) and other steering or rudder equipment for ships or boats (**heading 84.79**).

The following are also **excluded** from this Chapter :

(a) Model vessels used for ornamental purposes (e.g., galleons and other sailing vessels) (**headings 44.20**, **83.06**, etc.).

(b) Demonstrational apparatus or models of **heading 90.23**.

(c) Torpedoes, mines and similar munitions of war (**heading 93.06**).

(d) Wheeled toys, in the form of boats, designed to be ridden by children and other toys (**heading 95.03**).

(e) Water-skis and the like (**heading 95.06**).

(f) Small boats specially designed for use on amusement park rides,water park amusements or fairground amusements (**heading 95.08**).

(g) Antiques of an age exceeding 100 years (**heading 97.06**).

Amphibious motor vehicles and air-cushion vehicles designed to travel over both land and certain tracts of water (swamps, etc.) are classified as motor vehicles in **Chapter 87**, and seaplanes and flying boats fall in **heading 88.02**.

Heading 8901

Cruise ships, excursion boats, ferry-boats, cargo ships, barges and similar vessels for the transport of persons or goods.

EXPLANATORY NOTES

89.01 - Cruise ships, excursion boats, ferry-boats, cargo ships, barges and similar vessels for the transport of persons or goods.

8901.10 - Cruise ships, excursion boats and similar vessels principally designed for the transport of persons; ferry-boats of all kinds

8901.20 - Tankers

8901.30 - Refrigerated vessels, other than those of subheading 8901.20

8901.90 - Other vessels for the transport of goods and other vessels for the transport of both persons and goods

This heading covers all vessels for the transport of persons or goods, **other than** vessels of **heading 89.03** and lifeboats (other than rowing boats), troop-ships and hospital ships (**heading 89.06**); they may be for sea navigation or inland navigation (e.g., on lakes, canals, rivers, estuaries).

The heading includes :

(1) Cruise ships and excursion boats.

(2) Ferry-boats of all kinds, including train-ferries, car-ferries and small river-ferries.

(3) Tankers (petrol, methane, wine, etc.).

(4) Refrigerated vessels for the transport of meat, fruit, etc.

(5) Cargo vessels of all kinds (other than tankers and refrigerated vessels), whether or not specialised for the transport of specific goods. These include ore vessels and other bulk carriers (for the transport of, e.g., grain, coal), container ships, Ro-Ro (roll-on-roll-off) ships and LASH-type vessels.

(6) Barges of various kinds, lighters and pontoons being flat-decked vessels used for the transport of goods and, sometimes, of persons.

(7) Vessels of the hydroglider type, hydrofoils and hovercraft.

8901.10

- Cruise ships, excursion boats and similar vessels principally designed for the transport of persons; ferry-boats of all kinds

8901.20

- Tankers

8901.30

- Refrigerated vessels, other than those of subheading 8901.20

8901.90

- Other vessels for the transport of goods and other vessels for the transport of both persons and goods

Heading 8902

Fishing vessels; factory ships and other vessels for processing or preserving fishery products.

EXPLANATORY NOTES

89.02 - Fishing vessels; factory ships and other vessels for processing or preserving fishery products.

This heading covers all types of fishing vessels designed for commercial fishing at sea or on inland waters, but **excluding** rowing boats for fishing (**heading 89.03**). These include trawlers and tuna fishing vessels.

The heading also includes factory ships (for preserving fish, etc.).

Fishing vessels which may be used for excursions, generally during the tourist season, are also classified in this heading.

Sports fishing vessels are, however, **excluded** (**heading 89.03**).

8902.00

Fishing vessels; factory ships and other vessels for processing or preserving fishery products.

Heading 8903

Yachts and other vessels for pleasure or sports; rowing boats and canoes.

EXPLANATORY NOTES

89.03 - Yachts and other vessels for pleasure or sports; rowing boats and canoes (+).

- Inflatable (including rigid hull inflatable) boats :

8903.11 - - Fitted or designed to be fitted with a motor, unladen (net) weight (excluding the motor) not exceeding 100 kg

8903.12 - - Not designed for use with a motor and unladen (net) weight not exceeding 100 kg

8903.19 - - Other

- Sailboats, other than inflatable, with or without auxiliary motor :

8903.21 - - Of a length not exceeding 7.5 m

8903.22 - - Of a length exceeding 7.5 m but not exceeding 24 m

8903.23 - - Of a length exceeding 24 m

- Motorboats, other than inflatable, not including outboard motorboats :

8903.31 - - Of a length not exceeding 7.5 m

8903.32 - - Of a length exceeding 7.5 m but not exceeding 24 m

8903.33 - - Of a length exceeding 24 m

- Other :

8903.93 - - Of a length not exceeding 7.5 m

8903.99 - - Other

This heading covers all vessels for pleasure or sports and all rowing boats and canoes.

This heading includes yachts, marine jets and other sailboats and motorboats, dinghies, kayaks, sculls, skiffs, pedalos (a type of pedal-operated float), sports fishing vessels, inflatable craft and boats which can be folded or disassembled.

The heading also covers lifeboats propelled by oars (other lifeboats fall in **heading 89.06**).

Sailboards are, however, **excluded** (**heading 95.06**).

°

° °

Subheading Explanatory Note.

Subheading 8903.31, 8909.32 and 8903.33

“Outboard motors” are described in the Explanatory Note to heading 84.07.

8903.1

- Inflatable (including rigid hull inflatable) boats :

8903.11

-- Fitted or designed to be fitted with a motor, unladen (net) weight (excluding the motor) not exceeding 100 kg

8903.12

-- Not designed for use with a motor and unladen (net) weight not exceeding 100 kg

8903.19

-- Other

8903.2

- Sailboats, other than inflatable, with or without auxiliary motor :

8903.21

-- Of a length not exceeding 7.5 m

8903.22

-- Of a length exceeding 7.5 m but not exceeding 24 m

8903.23

-- Of a length exceeding 24 m

8903.3

- Motorboats, other than inflatable, not including outboard motorboats :

8903.31

-- Of a length not exceeding 7.5 m

8903.32

-- Of a length exceeding 7.5 m but not exceeding 24 m

8903.33

-- Of a length exceeding 24 m

8903.9

- Other :

8903.93

-- Of a length not exceeding 7.5 m

8903.99

-- Other

Heading 8904

Tugs and pusher craft.

EXPLANATORY NOTES

89.04 - Tugs and pusher craft.

This heading covers :

(A) **Tugs**. These are vessels primarily designed for towing other craft. They may be of the type used for sea or for inland navigation. They are distinguishable from other vessels by their specially shaped and strengthened hulls, by their powerful engines disproportionate to the size of the vessel, and by various deck fittings designed to carry a tow rope, hawser, etc.

(B) **Pusher craft**. These are vessels specially designed for pushing barges, lighters, etc. They are mainly distinguished by a snub bow (for pushing) and an elevated wheel house (which may be telescopic).

The heading also covers "**pusher-tugs**" designed for use both as pusher craft and as tugs. Like pusher craft they have a snub bow, but the stern is raked so that they can make way in that direction and tow barges, etc.

Tugs designed to assist ships in distress, are also covered by this heading.

The vessels of this heading are not designed for the transport of persons or goods. They may be fitted with specialised auxiliary equipment for fire-fighting, pumping, cargo heating, etc. However, fire-floats are **excluded** (**heading 89.05**).

8904.00

Tugs and pusher craft.

Heading 8905

Light-vessels, fire-floats, dredgers, floating cranes and other vessels the navigability of which is subsidiary to their main function; floating docks; floating or submersible drilling or production platforms.

EXPLANATORY NOTES

89.05 - Light-vessels, fire-floats, dredgers, floating cranes, and other vessels the navigability of which is subsidiary to their main function; floating docks; floating or submersible drilling or production platforms.

8905.10 - Dredgers

8905.20 - Floating or submersible drilling or production platforms

8905.90 - Other

This heading covers :

(A) **Light-vessels, fire-floats, dredgers, floating cranes, and other vessels the navigability of which is subsidiary to their main function**.

These normally perform their main function in a stationary position. They include : light-vessels; drill-ships; fire-floats; dredgers of all kinds (e.g., grab or suction dredgers); salvage ships for the recovery of sunken vessels; permanently moored air-sea rescue floats; bathyscaphes; pontoons fitted with lifting or handling machines (e.g., derricks, cranes, grain elevators) and pontoons clearly designed to serve as a base for these machines.

House-boats, laundry boats and floating mills are also covered by this group.

(B) **Floating docks**.

Floating docks are a type of floating workshop used instead of dry docks.

They are generally structures of a U-section comprising a platform and side-walls, and are equipped with pumping compartments which enable them to be partly submerged to permit the entrance of vessels requiring repair. In some cases they may be towed.

A further type of floating dock functions in a similar manner, but is self-propelled and equipped with powerful engines. These are used for the repair or transport of amphibious vehicles or other craft.

(C) **Floating or submersible drilling or production platforms**.

Such platforms are generally designed for the discovery or exploitation of off-shore deposits of oil or natural gas. Apart from the equipment required for drilling or production, such as derricks, cranes, pumps, cementing units, silos, etc., these platforms have living quarters for the personnel.

These platforms, which are towed or in some cases self-propelled to the exploration or production site and are sometimes capable of being floated from one site to another, may be divided into the following main groups :

(1) **Self-elevating platforms** which, apart from the working platform itself, are fitted with devices (hulls, caissons, etc.) which enable them to float, and with retractable legs which are lowered on the work site so that they are supported on the sea bed and raise the working platform above the water level.

(2) **Submersible platforms**, the substructures of which are submerged over the work sites with their ballast tanks resting on the sea bed in order to provide a high degree of stability to the working platform which is kept above the water level. The ballast tanks may have skirts or piles which penetrate more or less deeply into the sea bed.

(3) **Semi-submersible platforms** which are similar to submersible platforms, but differ from them in that the submerged part does not rest on the sea bed. When working, these floating platforms are kept in a fixed position by anchor lines or by dynamic positioning.

Fixed platforms used for the discovery or exploitation of off-shore deposits of oil or natural gas, which are neither floating nor submersible, are **excluded** from this heading (**heading 84.30**).

This heading also **excludes** ferry-boats (**heading 89.01**), factory ships for processing fishery products (**heading 89.02**), cable-laying ships and weather ships (**heading 89.06**).

8905.10

- Dredgers

8905.20

- Floating or submersible drilling or production platforms

CLASSIFICATION OPINIONS

1. Jack-up drilling platform, designed to operate at sea depths of up to 76 m. It rests on a mat (ballast tank) on the seabed via three tubular columns, and a hydraulic elevating unit keeps the platform above sea level while in operation. When the platform is to be moved to another location, the water in the mat is partially drained, enabling the mat to rise up. The drilling platform, along with the mat, is then towed to the next working site.
Adoption : 1997

8905.90

- Other

Heading 8906

Other vessels, including warships and lifeboats other than rowing boats.

EXPLANATORY NOTES

89.06 - Other vessels, including warships and lifeboats other than rowing boats.

8906.10 - Warships

8906.90 - Other

This headingcovers all vessels not included in the more specific **headings 89.01** to **89.05**.

It covers :

(1) Warships of all kinds, these include :

(a) Ships designed for warfare, fitted with various offensive weapons and defensive weapons and incorporating protective shields against projectiles (e.g., armour-plating or multiple watertight bulkheads), or with underwater devices (anti-magnetic mine-detectors). They are

generally also fitted with detection and listening devices such as radar, sonar, infra-red detection apparatus and scrambling equipment for radio transmissions.

Ships of this category may be distinguished from merchant ships by their greater speed and manoeuvrability, by the size of the crew, by bigger fuel tanks and by special magazines for the transport and use of ammunition at sea.

(b) Certain specially fitted ships which do not carry weapons or armour-plating but yet are recognisable as wholly or mainly for use in warfare, such as landing craft or certain fleet auxiliaries (for transporting ammunition or mines, etc.), troop-ships.

(c) Submarines.

(2) Ships having certain characteristics of warships but which are used by public authorities (e.g., by Customs and police).

(3) Lifeboats for placing on board ships, as well as those which are intended to be placed at certain points around the coast to help ships in distress. However, lifeboats propelled by oars fall in **heading 89.03**.

(4) Scientific research vessels; laboratory ships; weather ships.

(5) Vessels for the transportation and mooring of buoys; cable ships for laying underwater cables, e.g., for telecommunications.

(6) Pilot-boats.

(7) Ice-breakers.

(8) Hospital ships.

(9) Hopper-barges for the disposal of dredged material, etc.

The heading also includes "**dracones**", i.e., collapsible contrivances for the waterborne transport (by simple towing) of fluids and other goods, consisting of a flexible casing of coated textile fabric, identifiable by their shape (generally like a cigar) and by the presence of various devices such as stabilisers, towing fittings and sometimes buoyancy tubes.

The heading also **excludes** :

(a) Pontoons (flat-decked vessels used for the transport of persons or goods) (**heading 89.01**).

(b) Pontoons clearly designed to serve as bases for floating cranes, etc. (**heading 89.05**).

(c) Pontoons of the hollow cylinder type for the support of temporary bridges, etc., and rafts of all kinds (**heading 89.07**).

8906.10

- Warships

8906.90

- Other

Heading 8907

Other floating structures (for example, rafts, tanks, coffer-dams, landing-stages, buoys and beacons).

EXPLANATORY NOTES

89.07 - Other floating structures (for example, rafts, tanks, coffer-dams, landing-stages, buoys and beacons).

8907.10 - Inflatable rafts

8907.90 - Other

This heading covers certain floating structures **not having** the character of vessels. They are generally stationary when in use and include :

(1) Pontoons of the hollow cylinder type used for the support of temporary bridges, etc. But pontoons having the character of vessels are **excluded** (**heading 89.01** or **89.05**).

(2) Floating tanks used to contain live crustaceans or fish.

(3) Floating tanks used in certain harbours to supply ships with oil, water, etc.

(4) Coffer-dams being cases used in bridge building, etc.

(5) Floating landing-stages.

(6) Buoys, such as mooring buoys, marking buoys, light or bell buoys.

(7) Beacons used for marking channels, navigational hazards, etc.

(8) Re-floating appliances used to refloat boats.

(9) Paravanes, a type of float used in mine-sweeping.

(10) Rafts of all kinds including floating craft of circular shape, which inflate automatically on contact with the sea, for carrying shipwrecked persons.

(11) Floating structures designed to function as dock-gates.

The heading also **excludes** :

(a) Diving bells of the type comprising a metal chamber lowered or raised by external means (i.e., a lifting appliance); these are generally classified in **heading 84.79**.

(b) Life-belts and life-jackets (classified according to their constituent material).

(c) Sailboards (**heading 95.06**).

8907.10

- Inflatable rafts

8907.90

- Other

CLASSIFICATION OPINIONS

1. **Floating structure** consisting of a subassembly of six plastic cubes connected together. The structure provides flotation of 408 kg (68 kg x 6) and a floating surface above the water of 1.0 m (width) x 1.5 m (length). Each cube is made of high density polyethylene (HDPE) (length 48 cm, width 48 cm, height 36 cm and weight 5.2 kg) and is filled with expanded polystyrene. The cubes are fitted with pressure regulation and moisture control valves and equipped with tabs to facilitate linking them together.
The six-cube subassembly is a fairly substantial floating structure but would typically be used with others to form larger floating structures, such as floating docks, floating walkways, floating work platforms, marinas, etc.
Application of GIRs 1 and 6.
See also Opinion 8907.90/2.
Adoption : 2017



2. **Floating structure** consisting of 134 subassemblies, each subassembly comprising six cubes made of high density polyethylene (HDPE) and filled with expanded polystyrene. The subassemblies are to be assembled together to form larger pre-determined floating structures such as floating docks, floating walkways, floating work platforms, marinas, etc.
Application of GIRs 1, 2 (a) and 6.
See also Opinion 8907.90/1
Adoption : 2017

Heading 8908

Vessels and other floating structures for breaking up.

EXPLANATORY NOTES

89.08 - Vessels and other floating structures for breaking up.

This heading is restricted to the vessels and other floating structures of headings 89.01 to 89.07 when presented for the purpose of being broken up. Such vessels may be obsolete or damaged, and may have had their instruments, machinery, etc., removed prior to presentation.

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8908.00

Vessels and other floating structures for breaking up.

Section XVII

VEHICLES, AIRCRAFT, VESSELS AND ASSOCIATED TRANSPORT EQUIPMENT

LEGAL NOTES

Notes.

1.- This Section does not cover articles of heading 95.03 or 95.08, or bobsleighs, toboggans or the like of heading 95.06.

2.- The expressions “parts” and “parts and accessories” do not apply to the following articles, whether or not they are identifiable as for the goods of this Section :

(a) Joints, washers or the like of any material (classified according to their constituent material or in heading 84.84) or other articles of vulcanised rubber other than hard rubber (heading 40.16);

(b) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(c) Articles of Chapter 82 (tools);

(d) Articles of heading 83.06;

(e) Machines or apparatus of headings 84.01 to 84.79, or parts thereof, other than the radiators for the articles of this Section; articles of heading 84.81 or 84.82 or, provided they constitute integral parts of engines or motors, articles of heading 84.83;

(f) Electrical machinery or equipment (Chapter 85);

(g) Articles of Chapter 90;

(h) Articles of Chapter 91;

(ij) Arms (Chapter 93);

(k) Luminaires and lighting fittings and parts thereof of heading 94.05; or

(l) Brushes of a kind used as parts of vehicles (heading 96.03).

3.- References in Chapters 86 to 88 to “parts” or “accessories” do not apply to parts or accessories which are not suitable for use solely or principally with the articles of those Chapters. A part or accessory which answers to a description in two or more of the headings of those Chapters is to be classified under that heading which corresponds to the principal use of that part or accessory.

4.- For the purposes of this Section :

(a) Vehicles specially constructed to travel on both road and rail are classified under the appropriate heading of Chapter 87;

(b) Amphibious motor vehicles are classified under the appropriate heading of Chapter 87;

(c) Aircraft specially constructed so that they can also be used as road vehicles are classified under the appropriate heading of Chapter 88.

5.- Air-cushion vehicles are to be classified within this Section with the vehicles to which they are most akin as follows :

(a) In Chapter 86 if designed to travel on a guide-track (hovertrains);

(b) In Chapter 87 if designed to travel over land or over both land and water;

(c) In Chapter 89 if designed to travel over water, whether or not able to land on beaches or landing-stages or also able to travel over ice.

Parts and accessories of air-cushion vehicles are to be classified in the same way as those of vehicles of the heading in which the air-cushion vehicles are classified under the above provisions.

Hovertrain track fixtures and fittings are to be classified as railway track fixtures and fittings, and signalling, safety or traffic control equipment for hovertrain transport systems as signalling, safety or traffic control equipment for railways.

EXPLANATORY NOTES

Section XVII

VEHICLES, AIRCRAFT, VESSELS AND ASSOCIATED TRANSPORT EQUIPMENT

Notes.

1.- This Section does not cover articles of heading 95.03 or 95.08, or bobsleighs, toboggans or the like of heading 95.06.

2.- The expressions “parts” and “parts and accessories” do not apply to the following articles, whether or not they are identifiable as for the goods of this Section :

(a) Joints, washers or the like of any material (classified according to their constituent material or in heading 84.84) or other articles of vulcanised rubber other than hard rubber (heading 40.16);

(b) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(c) Articles of Chapter 82 (tools);

(d) Articles of heading 83.06;

(e) Machines or apparatus of headings 84.01 to 84.79, or parts thereof, other than the radiators for the articles of this Section; articles of heading 84.81 or 84.82 or, provided they constitute integral parts of engines or motors, articles of heading 84.83;

(f) Electrical machinery or equipment (Chapter 85);

(g) Articles of Chapter 90;

(h) Articles of Chapter 91;

(ij) Arms (Chapter 93);

(k) Luminaires and lighting fittings and parts thereof of heading 94.05; or

(l) Brushes of a kind used as parts of vehicles (heading 96.03).

3.- References in Chapters 86 to 88 to “parts” or “accessories” do not apply to parts or accessories which are not suitable for use solely or principally with the articles of those Chapters. A part or accessory which answers to a description in two or more of the headings of those Chapters is to be classified under that heading which corresponds to the principal use of that part or accessory.

4.- For the purposes of this Section :

(a) Vehicles specially constructed to travel on both road and rail are classified under the appropriate heading of Chapter 87;

(b) Amphibious motor vehicles are classified under the appropriate heading of Chapter 87;

(c) Aircraft specially constructed so that they can also be used as road vehicles are classified under the appropriate heading of Chapter 88.

5.- Air-cushion vehicles are to be classified within this Section with the vehicles to which they are most akin as follows :

(a) In Chapter 86 if designed to travel on a guide-track (hovertrains);

(b) In Chapter 87 if designed to travel over land or over both land and water;

(c) In Chapter 89 if designed to travel over water, whether or not able to land on beaches or landing-stages or also able to travel over ice.

Parts and accessories of air-cushion vehicles are to be classified in the same way as those of vehicles of the heading in which the air-cushion vehicles are classified under the above provisions.

Hovertrain track fixtures and fittings are to be classified as railway track fixtures and fittings, and signalling, safety or traffic control equipment for hovertrain transport systems as signalling, safety or traffic control equipment for railways.

GENERAL

(I) GENERAL CONTENT OF THE SECTION

This Section covers railway vehicles of all types and hovertrains (Chapter 86), other land vehicles, including air-cushion vehicles (Chapter 87), aircraft and spacecraft (Chapter 88) and ships, boats, hovercraft and floating structures (Chapter 89), **except** the following :

(a) Certain mobile machines (see Part (II) below).

(b) Demonstrational models of **heading 90.23**.

(c) Toys, certain winter sports equipment, and vehicles specially designed for amusement park rides, water park amusements and fairground amusements. The Section **excludes**, for example toy cycles (other than bicycles), pedal cars, etc., designed to be ridden by children, toy boats and aircraft (**heading 95.03**); bobsleds, toboggans and the like (**heading 95.06**); "dodge'em" cars, tractors and other transport vehicles, including trailers, specially designed for and forming part of fairground amusements (e.g., ring-stand trailers)(**heading 95.08**).

In addition, the Section includes certain specified items of associated transport equipment such as containers specially designed and equipped for carriage by one or more modes of transport, certain railway or tramway track fittings and fixtures, and mechanical (including electro-mechanical) signalling equipment (Chapter 86) and parachutes, aircraft launching gear, deck-arrestor or similar gear and ground flying trainers (Chapter 88).

Subject to the provisions of Part (III) below, the Section also covers parts and accessories of the vehicles, aircraft, etc., of Chapters 86 to 88.

(II) SELF-PROPELLED OR OTHER MOBILE MACHINES

Many machines or equipment (in particular of the type falling in Section XVI) can be mounted on the vehicle chassis or on the floating bases of Section XVII; the classification of the resultant mobile machine depends on various factors, in particular on the type of base.

For example, all mobile machines, formed by mounting a machine on a floating base are classified in Chapter 89 (e.g., floating cranes, dredgers, grain elevators, etc.). For the classification of mobile machines formed by mounting equipment on a vehicle chassis of Chapter 86 or 87, see the Explanatory Notes to heading 86.04, 87.01, 87.05, 87.09 or 87.16.

(III) PARTS AND ACCESSORIES

It should be noted that Chapter 89 makes **no provision** for parts (other than hulls) or accessories of ships, boats or floating structures. Such parts and accessories, even if identifiable as being for ships, etc., are therefore classified in other Chapters in their respective headings. The other Chapters of this Section each provide for the classification of parts and accessories of the vehicles, aircraft or equipment concerned.

It should, however, be noted that these headings apply **only** to those parts or accessories which comply with **all three** of the following conditions :

(a) They must not be excluded by the terms of Note 2 to this Section (see paragraph (A) below).

and (b) They must be suitable for use solely or principally with the articles of Chapters 86 to 88 (see paragraph (B) below).

and (c) They must not be more specifically included elsewhere in the Nomenclature (see paragraph (C) below).

(A) **Parts and accessories excluded by Note 2 to Section XVII**.

This Note **excludes** the following parts and accessories, whether or not they are identifiable as for the articles of this Section :

(1) **Joints, gaskets, washers and the like**, of any material (classified according to their constituent material or in **heading 84.84**) and other articles of vulcanised rubber **other than** hard rubber (e.g., mudguard-flaps and pedal covers) (**heading 40.16**).

(2) **Parts of general use as defined in Note 2 to Section XV**, for example, cable and chain (whether or not cut to length or equipped with end fittings, other than brake cables, accelerator **cables** and similar cables suitable for use in vehicles of **Chapter 87**), nails, bolts, nuts, washers, cotters and cotter-pins, springs (including leaf springs for vehicles) (such goods of base metals fall in **Chapters 73 to 76** and **78 to 81**, and similar goods of plastics fall in **Chapter 39**), and locks, fittings or mountings for vehicle coachwork (e.g., made up ornamental beading strips, hinges, door handles, grip bars, foot rests, window opening mechanisms), number plates, nationality plates, etc. (such goods of base metals fall in **Chapter 83**, and similar goods of plastics fall in **Chapter 39**).

(3) **Spanners, wrenches and other tools of Chapter 82**.

(4) **Bells (e.g., for cycles) and other articles of heading 83.06**.

(5) **Machines and mechanical appliances, and parts thereof, of headings 84.01 to 84.79**, for example :

(a) Boilers and boiler equipment (**heading 84.02** or **84.04**).

(b) Producer gas generators (e.g., for cars) (**heading 84.05**).

(c) Steam turbines of **heading 84.06**.

(d) Engines of all kinds including engines fitted with gear boxes and parts thereof, falling in **headings 84.07 to 84.12**.

(e) Pumps, compressors and fans (**heading 84.13** or **84.14**).

(f) Air-conditioning machines (**heading 84.15**).

(g) Mechanical appliances for projecting, dispersing or spraying liquids or powders; fire extinguishers (**heading 84.24**).

(h) Lifting, handling, loading or unloading machinery (e.g., hoists, jacks, derricks), moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores (**heading 84.25, 84.26, 84.28, 84.30** or **84.31**).

(ij) Agricultural machinery of **heading 84.32** or **84.33** (e.g., threshing, seed distributing, mowing, etc., attachments) constructed for mounting on vehicles.

(k) Machinery of a kind described in **heading 84.74**.

(l) Windscreen wiping mechanisms of **heading 84.79**.

(6) **Certain other goods of Chapter 84**, e.g. :

(a) Taps, cocks, valves and similar appliances (e.g., radiator drainage taps, inner-tube valves) (**heading 84.81**).

(b) Ball or roller bearings (**heading 84.82**).

(c) Internal parts of engines or motors (crank shafts, cam shafts, flywheels, etc.) falling in **heading 84.83**.

(7) **Electrical machinery or equipment of Chapter 85**, for example :

(a) Electric motors, generators, transformers, etc., of **heading 85.01** or **85.04**.

(b) Electro-magnets, electro-magnetic clutches, brakes, etc., of **heading 85.05**.

(c) Electric accumulators (**heading 85.07**).

(d) Electrical ignition or starting equipment of a kind used for spark-ignition or compression-ignition internal combustion engines (sparking plugs, starter motors, etc.) (**heading 85.11**).

(e) Electrical lighting, signalling, windscreen wiping, defrosting, demisting, equipment for cycles or motor vehicles (**heading 85.12**); electrical signalling apparatus for other vehicles (e.g., trains) or for aircraft or ships (**heading 85.31**); electrical defrosters or demisters for such other vehicles, aircraft or ships (**heading 85.43**).

(f) Electric heating units for motor or railway vehicles, aircraft, etc. (**heading 85.16**).

(g) Microphones, loudspeakers and audio-frequency electric amplifiers (**heading 85.18**).

(h) Radio transmitters and receivers (**heading 85.25** or **85.27**).

(ij) Electrical capacitors (**heading 85.32**).

(k) Pantographs and other current collectors for electric traction vehicles, and fuses, switches and other electrical apparatus of **heading 85.35** or **85.36**.

(l) Electric filament lamps and electric discharge lamps, including sealed beam lamp units, of **heading 85.39**.

(m) Other electrical fittings, such as insulated electric wire and cable (including wiring sets) and electrical articles of graphite or other carbon, whether or not fitted with terminals; insulators, insulating fittings (**headings 85.44 to 85.48**).

(8) **Instruments and apparatus of Chapter 90**, including those used on certain vehicles, such as :

(a) Photographic or cinematographic cameras (**heading 90.06** or **90.07**).

(b) Navigational instruments and appliances (**heading 90.14**).

(c) Instruments and appliances used in medical, surgical, dental or veterinary sciences (**heading 90.18**).

(d) Apparatus based on the use of X-rays and other apparatus of **heading 90.22**.

(e) Manometers (**heading 90.26**).

(f) Revolution counters, taximeters, speed indicators and tachometers and other instruments and apparatus of **heading 90.29**.

(g) Measuring or checking instruments, appliances and machines of **heading 90.31**.

(9) **Clocks** (e.g., instrument panel clocks) (**Chapter 91**).

(10) **Arms** (**Chapter 93**).

(11) **Luminaires and lighting fittings** (e.g., headlamps for aircraft or trains) of **heading 94.05**.

(12) **Brushes** (e.g., for road sweeper lorries) (**heading 96.03**).

(B) **Criterion of sole or principal use.**

(1) **Parts and accessories classifiable both in Section XVII and in another Section**.

Under Section Note 3, parts and accessories which are not suitable for use **solely or principally** with the articles of Chapters 86 to 88 are **excluded** from those Chapters.

The effect of Note 3 is therefore that when a part or accessory can fall in one or more other Sections as well as in Section XVII, its final classification is determined by its **principal use**. Thus the steering gear, braking systems, road wheels, mudguards, etc., used on many of the mobile machines falling in Chapter 84, are virtually identical with those used on the lorries of Chapter 87, and since their principal use is with lorries, such parts and accessories are classified in this Section.

(2) **Parts and accessories classifiable in two or more headings of the Section**.

Certain parts and accessories are suitable for use on more than one type of vehicle (motor cars, aircraft, motorcycles, etc.); examples of such goods include brakes, steering systems, wheels, axles, etc. Such parts and accessories are to be classified in the heading relating to the parts and accessories of the vehicles with which they are **principally used**.

(C) **Parts and accessories covered more specifically elsewhere in the Nomenclature**.

Parts and accessories, even if identifiable as for the articles of this Section, are **excluded** if they are covered more specifically by another heading elsewhere in the Nomenclature, e.g. :

(1) Profile shapes of vulcanised rubber other than hard rubber, whether or not cut to length (**heading 40.08**).

(2) Transmission belts of vulcanised rubber (**heading 40.10**).

(3) Rubber tyres, interchangeable tyre treads, tyre flaps and inner tubes (**headings 40.11 to 40.13**).

(4) Tool bags of leather or of composition leather, of vulcanised fibre, etc. (**heading 42.02**).

(5) Bicycle or balloon nets (**heading 56.08**).

(6) Towing ropes (**heading 56.09**).

(7) Textile carpets (**Chapter 57**).

(8) Unframed safety glass consisting of toughened or laminated glass, whether or not shaped (**heading 70.07**).

(9) Rear-view mirrors (**heading 70.09** or **Chapter 90** - see the corresponding Explanatory Notes).

(10) Unframed glass for vehicle headlamps (**heading 70.14**) and, in general, the goods of **Chapter 70**.

(11) Flexible shafts for speed indicators, revolution counters, etc. (**heading 84.83**).

(12) Vehicle seats of **heading 94.01**.

CLASSIFICATION OPINIONS

1. Ball bearing control cables :
(i) Identifiable as suitable for use solely or principally with a particular vehicle of Sect. XVI.
Classification as parts or accessories of the appropriate vehicle.
(ii) Equally suitable for use on several vehicles, aircraft, vessels, etc., of Sect. XVII.
Application of Note 3 to Sect. XVII.
See also Opinions Sect. XVI/1, 8487.90/2 and 9033.00/1.
Adoption : 1962

Chapter 86

Railway or tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electro-mechanical) traffic signalling equipment of all kinds

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Railway or tramway sleepers of wood or of concrete, or concrete guide-track sections for hovertrains (heading 44.06 or 68.10);

(b) Railway or tramway track construction material of iron or steel of heading 73.02; or

(c) Electrical signalling, safety or traffic control equipment of heading 85.30.

2.- Heading 86.07 applies, *inter alia*, to :

(a) Axles, wheels, wheel sets (running gear), metal tyres, hoops and hubs and other parts of wheels;

(b) Frames, underframes, bogies and bissel-bogies;

(c) Axle boxes; brake gear;

(d) Buffers for rolling-stock; hooks and other coupling gear and corridor connections;

(e) Coachwork.

3.- Subject to the provisions of Note 1 above, heading 86.08 applies, *inter alia*, to :

(a) Assembled track, turntables, platform buffers, loading gauges;

(b) Semaphores, mechanical signal discs, level crossing control gear, signal and point controls, and other mechanical (including electro-mechanical) signalling, safety or traffic control equipment, whether or not fitted for electric lighting, for railways, tramways, roads, inland waterways, parking facilities, port installations or airfields.

EXPLANATORY NOTES

Chapter 86

Railway or tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electro-mechanical) traffic signalling equipment of all kinds

Notes.

1.- This Chapter does not cover :

(a) Railway or tramway sleepers of wood or of concrete, or concrete guide-track sections for hovertrains (heading 44.06 or 68.10);

(b) Railway or tramway track construction material of iron or steel of heading 73.02; or

(c) Electrical signalling, safety or traffic control equipment of heading 85.30.

2.- Heading 86.07 applies, *inter alia*, to :

(a) Axles, wheels, wheel sets (running gear), metal tyres, hoops and hubs and other parts of wheels;

(b) Frames, underframes, bogies and bissel-bogies;

(c) Axle boxes; brake gear;

(d) Buffers for rolling-stock; hooks and other coupling gear and corridor connections;

(e) Coachwork.

3.- Subject to the provisions of Note 1 above, heading 86.08 applies, *inter alia*, to :

(a) Assembled track, turntables, platform buffers, loading gauges;

(b) Semaphores, mechanical signal discs, level crossing control gear, signal and point controls, and other mechanical (including electro-mechanical) signalling, safety or traffic control equipment, whether or not fitted for electric lighting, for railways, tramways, roads, inland waterways, parking facilities, port installations or airfields.

GENERAL

This Chapter covers locomotives and rolling-stock, and parts thereof, and certain track fixtures and fittings, for railways or tramways of any kind (including narrow gauge railways, single rail railways, etc.). It also covers containers specially designed and equipped for carriage by one or more modes of transport. Mechanical (including electro-mechanical) signalling, safety or traffic control equipment for traffic of all kinds (including that for parking facilities) is also covered.

Throughout this Chapter, the expressions “railway” and “tramway” refer not only to conventional railways and tramways using steel rails, but also to similar guided systems such as those using magnetic levitation or concrete tracks.

These various goods are classified as follows :

(A) Self-propelled railway vehicles of all types, such as locomotives, motorised railway or tramway coaches and rail-cars (headings 86.01 to 86.03). Heading 86.02 also includes locomotive tenders. Locomotives operated by two types of power are classified in the heading corresponding to the main type of power used.

(B) Railway or tramway maintenance or service vehicles, whether or not self-propelled (heading 86.04).

(C) Various types of hauled vehicles (railway or tramway passenger coaches and luggage vans, railway or tramway goods vans, wagons and trucks, etc.) (headings 86.05 and 86.06).

(D) Parts of railway or tramway locomotives and rolling-stock (heading 86.07), and also railway or tramway track fixtures and fittings, and mechanical (including electro-mechanical) equipment, for signalling to or controlling road, rail or other vehicles, ships or aircraft (heading 86.08).

(E) Containers specially designed and equipped for carriage by one or more modes of transport (heading 86.09).

The Chapter also includes air-cushion vehicles designed to travel on a guide-track (hovertrains), parts of these vehicles, and hovertrain track fixtures, fittings and mechanical (including electro-mechanical) signalling, safety or traffic control equipment for hovertrain transport systems (see Note 5 to Section XVII).

Incomplete or unfinished vehicles are classified with the corresponding complete or finished vehicles, **provided** they have the essential character thereof. Such vehicles may include :

(1) Locomotives or motorised railway or tramway coaches, not fitted with a power unit, measuring instruments, safety apparatus or service equipment.

(2) Passenger coaches not fitted with seats.

(3) Truck underframes complete with suspension and wheels.

On the other hand, bodies of motorised railway or tramway coaches, of vans, wagons or trucks or of tenders, **not mounted on underframes**, are classified as parts of railway or tramway locomotives or rolling-stock (heading 86.07).

The Chapter **excludes** :

(a) Model railway rolling-stock for demonstrational purposes, of **heading 90.23**.

(b) Heavy artillery mounted on railway trucks (**heading 93.01**).

(c) Toy trains (**heading 95.03**).

(d) Equipment not constituting rolling-stock proper, specially designed for use on amusement park rides, water park amusements or fairground amusements (**heading 95.08**).

Heading 8601

Rail locomotives powered from an external source of electricity or by electric accumulators.

EXPLANATORY NOTES

86.01 - Rail locomotives powered from an external source of electricity or by electric accumulators.

8601.10 - Powered from an external source of electricity

8601.20 - Powered by electric accumulators

This heading covers all types of electric locomotives in which the required electrical energy is derived either from powerful accumulators carried on the vehicle, or from an external conductor which may be either a rail or an overhead cable.

8601.10

- Powered from an external source of electricity

8601.20

- Powered by electric accumulators

Heading 8602

Other rail locomotives; locomotive tenders.

EXPLANATORY NOTES

86.02 - Other rail locomotives; locomotive tenders.

8602.10 - Diesel-electric locomotives

8602.90 - Other

(A) LOCOMOTIVES

This group covers all types of rail locomotives **other than** those powered from an external source of electricity or by electric accumulators (**heading 86.01**) whatever the type of power unit (steam engine, diesel engine, gas turbine, petrol engine, pneumatic power engine, etc).

These include :

(1) **Diesel locomotives** which are of three types :

(a) **Diesel-electric locomotives** in which the diesel engine drives a generator to produce electricity which in turn powers traction motors driving the wheels.

(b) **Diesel-hydraulic locomotives** in which power from a diesel engine is transmitted to the wheels using a hydraulic system.

(c) **Diesel-mechanical locomotives** where power from the diesel engine reaches the wheels through a clutch or fluid flywheel and gear box.

(2) **Steam locomotives** of all types, including turbine locomotives using an electric drive, tank locomotives and fireless locomotives, i.e., those fitted with a steam reservoir instead of a boiler which is charged from an industrial plant.

*

* *

The heading includes certain locomotives of moderate power which are not equipped with bogies and are usually fitted with only two driving axles. They are mainly used in stations for moving wagons and by industrial facilities connected with railways.

(B) LOCOMOTIVE TENDERS

Locomotive tenders are vehicles, coupled to steam locomotives, which carry the water and fuel required for the boiler. They consist essentially of a frame carried on two or more axles and a sheet metal superstructure comprising a closed tank for water and a coal bunker or fuel-oil tank.

*

* *

Tractors constructed to travel on both road and rail are **excluded** (**heading 87.01**).

8602.10

- Diesel-electric locomotives

8602.90

- Other

Heading 8603

Self-propelled railway or tramway coaches, vans and trucks, other than those of heading 86.04.

EXPLANATORY NOTES

86.03 - Self-propelled railway or tramway coaches, vans and trucks, other than those of heading 86.04.

8603.10 - Powered from an external source of electricity

8603.90 - Other

Self-propelled railway or tramway coaches, vans and trucks differ from locomotives because, in addition to being equipped with a power unit, they are also designed to carry passengers or freight. These vehicles may be designed to travel singly, or to be coupled to one or more vehicles of the same type, or to one or more trailer vehicles.

The main feature of these vehicles is that they are fitted with a control cab either at one or both ends, or in a raised position (conning-tower) in the middle.

The various types of self-propelled coaches, vans and trucks falling in the heading include :

(A) **Electrically-propelled coaches** in which electrical energy is received from a stationary external source, e.g., through a pantograph or trolley in the case of an overhead cable, or through collector shoes mounted on the bogies in the case of a third rail.

Tramway coaches. These sometimes use two conductor rails placed in a slot rail and current is collected via a special device known as a "plough".

(B) **Rail-cars**, i.e., self-contained vehicles running under their own power and equipped with diesel or other internal combustion engines, etc.

Some rail-cars are fitted with solid or pneumatic tyres and others are of the rack-rail type.

(C) **Self-propelled vehicles functioning by means of storage batteries**.

This heading also includes **electro-gyro rail vehicles**. The principle of this system is based on the accumulation of kinetic energy in a fast revolving flywheel. This energy is then by means of an electric generator transmitted to a driving motor in the form of electric current. The scope of this system is rather limited, but it may be applied in light rail-cars or in trams.

It should be noted that the heading **excludes** road motor-coaches convertible into rail-cars simply by changing the wheels and locking the steering, the motor remaining unchanged (**heading 87.02**).

8603.10

- Powered from an external source of electricity

CLASSIFICATION OPINIONS

1. Three uncoupled railway coaches, comprised of two electrically-propelled "M-Cars" and one trailer "T-Car", each being 22.6 m long, 2.9 m wide, and 3.8 m high. After coupling, the three coaches, also known as an Electric Multiple Unit (EMU), are intended to be used in a distributed traction system for an urban railway.
A pantograph in the upper part of the T-car provides electricity, which passes through the main transformer and is transmitted to converters in the M-Cars. The converters transform the electric current from AC (alternating current) to DC (direct current) and send it to inverters, which change the DC into three-phase AC to activate the electric motors.
Application of GIRs 1, 2 (a) and 6.
Adoption : 2016

8603.90

- Other

Heading 8604

Railway or tramway maintenance or service vehicles, whether or not self-propelled (for example, workshops, cranes, ballast tampers, trackliners, testing coaches and track inspection vehicles).

EXPLANATORY NOTES

86.04 - Railway or tramway maintenance or service vehicles, whether or not self-propelled (for example, workshops, cranes, ballast tampers, trackliners, testing coaches and track inspection vehicles).

The vehicles covered by this heading, whether or not self-propelled, are specially designed for use, e.g., in the installation, servicing and maintenance of the permanent way and structures alongside the track.

The heading includes :

(1) Workshop vans and trucks fitted with tools, machine-tools, electric generators, lifting machinery (jacks, hoists, etc.), welding equipment, chains, cables, etc.

(2) Breakdown and other crane-vehicles; locomotive or coach lifting crane-vehicles; crane-vehicles for lifting or placing rails; crane-vehicles for loading and unloading at station platforms.

(3) Winch trucks.

(4) Trucks fitted with special equipment for cleaning or tamping ballast.

(5) Trucks fitted with machinery for mixing cement for use on the track (for the foundations of electric cable pylons, etc.).

(6) Trucks for calibrating weigh-bridges.

(7) Scaffold trucks for the installation and maintenance of electric cables.

(8) Spraying vans for weed-killing.

(9) Self-propelled vehicles for track maintenance (in particular, railway trackliners), equipped with one or more engines which not only power the working machines mounted thereon (track-setters, ballast tampers, etc.), and propel the vehicle while work is in progress but also enable it to travel rapidly along the track, as a self-propelled unit, when the working machines are not in operation.

(10) Railway testing coaches fitted with special equipment such as automatic instruments for checking the working of the engine, brakes, etc. (for example, for measuring the load hauled, detecting defects in the rails, track base, bridges, etc.); track checking coaches which record, whilst travelling, any track irregularity.

(11) Mechanically-propelled track inspection trolleys, including motorised rail-cycles, used by the railway staff for track maintenance. They are usually fitted with internal combustion engines, are self-propelled, and provide a rapid means of transport both for maintenance personnel and for materials to be carried or picked up along the track.

(12) Non-mechanically-propelled track inspection trolleys, including rail-cycles, used by railway inspection staff (e.g., hand- or foot-propelled types).

*

* *

When mounted on simple wheeled platforms and not on true railway or tramway underframes (not constituting, therefore, true railway or tramway rolling-stock), machines, measuring instruments and

other equipment, are **excluded** from this heading and fall in other more specific headings (**headings 84.25**, **84.26**, **84.28**, **84.29**, **84.30**, etc.).

8604.00

Railway or tramway maintenance or service vehicles, whether or not self-propelled (for example, workshops, cranes, ballast tampers, trackliners, testing coaches and track inspection vehicles).

Heading 8605

Railway or tramway passenger coaches, not self-propelled; luggage vans, post office coaches and other special purpose railway or tramway coaches, not self-propelled (excluding those of heading 86.04).

EXPLANATORY NOTES

86.05 - Railway or tramway passenger coaches, not self-propelled; luggage vans, post office coaches and other special purpose railway or tramway coaches, not self-propelled (excluding those of heading 86.04).

This heading covers a group of railway or tramway rolling-stock **not** self-propelled (including tramway trailer coaches and funicular (cable) railway coaches), of the type usually coupled into passenger trains.

The heading includes :

(1) Passenger coaches of all kinds, including sleeping cars, restaurant cars, saloon coaches, recreation coaches (specially fitted for entertainment, dancing, etc.).

(2) Funicular (cable) railway coaches.

(3) Tramway trailer coaches.

(4) Special coaches for underground transportation of miners.

(5) Living coaches for railway staff.

(6) Luggage vans and combined passenger-luggage coaches.

(7) Travelling post office coaches.

(8) Ambulance, hospital, X-ray or similar coaches.

(9) Prison coaches.

(10) Armoured coaches.

(11) Coaches specially equipped with radio or telegraph apparatus.

(12) Instruction coaches fitted with apparatus, machines or scale models (e.g., for instruction of the staff).

(13) Exhibition coaches.

8605.00

Railway or tramway passenger coaches, not self-propelled; luggage vans, post office coaches and other special purpose railway or tramway coaches, not self-propelled (excluding those of heading 86.04).

Heading 8606

Railway or tramway goods vans and wagons, not self-propelled.

EXPLANATORY NOTES

86.06 - Railway or tramway goods vans and wagons, not self-propelled.

8606.10 - Tank wagons and the like

8606.30 - Self-discharging vans and wagons, other than those of subheading 8606.10

- Other :

8606.91 - - Covered and closed

8606.92 - - Open, with non-removable sides of a height exceeding 60 cm

8606.99 - - Other

This heading covers vehicles for the transport of goods on railway networks (of any gauge). It also covers small vehicles or trucks for the transport of goods by rail, in mines, on building sites, in factories, warehouses, etc. These latter generally differ from true wagons, carriages, etc., in that they are not fitted with springs.

In addition to the usual open wagons and trucks (flat trucks, tipping wagons, etc.) and covered vans, the heading includes the following specialised types :

(1) Tank wagons and the like (e.g., reservoir wagons, cask wagons).

(2) Insulated or refrigerated vans and wagons.

(3) Self-discharging vans and wagons (tipping wagons, hopper wagons, etc.).

(4) Underslung flat trucks for the transport of heavy goods.

(5) Timber carrying trucks.

(6) Reservoir wagons fitted with stoneware, etc., reservoirs for the transport of chemicals.

(7) Horse boxes.

(8) Double deck wagons (e.g., for carrying cars).

(9) Vans specially equipped for the transport of live poultry or live fish.

(10) Platform trucks for carrying other trucks.

(11) Narrow gauge wagons of all kinds.

(12) Mining wagons.

(13) Trolleys for the transport of rails, girders, etc.

(14) Trucks fitted with rails, for carrying rail-road trailers.

(15) Wagons and trucks specially designed for the transport of highly radioactive products.

"Road-rail" trailers devised for transport by special trucks fitted with guide rails are **excluded** (**heading 87.16**).

8606.10

- Tank wagons and the like

8606.30

- Self-discharging vans and wagons, other than those of subheading 8606.10

8606.9

- Other :

8606.91

-- Covered and closed

8606.92

-- Open, with non-removable sides of a height exceeding 60 cm

8606.99

-- Other

Heading 8607

Parts of railway or tramway locomotives or rolling-stock.

EXPLANATORY NOTES

86.07 - Parts of railway or tramway locomotives or rolling-stock.

- Bogies, bissel-bogies, axles and wheels, and parts thereof :

8607.11 - - Driving bogies and bissel-bogies

8607.12 - - Other bogies and bissel-bogies

8607.19 - - Other, including parts

- Brakes and parts thereof :

8607.21 - - Air brakes and parts thereof

8607.29 - - Other

8607.30 - Hooks and other coupling devices, buffers, and parts thereof

- Other :

8607.91 - - Of locomotives

8607.99 - - Other

This heading covers parts of railway or tramway locomotives or rolling-stock, **provided** the parts fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with the above-mentioned vehicles;

(ii) They must not be excluded by the provisions of the Notes to Section XVII.

Parts of railway or tramway locomotives or rolling-stock include :

(1) Bogies, with two or more axles, and bissel-bogies consisting of a frame with only one axle.

(2) Straight or cranked axles, whether or not assembled.

(3) Wheels and parts thereof (wheel centres, metal tyres, etc.).

(4) Axle-boxes, also known as lubricating or grease-boxes, and parts thereof (e.g., axle-box bodies).

(5) All types of brake gear, including :

(a) Hand-brakes, controlled directly from each individual vehicle (lever and screw brakes).

(b) Continuous brakes with a single control for all the vehicles of the train. These include compressed air and vacuum brakes.

(c) Parts of brake gear including shoes, cylinders, levers, etc.

(6) Buffers.

(7) Coupling gear (e.g., hook, screw or chain type, draft gears); some coupling devices may be automatic.

(8) Frames and parts thereof (longerons, cross-girders, axle-box guides, etc.); frames cast in one piece.

(9) Corridor connections and connecting platforms.

(10) Bodies (**not** mounted on underframes) for motorised or non-self-propelled railway or tramway rolling-stock (e.g., for coaches, trucks, wagons, etc.); parts of such bodies (e.g., coach or truck doors, partitions, hinged sides of wagons, side stanchions, running boards, water tanks for tenders).

(11) Pipes with coupling heads for the braking or heating systems.

(12) Hydraulic shock absorbers for bogies.

It should be noted, however, that angles, shapes, sections, sheets, plates and other parts of frames, and also tubes and pipes, etc., of base metal, remain classified in **Section XV unless** they have been worked to such an extent that they are clearly identifiable as parts of locomotives or rolling-stock.

8607.1

- Bogies, bissel-bogies, axles and wheels, and parts thereof :

8607.11

-- Driving bogies and bissel-bogies

8607.12

-- Other bogies and bissel-bogies

8607.19

-- Other, including parts

8607.2

- Brakes and parts thereof :

8607.21

-- Air brakes and parts thereof

8607.29

-- Other

8607.30

- Hooks and other coupling devices, buffers, and parts thereof

8607.9

- Other :

8607.91

-- Of locomotives

8607.99

-- Other

Heading 8608

Railway or tramway track fixtures and fittings; mechanical (including electro-mechanical) signalling, safety or traffic control equipment for railways, tramways, roads, inland waterways, parking facilities, port installations or airfields; parts of the foregoing.

EXPLANATORY NOTES

86.08 - Railway or tramway track fixtures and fittings; mechanical (including electro-mechanical) signalling, safety or traffic control equipment for railways, tramways, roads, inland waterways, parking facilities, port installations or airfields; parts of the foregoing.

(A) RAILWAY OR TRAMWAY TRACK FIXTURES AND FITTINGS

This group includes :

(1) **Assembled track**, i.e., rails already fixed to sleepers or other supports. Such track may be in the form of junction, switch or cross-over points, curves, straight runs, etc.

(2) **Turntables, whether or not electrically operated**, i.e., large platforms usually circular, which can rotate about the centre, and which are fitted with railway or tramway tracks; most are also equipped with rollers carrying the perimeter of the platform.

Locomotives, etc., can therefore be rotated on the turntable and driven off in a new direction. The heading also includes hand-operated turntables, for narrow gauge railways on building sites, quarries, etc.

However, the heading **excludes** locomotives or wagon traversers which transfer railway vehicles from one track to another. These and other machines for handling rolling-stock (e.g., wagon tippers, wagon pushers) fall in **heading 84.28**.

(3) **Platform buffers**, i.e., hydraulic or spring-loaded stopping devices placed at the end of each run of track to minimise the shock if rolling-stock does not stop before reaching the track terminal. They are designed either to be embedded into the masonry (e.g., of terminal stations) or into robust frameworks (e.g., in shunting yards).

(4) **Loading gauges**, i.e., arch-shaped structures which ensure that trains passing beneath them do not exceed the maximum clearance height and width prescribed for the route involved.

The heading **does not cover** wooden sleepers (**heading 44.06**), concrete sleepers (**heading 68.10**) or sleepers, rails or other items of unassembled track construction material, of iron or steel specified in **heading 73.02** (see the corresponding Explanatory Note).

Pylons and portals for carrying overhead cables are not regarded as railway or tramway fixtures or fittings and are classified according to their constituent materials in **headings 68.10**, **73.08**, etc.

(B) MECHANICAL (INCLUDING ELECTRO-MECHANICAL) SIGNALLING, SAFETY OR TRAFFIC CONTROL EQUIPMENT FOR RAILWAYS, TRAMWAYS, ROADS, INLAND WATERWAYS, PARKING FACILITIES, PORT INSTALLATIONS OR AIRFIELDS

This group covers essentially apparatus in which the signal, etc., is operated from a control point, generally at some distance, by the movement of levers, cranks, rods, wires, chains, etc., or by hydro-pneumatic devices or electric motors. Electropneumatically operated equipment (e.g., for railways) is also classified in this heading. In this type, the signals or points are activated by a pneumatic power engine, the admission or release of air into or from the motor cylinder being controlled by an electro-magnetic valve which is in turn controlled by the electric control board in the signal box. The signal and its pneumatic activating device is regarded as mechanical equipment of this heading, but the electric control board, etc., is proper to **Chapter 85**.

The term “signalling equipment” refers to apparatus which can be made to show two or more aspects each conveying instructions to vehicles, ships or aircraft. It **does not cover** road, rail, etc., sign-plates

with no mechanical features (e.g., speed limit, direction or gradient sign-plates); these are classified according to the constituent material (e.g., in **heading 44.21** or **83.10**).

Provided they are mechanically or electro-mechanically operated as described above, the following types of apparatus fall in this group :

(1) **Signal box equipment**. A complete unit consists of a number of control levers with their transmission wheels, rods, wires, etc., mounted in a frame. In most cases interlocking devices are incorporated to prevent signals or points being set in a conflicting manner.

(2) **Signal arms, signal discs, complete signal posts or signal gantries**.

(3) **Controlling or slotting lever mechanisms** fitted to interdependent signals to ensure their co-ordinated action.

(4) **Trackside mechanisms** (ground frames, etc., of the lever, pedal, crank or other types) for operating points, signals, etc.

(5) **Point detectors**. These are activated by the movement of the points themselves; their movements are transmitted back to the signal box so that the signalman knows that the points are in the position he intends.

(6) **Point locks and locking bars**. These devices, fitted to the track itself, ensure that the passage of a train automatically locks the points, so that they cannot be changed from the signal box until the train is clear.

(7) **Railbrakes**. These devices are used to slow down or stop rolling-stock (e.g., to slow shunted wagons entering a marshalling yard siding). They usually consist essentially of a pair of bars fitted to each rail of the track; under hydraulic or compressed air control, these bars can be made to exert braking pressure on the wheels of rolling-stock passing over the track.

(8) **Derailers and stop blocks**. When slid free of the rail, these allow the passage of a wagon, but when slid on to the running surface of the rail they act as a stop block or as a deflecting blade to "jump" a wagon off the track.

(9) **Train stops**. These usually consist of a T shaped bar device fixed alongside the track and operated by compressed air. The bar is interconnected with the signal so that when the latter is at danger, the bar is raised to a position where it will "trip" a brake control lever on any train overrunning the signal.

(10) **Automatic fog-signalling apparatus**. These devices, also usually pneumatically operated, automatically place a fog signal on the track each time the signal is at danger.

(11) **Level crossing control gear for raising and lowering, or opening and closing the gates**. This gear usually consists of a hand-operated crank wheel and gearing device, or of a leverage system operated from the signal box as with signal or point control gear.

Level crossing gates themselves are classified according to their constituent material (**heading 73.08** if made of iron or steel, or **heading 44.21** if made of wood), but mechanically or

electro-mechanically operated signals indicating whether the gates are open or shut fall in this heading.

(12) **Hand- or electro-mechanically operated signals** designed to show “Stop” and “Go” signs to road or maritime traffic.

PARTS

The heading also includes identifiable parts of the apparatus referred to above (e.g., turntable platforms, signal arms and discs, control levers, point lock cases, interlocking slot mechanisms).

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* *

The heading also **excludes** :

(a) Chains and other parts of general use as defined in Note 2 to Section XV, of base metal (**Section XV**), and similar goods of plastics (**Chapter 39**); general purpose material (such as wire and rodding) and metal structures and metal parts of such structures, falling in **Section XV**. It should be noted that point rods which run beneath the rails to connect the trackside control mechanism to the switch blades fall in **heading 73.02** together with certain other specified railway or tramway track construction material of iron or steel.

(b) Signal lamps (**heading 85.30** or **94.05**).

(c) Sirens, fog horns and other sound signalling instruments (classified in their own appropriate headings).

(d) Apparatus for signalling on board vehicles, ships, etc., (e.g., alarm signalling apparatus on trains, emergency station signalling apparatus for ships, etc.) (classified in their own appropriate headings).

8608.00

Railway or tramway track fixtures and fittings; mechanical (including electro-mechanical) signalling, safety or traffic control equipment for railways, tramways, roads, inland waterways, parking facilities, port installations or airfields; parts of the foregoing.

Heading 8609

Containers (including containers for the transport of fluids) specially designed and equipped for carriage by one or more modes of transport.

EXPLANATORY NOTES

86.09 - Containers (including containers for the transport of fluids) specially designed and equipped for carriage by one or modes of transport.

These containers (including lift vans) are packing receptacles specially designed and equipped for carriage by one or more modes of transport (e.g., road, rail, water or air). They are equipped with fittings (hooks, rings, castors, supports, etc.) to facilitate handling and securing on the transporting

vehicle, aircraft or vessel. They are thus suitable for the “door-to-door” transport of goods without intermediate repacking and, being of robust construction, are intended to be used repeatedly.

The more usual type, which may be of wood or metal, consists of a large box equipped with doors, or with removable sides.

The principal types of container include :

(1) Furniture removal containers.

(2) Insulated containers for perishable foods or goods.

(3) Containers (generally cylindrical) for the transport of liquids or gases. These containers fall in this heading **only** if they incorporate a support enabling them to be fitted to any type of transporting vehicle or vessel; otherwise they are classified according to their constituent material.

(4) Open containers for bulk transport of coal, ores, paving blocks, bricks, tiles, etc. These often have hinged bottoms or sides to facilitate unloading.

(5) Special types for particular goods, especially for fragile goods such as glassware, ceramics, etc., or for live animals.

Containers usually vary in size from 4 to 145 m^3 capacity. Certain types are however smaller, but their capacity is not normally less than 1 m^3.

The heading **excludes** :

(a) Cases, crates, etc., which though designed for the “door-to-door” transport of goods are not specially constructed as described above to be secured to the transporting vehicle, aircraft or vessel; these are classified according to their constituent material.

(b) Road-rail trailers (intended mainly for use as road trailers, but so designed that they may be transported on special railway wagons fitted with guide rails) (**heading 87.16**).

(c) Modular building units (**heading 94.06**).

8609.00

Containers (including containers for the transport of fluids) specially designed and equipped for carriage by one or more modes of transport.

CLASSIFICATION OPINIONS

1. **Tube bundle container**, consisting of a number of cylinders used for the transportation of compressed natural gas (CNG). Each cylinder is equipped with a separate valve and gauge for the discharge and filling of gas. The cylinders are not welded or permanently combined, but enclosed within an outer metal frame of the same dimension as a regular 6 or 12 metre (20 or 40 foot) container. The product is also equipped with holes on the frame, which makes it possible to be attached to a road trailer or other modes of transport.

Application of GIR 1.
Adoption : 2017



Chapter 87

Vehicles other than railway or tramway rolling-stock, and parts and accessories thereof

LEGAL NOTES

Notes.

1.- This Chapter does not cover railway or tramway rolling-stock designed solely for running on rails.

2.- For the purposes of this Chapter, “tractors” means vehicles constructed essentially for hauling or pushing another vehicle, appliance or load, whether or not they contain subsidiary provision for the transport, in connection with the main use of the tractor, of tools, seeds, fertilisers or other goods.

Machines and working tools designed for fitting to tractors of heading 87.01 as interchangeable equipment remain classified in their respective headings even if presented with the tractor, and whether or not mounted on it.

3.- Motor chassis fitted with cabs fall in headings 87.02 to 87.04, and not in heading 87.06.

4.- Heading 87.12 includes all children’s bicycles. Other children’s cycles fall in heading 95.03.

Subheading Note.

1.- Subheading 8708.22 covers :

(a)- front windscreens (windshields), rear windows and other windows, framed; and
(b)- front windscreens (windshields), rear windows and other windows, whether or not framed, incorporating heating devices or other electrical or electronic devices,

when suitable for use solely or principally with the motor vehicles of headings 87.01 to 87.05.

EXPLANATORY NOTES

Chapter 87

Vehicles other than railway or tramway rolling-stock, and parts and accessories thereof

Notes.

1.- This Chapter does not cover railway or tramway rolling-stock designed solely for running on rails.

2.- For the purposes of this Chapter, “tractors” means vehicles constructed essentially for hauling or pushing another vehicle, appliance or load, whether or not they contain subsidiary provision for the transport, in connection with the main use of the tractor, of tools, seeds, fertilisers or other goods.

Machines and working tools designed for fitting to tractors of heading 87.01 as interchangeable equipment remain classified in their respective headings even if presented with the tractor, and whether or not mounted on it.

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(b)- front windscreens (windshields), rear windows and other windows, whether or not framed, incorporating heating devices or other electrical or electronic devices,

when suitable for use solely or principally with the motor vehicles of headings 87.01 to 87.05.

GENERAL

This Chapter covers the following vehicles, with the **exception** of certain mobile machines of **Section XVI** (see the Explanatory Notes to headings 87.01, 87.05 and 87.16) :

(1) Tractors (heading 87.01).

(2) Motor vehicles designed for the transport of persons (heading 87.02 or 87.03) or goods (heading 87.04) or for special purposes (heading 87.05).

(3) Works trucks, self-propelled, not fitted with lifting or handling equipment, of the type used in factories, warehouses, dock areas or airports for short distance transport of goods, and tractors of the type used on railway station platforms (heading 87.09).

(4) Armoured fighting vehicles, motorised (heading 87.10).

(5) Motorcycles and side-cars; cycles and carriages for disabled persons, whether or not motorised (headings 87.11 to 87.13).

(6) Baby carriages (heading 87.15).

(7) Trailers and semi-trailers, and other vehicles, not mechanically propelled, i.e., vehicles for towing by another vehicle, pushing or pulling by hand or drawing by animals (heading 87.16).

The Chapter also covers air-cushion vehicles designed to travel over land or over both land and certain tracts of water (swamps, etc.) (see Note 5 to Section XVII).

The classification of a motor vehicle is not affected by operations which are carried out after assembling all parts into a complete motor vehicle, such as : vehicle identification number fixation, brake system charging and bleeding air from brakes, charging of the steering booster system (power steering) and cooling and conditioning systems, headlights regulation, wheel geometry regulation

(alignment) and regulation of brakes. This includes classification by the application of General Interpretative Rule 2 (a).

An incomplete or unfinished vehicle, whether or not assembled, is classified as the corresponding complete or finished vehicle **provided** it has the essential character of the latter (see General Interpretative Rule 2 (a)), as for example :

(A) A motor vehicle, not yet fitted with the wheels or tyres and battery.

(B) A motor vehicle not equipped with its engine or with its interior fittings.

(C) A bicycle without saddle and tyres.

This Chapter also covers parts and accessories which are identifiable as being suitable for use **solely or principally** with the vehicles included therein, **subject** to the provisions of the Notes to Section XVII (see the General Explanatory Note to the Section).

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It should be noted that amphibious motor vehicles are classified as motor vehicles of this Chapter. But aircraft specially constructed so that they can also be used as road vehicles remain classified as aircraft (**heading 88.02**).

The Chapter also **excludes** :

(a) Vehicles and parts thereof, cross-sectioned, designed for demonstrational purposes, unsuitable for other uses (**heading 90.23**).

(b) Wheeled toys designed to be ridden by children, and children's cycles (other than children's bicycles) (**heading 95.03**).

(c) Winter sports equipment such as bobsleighs, toboggans and the like (**heading 95.06**).

(d) Vehicles specially designed for use on amusement park rides, or fairground amusements (**heading 95.08**).

Heading 8701

Tractors (other than tractors of heading 87.09).

EXPLANATORY NOTES

87.01 - Tractors (other than tractors of heading 87.09) (+).

8701.10 - Single axle tractors

- Road tractors for semi-trailers :

8701.21 - - With only compression-ignition internal combustion piston engine (diesel or semi-diesel)

8701.22 - - With both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion

8701.23 - - With both spark-ignition internal combustion piston engine and electric motor as motors for propulsion

8701.24 - - With only electric motor for propulsion

8701.29 - - Other

8701.30 - Track-laying tractors

- Other, of an engine power :

8701.91 - - Not exceeding 18 kW

8701.92 - - Exceeding 18 kW but not exceeding 37 kW

8701.93 - - Exceeding 37 kW but not exceeding 75 kW

8701.94 - - Exceeding 75 kW but not exceeding 130 kW

8701.95 - - Exceeding 130 kW

For the purposes of this heading, **tractors** means wheeled or track-laying vehicles constructed essentially for hauling or pushing another vehicle, appliance or load. They may contain subsidiary provision for the transport, in connection with the main use of the tractor, of tools, seeds, fertilisers or other goods, or provision for fitting with working tools as a subsidiary function.

The heading **does not cover** propelling bases specially designed, constructed or reinforced to form an integral part of a machine performing a function such as lifting, excavating, levelling, etc., even if the propelling base uses traction or propulsion for the execution of this function.

The heading covers tractors (**other than** tractors of the type used on railway station platforms, falling in **heading 87.09**) of various types (tractors for agricultural or forestry work, road tractors, heavy duty tractors for constructional engineering work, winch tractors, etc.), whatever their mode of propulsion (internal combustion piston engine, electric motor, etc.). It also includes tractors which can be used both on rails and on road, but **not** those which are designed exclusively for use on rails.

The tractors of this heading may be fitted with coachwork (a body) or may have seats for the crew or a driving cab. They may be equipped with a tool box, with provision for raising and lowering agricultural implements, with a coupling device for trailers or semi-trailers (e.g., on mechanical horses and similar tractive units), or with a power take-off for driving machines such as threshers and circular saws.

The chassis of a tractor may be mounted on wheels, on tracks or on a combination of wheels and tracks. In the last case, only the front steering axle is fitted with wheels.

This heading also covers **single axle tractors**. These are small agricultural tractors equipped with a single driving axle carried on one or two wheels; like normal tractors, they are designed for use with interchangeable implements which they may operate by means of a general purpose power take-off. They are not usually fitted with a seat and the steering is effected by means of two handles. Some types, however, also have a one- or two-wheeled rear carriage with a seat for the driver.

Similar single axle tractorsare also used for industrial purposes.

The heading includes **tractors fitted with winches** (e.g., as used for hauling out bogged-down vehicles; for up-rooting and hauling trees; or for the remote haulage of agricultural implements).

The heading further includes straddle-type tractors (stilt tractors) used, for example, in vineyards and forestry plantations.

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The heading also **excludes** motor breakdown lorries equipped with cranes, lifting tackle, winches, etc. (**heading 87.05**).

TRACTORS FITTED WITH OTHER MACHINERY

It should be noted that agricultural machines designed for fitting to tractors as interchangeable equipment (ploughs, harrows, hoes, etc.) remain classified in their respective headings even if mounted on the tractor at the time of presentation. The tractive unit in such cases is separately classified in this heading.

Tractors and industrial working tools are also classified separately when the tractor is designed essentially for hauling or pushing another vehicle or load, and includes, in the same way as an agricultural tractor, simple devices for operating (raising, lowering, etc.) the working tools. In such a case, the interchangeable working tools are **classified in their appropriate headings**, even if presented with the tractor, and whether or not mounted on it, while the tractor with its operating equipment is classified in this heading.

In the case of articulated motor lorries with semi-trailers, tractors coupled to semi-trailers, and heavy duty tractors coupled, in the same way as to semi-trailers, to working machines of Chapter 84, the hauling element is classified in this heading whereas the semi-trailer or the working machine is classified in its appropriate heading.

On the other hand, this heading **does not cover** the propelling bases of machines referred to, for example, in **headings 84.25**, **84.26**, **84.29**, **84.30** and **84.32**, in which the propelling base, the operating controls, the working tools and their actuating equipment are specially designed for fitting together to form an integral mechanical unit. Such is the case with loaders, bulldozers, motorised ploughs, etc.

As a general rule, propelling bases forming an integral part of a machine designed for handling, excavating, etc., can be distinguished from the tractors of this heading by their special constructional features (shape, chassis, means of locomotion, etc.). For propelling bases of the tractor type, various technical features relating essentially to the structure of the complete unit and to equipment specially designed for functions other than hauling or pushing should be taken into consideration. For instance, the propelling bases **not covered** by this heading incorporate robust elements (such as supporting blocks, plates or beams, platforms for swivelling cranes) forming a part of or fixed, generally by welding, to the chassis-body framework to carry the actuating equipment for the working tools. In addition, such propelling bases may comprise several of the following typical parts : powerful equipment with built-in hydraulic system for operating the working tools; special gear boxes, in which, for example, the top speed in reverse gear is not less than the top speed in forward gear; hydraulic clutch and torque converter; balancing counterweight; longer tracks to increase stability of the base; special frame for rear mounted engine, etc.

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Subheading Explanatory Notes.

Subheading 8701.10

See the Explanatory Note to heading 87.01, sixth and seventh paragraphs.

Subheadings 8701.21 to 8701.29

For the purposes of these subheadings, the expression “road tractors” refers to motor vehicles which are designed to haul semi-trailers over long distances. The road tractor and semi-trailer form a combination known by various names (e.g., “articulated lorries”, “tractor-trailers”, etc.). These vehicles usually contain diesel engines and may be driven at speeds in excess of urban traffic speeds on the road network (i.e., streets in the general sense, including avenues, boulevards and motorways) with fully loaded trailers. Such vehicles have a closed cab for the driver and passengers (sometimes with sleeping facilities), headlamps and dimensions authorized domestically, and are usually equipped with a fifth wheel coupling allowing rapid shift between semi-trailers performing different functions.

Similar vehicles used to haul semi-trailers over short distances are excluded from these subheadings (generally subheadings 8701.91 to8701.95).

Subheading 8701.30

This subheading also covers tractors with a combination of wheels and tracks.

Subheadings 8701.91 to 8701.95

These subheadings include vehicles used to haul semi-trailers over short distances. These types of vehicles are known by various names (e.g., “terminal tractors”, “port tractors”, etc.) and they are intended to position or shuttle trailers within a defined area. They are not suitable for long-haul road use for which road tractors of subheadings 8701.21 to 8701.29 are designed. They are distinguishable from road tractors in that they are usually equipped with diesel engines with a maximum speed

normally not exceeding 50 km/h and are generally equipped with a small, single-seat enclosed cab for the driver only.

8701.10

- Single axle tractors

CLASSIFICATION OPINIONS

1. Self-powered, pedestrian controlled, propelling units (pedestrian controlled tractors) with one driving axle, an internal combustion engine (single cylinder, four-stroke cycle, air cooled, max. power : 4.8 (6.5) or 4.4 (6.0) kW(hp)/3600 rpm), fuel tank (6.5 or 3.5 l) and handle bar type steering.
These units are presented disassembled and together with two wheels with tyres, 4-4 blades (2+2) and disc dry land blade, in a single box.
They are designed for use with different interchangeable implements (such as, ridger, plough, ditching blade, etc. which are not presented with the units) and can also be used for short distance transportation or as a fixed motive power machine.
The 4-4 blades (2+2) and disc dry land blade presented together with the units are classified separately.
Application of GIRs 1 (Note 2 to Chapter 87), 2 (a) and 6. *See also Opinion 8432.29/1.*
Adoption : 2016





8701.2

- Road tractors for semi-trailers

8701.21

-- With only compression-ignition internal combustion piston engine (diesel or semi-diesel)

8701.22

-- With both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion

8701.23

-- With both spark-ignition internal combustion piston engine and electric motor as motors for propulsion

8701.24

-- With only electric motor for propulsion

8701.29

-- Other

8701.30

- Track-laying tractors

CLASSIFICATION OPINIONS

1. **Snow-scooters and snow-sledges, motorised,** track-laying, with a seat for the driver and essentially designed for hauling another vehicle, appliance or load. Adoption : 1966

2. "**Basic**" **tractors,** track-laying, with some of the features typical of self-propelling bases, but suitable for fitting with various attachments either for work of the kind described in, inter alia, heading 84.28, 84.30 or 84.32, or for operation as a tractor within the meaning of Note 2 to Ch. 87. *Adoption : 1966*

8701.9

- Other, of an engine power :

8701.91

-- Not exceeding 18 kW

8701.92

-- Exceeding 18 kW but not exceeding 37 kW

8701.93

-- Exceeding 37 kW but not exceeding 75 kW

8701.94

-- Exceeding 75 kW but not exceeding 130 kW

CLASSIFICATION OPINIONS

1. **Six-wheeled off-road motor vehicle (two front wheels and four rear wheels) on two axles**, with a 138 hp (103 kW) diesel engine and a maximum speed of 40 km/h. The vehicle, which is 3,048 mm high, 2,514 mm wide and 4,877 mm long, has electronic automatic transmission, an enclosed cab with a single seat for the driver, and one traction axle (rear wheel drive). This vehicle has a 2,946 mm wheelbase, and the tyre type is 11R22.5. The chassis is equipped with a fifth wheel coupling for the semi-trailer, and has a maximum combined gross weight of 36,700 kg. This vehicle is specially designed to pull semi-trailers. **Application of GIRs 1 (Note 2 of Chapter 87) and 6.** *Adoption : 2015*



2. Six-wheeled off-road motor vehicle (two front wheels and four rear wheels) on two axles, with a 160 hp (119 kW) diesel engine and a maximum speed of 40 km/h. The vehicle, which is 3,200 mm high, 2,464 mm wide and 4,597 mm long, has three-speed electronic automatic transmission, an enclosed cab with a single seat for the driver, and one traction axle (rear wheel drive). This vehicle has a 2,794 mm wheelbase, and the tyre type is 11R22.5. The chassis is equipped with a fifth wheel coupling for the semi-trailer, and has a maximum combined gross weight of 43,500 kg. This vehicle is specially designed to pull semi-trailers. **Application of GIRs 1 (Note 2 of Chapter 87) and 6.** *Adoption : 2015*



8701.95

-- Exceeding 130 kW

Heading 8702

Motor vehicles for the transport of ten or more persons, including the driver.

EXPLANATORY NOTES

87.02 - Motor vehicles for the transport of ten or more persons, including the driver.

8702.10 - With only compression-ignition internal combustion piston engine (diesel or semi-diesel)

8702.20 - With both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion

8702.30 - With both spark-ignition internal combustion piston engine and electric motor as motors for propulsion

8702.40 - With only electric motor for propulsion

8702.90 - Other

This heading covers all motor vehicles designed for the transport of ten persons or more (including the driver).

This heading includes motor buses, coaches, trolleybuses and gyrobuses.

The vehicles of this heading may have any type of motor (internal combustion piston engine, electric motor, combination of an internal combustion piston engine and one or more electric motors, etc.).

Vehicles which have the combination of an internal combustion piston engine and one or more electric motors are known as “Hybrid Electric Vehicles (HEVs)”. For the purpose of mechanical propulsion, these vehicles draw energy from both a consumable fuel and an electrical energy/power storage device (e.g., electric accumulator, capacitor, flywheel/generator). There are various types of Hybrid Electric Vehicles (HEVs), which can be differentiated by their powertrain configuration (such as, parallel hybrids, series hybrids, power-split or series-parallel hybrids) and degree of hybridization (i.e., full hybrids, mild hybrids and plug-in hybrids).

Electric vehicles are propelled by an electric motor or motors powered by electric accumulator packs.

Trolleybuses obtain current from overhead wires and “gyrobuses” operate on the principle that kinetic energy can be stored in a high-speed flywheel and used to drive an electric generator which supplies current to a motor.

This heading also includes motor coaches convertible into rail-cars by changing the wheels and locking the steering, the motor remaining unchanged.

8702.10

- With only compression-ignition internal combustion piston engine (diesel or semi-diesel)

CLASSIFICATION OPINIONS

1. **Van type motor vehicle** (monocoque body type having a chassis-body framework and a single enclosed space for the transport of both persons and goods) powered by a compression ignition engine of a cylinder capacity of 2,380 cc or by a spark-ignition engine of a cylinder capacity of 1,994 cc, and having window side panels only, a sliding door on one side, a lift-up rear door with window and three or four benches (part of the benches can be folded away to allow passengers to pass) behind the front seats. It can transport twelve or fifteen people, including the driver, and has a small space at the back of the passenger compartment for the transport of goods. The vehicle is often referred to as a "minibus" and has a well-finished interior (e.g., upholstered seats or benches and decorative wall panels). *Adoption : 1998*



2. **Van type motor vehicle** (monocoque body type having a chassis-body framework and a single enclosed space for the transport of both persons and goods) powered by a compression ignition engine of a cylinder capacity of 2,380 cc or by a spark-ignition engine of a cylinder

capacity of 1,994 cc, and having window side panels only, a sliding door on one side, a lift-up rear door with window and three or four benches (part of the benches can be folded away to allow passengers to pass) behind the front seats. It can transport twelve or fifteen people, including the driver, and has a small space at the back of the passenger compartment for the transport of goods. The vehicle is often referred to as a "minibus" and has a well-finished interior (e.g., upholstered seats or benches and decorative wall panels). *Adoption : 1998*



3. **Ten-seat motor vehicle**, with a compression-ignition engine of a cylinder capacity of 1948 cc, equipped with window side panels, four doors, a lift-up rear door with window, two front seats for the transport of three persons, a bench seat for the transport of three persons behind the front seats, and two fold-away bench seats, 78 cm long, fixed on lateral panels in the rear section of the vehicle. The fold-away bench seats permit the rear section to be used for the transport of either persons or goods. The two bench seats, for two persons each in the rear section of the vehicle, are made of the same fabric and upholstered in the same fashion as the front seats. All of the seats are equipped with safety seat belts or anchor points for safety seat belts. The motor vehicle is designed for the transport of ten persons, including the driver. **Application of GIRs 1 and 6.** *Adoption : 2000*





8702.20

- With both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion

8702.30

- With both spark-ignition internal combustion piston engine and electric motor as motors for propulsion

8702.40

- With only electric motor for propulsion

8702.90

- Other

CLASSIFICATION OPINIONS

1. Van type motor vehicle (monocoque body type having a chassis-body framework and a single enclosed space for the transport of both persons and goods) powered by a compression ignition engine of a cylinder capacity of 2,380 cc or by a spark-ignition engine of a cylinder capacity of 1,994 cc, and having window side panels only, a sliding door on one side, a lift-up rear door with window and three or four benches (part of the benches can be folded away to allow passengers to pass) behind the front seats. It can transport twelve or fifteen people, including the driver, and has a small space at the back of the passenger compartment for the transport of goods. The vehicle is often referred to as a "minibus" and has a well-finished interior (e.g., upholstered seats or benches and decorative wall panels).
Adoption : 1998

Heading 8703

Motor cars and other motor vehicles principally designed for the transport of persons (other than those of heading 87.02), including station wagons and racing cars.

EXPLANATORY NOTES

87.03 - Motor cars and other motor vehicles principally designed for the transport of persons (other than those of heading 87.02), including station wagons and racing cars.

8703.10 - Vehicles specially designed for travelling on snow; golf cars and similar vehicles

- Other vehicles, with only spark-ignition internal combustion piston engine :

8703.21 - - Of a cylinder capacity not exceeding 1,000 cc

8703.22 - - Of a cylinder capacity exceeding 1,000 cc but not exceeding 1,500 cc

8703.23 - - Of a cylinder capacity exceeding 1,500 cc but not exceeding 3,000 cc

8703.24 - - Of a cylinder capacity exceeding 3,000 cc

- Other vehicles, with only compression-ignition internal combustion piston engine (diesel or semi-diesel) :

8703.31 - - Of a cylinder capacity not exceeding 1,500 cc

8703.32 - - Of a cylinder capacity exceeding 1,500 cc but not exceeding 2,500 cc

8703.33 - - Of a cylinder capacity exceeding 2,500 cc

8703.40 - Other vehicles, with both spark-ignition internal combustion piston engine and electric motor as motors for propulsion, other than those capable of being charged by plugging to external source of electric power

8703.50 - Other vehicles, with both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion, other than those capable of being charged by plugging to external source of electric power

8703.60 - Other vehicles, with both spark-ignition internal combustion piston engine and electric motor as motors for propulsion, capable of being charged by plugging to external source of electric power

8703.70 - Other vehicles, with both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion, capable of being charged by plugging to external source of electric power

8703.80 - Other vehicles, with only electric motor for propulsion

8703.90 - Other

This heading covers motor vehicles of various types (including amphibious motor vehicles) designed for the transport of persons; it **does not**, however, **cover** the motor vehicles of **heading 87.02**. The vehicles of this heading may have any type of motor (internal combustion piston engine, electric motor, gas turbine, combination of an internal combustion piston engine and one or more electric motors, etc.).

The heading includes :

(1) Vehicles specially designed for travelling on snow; golf cars and similar vehicles.

(a) **Vehicles specially designed for travelling on snow** (e.g., snowmobiles).

(b) **Golf cars and similar vehicles**.

(2) Other vehicles.

(a) **Motor cars** (e.g., limousines, taxis, sports cars and racing cars).

(b) **Specialised transport vehicles** such as ambulances, prison vans and hearses.

(c) **Motor-homes** (*campers*, etc.), vehicles for the transport of persons, specially equipped for habitation (with sleeping, cooking, toilet facilities, etc.).

(d) **Four-wheeled motor vehicles** with tube chassis, having a motor-car type steering system (e.g., a steering system based on the Ackerman principle).

For the purposes of this heading, the expression “station wagons” means vehicles with a maximum seating capacity of nine persons (including the driver), the interior of which may be used, without structural alteration, for the transport of both persons and goods.

The classification of certain motor vehicles in this heading is determined by certain features which indicate that the vehicles are principally designed for the transport of persons rather than for the transport of goods (**heading 87.04**). These features are especially helpful in determining the

classification of motor vehicles which generally have a gross vehicle weight rating of less than 5 tonnes and which have a single enclosed interior space comprising an area for the driver and passengers and another area that may be used for the transport of both persons and goods. Included in this category of motor vehicles are those commonly known as "multipurpose" vehicles (e.g., van-type vehicles, sports utility vehicles, certain pick-up type vehicles). The following features are indicative of the design characteristics generally applicable to the vehicles which fall in this heading :

(a) Presence of permanent seats with safety equipment (e.g., safety seat belts or anchor points and fittings for installing safety seat belts) for each person or the presence of permanent anchor points and fittings for installing seats and safety equipment in the rear area behind the area for the driver and front passengers; such seats may be fixed, fold-away, removable from anchor points or collapsible;

(b) Presence of rear windows along the two side panels;

(c) Presence of sliding, swing-out or lift-up door or doors, with windows, on the side panels or in the rear;

(d) Absence of a permanent panel or barrier between the area for the driver and front passengers and the rear area that may be used for the transport of both persons and goods;

(e) Presence of comfort features and interior finish and fittings throughout the vehicle interior that are associated with the passenger areas of vehicles (e.g., floor carpeting, ventilation, interior lighting, ashtrays).

The heading also covers lightweight three-wheeled vehicles such as :

- those fitted with motorcycle engine and wheels, etc. which, by virtue of their mechanical structure, possess the characteristics of conventional motor cars, that is motor car type steering system or both reverse gear and differential;

- those mounted on a T-shaped chassis, whose two rear wheels are independently driven by separate electric accumulator-powered electric motors. These vehicles are normally operated by means of a single central control stick with which the driver can start, accelerate, brake, stop and reverse the vehicle, as well as steer it to the right or to the left by applying a differential torque to the drive wheels or by turning the front wheel.

Three-wheeled vehicles of the above-described character are classified under heading 87.04 if they are designed for the transport of goods.

The vehicles of this heading may be of the wheeled or track-laying type.

Vehicles which have the combination of an internal combustion piston engine and one or more electric motors, are known as “Hybrid Electric Vehicles (HEVs)”. For the purpose of mechanical propulsion, these vehicles draw energy from both a consumable fuel and an electrical energy/power storage device (e.g., electric accumulator, capacitor, flywheel/generator). There are various types of Hybrid Electric Vehicles (HEVs), which can be differentiated by their powertrain configuration (such as, parallel hybrids, series hybrids, power-split or series-parallel hybrids) and degree of hybridization (i.e., full hybrids, mild hybrids and plug-in hybrids).

Plug-in Hybrid Electric Vehicles (PHEVs) are those which can recharge their electric accumulators by plugging them into an electrical power grid outlet or charging station.

Vehicles propelled by one or more electric motors powered by electric accumulator packs are known as “Electric Vehicles (EVs)”.

However, vehicles with an electric power source, such as an integrated alternator/starter, that is used **only** for non-propulsion functions are not classified as HEVs. These power sources can be used for running stop-start systems and may have regenerative braking and charge management systems. Such vehicles may be referred to as having “hybrid technology" or being a "micro hybrid", but do not have an electric motor for propulsion.

Vehicles specially designed for use on amusement park rides and fairground amusements, e.g., “dodge’em” cars, are classified in **heading 95.08**.

8703.10

- Vehicles specially designed for travelling on snow; golf cars and similar vehicles

CLASSIFICATION OPINIONS

1. **Three- or four-wheeled vehicles**, driven by battery-powered electric motors (150 W continuous and 1700 W maximum power), having a horizontal platform which joins their front and rear portions, small tyres (290 mm in diameter), a rotating adjustable seat with foldable armrests at the rear, and handgrips on a steering column. This steering column can be moved forward and is equipped with a small control panel with an ignition switch, four speed buttons and levers for accelerating, braking and reversing the vehicle. The motor is started with a key and, after selection of the desired speed, the vehicle is accelerated when the speed lever on handgrip is squeezed and automatically braked when the lever is released. The vehicle is operated in reverse by squeezing the opposite speed lever. It can be equipped with a range of hand controls for one-handed or arthritic users, or with right/left handed options or other custom options for a driver. The vehicles can be used on footpaths and in public places to go shopping, fishing, to golf courses, etc.
   The three-wheeled model is 650 mm in width, 1170 mm in length, and weighs 44 kg total (without batteries); it has a 100 kg maximum payload capacity, and is equipped with one 150 W electric motor. Two four-wheeled models are 650 mm in width, 1260 and 1290 mm in length, and weigh 54 kg and 60 kg total (without batteries), respectively; they have a 127 kg maximum payload capacity, and two electric motors (150 W each).
   Application of GIRs 1 and 6.
   Adoption : 2001



2. **Four-wheeled vehicle equipped with a battery powered electric motor** (eight 6-volt batteries) having an output of 3.7 hp. The vehicle, which is 122 cm high, 125 cm wide and 339 cm long and has a 250 cm wheelbase, is equipped with an automatic, computer-controlled charger (48-volt DC, 17 amp), self-adjusting rack and pinion steering, front suspension (independent leaf spring) with dual hydraulic shock-absorbers, mechanical drum brakes on all

four wheels and a foot-operated, multi-lock parking brake. This vehicle, which has a gross vehicle weight of 681 kg and a maximum speed of 27.3 km/h, is fitted with small wheels and can carry up to six people (including the driver).
It is intended for use as a utility vehicle in locations (camping or leisure sites, theme parks, resort hotels, industrial sites) which are not suitable for road traffic.
Application of GIRs 1 and 6.
Adoption : 2015



3. **Four-wheeled vehicle equipped with a 351cc single cylinder internal combustion engine** having an output of 11.5 hp. The vehicle, which is 122 cm high, 120 cm wide and 399 cm long and has a 334 cm wheelbase, is equipped with a 12-volt battery, self-adjusting rack and pinion steering, front suspension (independent leaf spring) with dual hydraulic shock-absorbers, mechanical drum brakes on all four wheels and a foot-operated, multi-lock parking brake. This vehicle, which has a gross vehicle weight of 681 kg and a maximum speed of 25.7 km/h, is fitted with small wheels and can carry up to eight people (including the driver).
It is intended for use as a utility vehicle in locations (camping or leisure sites, theme parks, resort hotels, industrial sites) which are not suitable for road traffic.
Application of GIRs 1 and 6.
Adoption : 2015



8703.2

- Other vehicles, with only spark-ignition internal combustion piston engine :

8703.21

-- Of a cylinder capacity not exceeding 1,000 cc

CLASSIFICATION OPINIONS

1. **Four-wheeled (two wheel-driven) All Terrain Vehicle** (" ATV ") with tube chassis, equipped with a motorcycle type saddle, handlebars for steering and off-the-road balloon tyres. Steering is achieved by turning the two front wheels and is based on a motor-car type steering system (Ackerman principle). The vehicle is fitted with an automatic transmission with reverse gear, chain-driven rear axle, and front and rear drum brakes. It is powered by a four-stroke single cylinder engine of a cylinder capacity of 124 cc. It is not fitted with cargo racks or with a trailer hitch. *Adoption : 1998*

2. **Four-wheel-driven All Terrain Vehicle** ("ATV") with tube chassis, equipped with a motorcycle-type saddle, handlebars for steering and off-road balloon tyres. Steering is achieved by turning the two front wheels and is based on a motor-car-type steering system (Ackerman principle). The vehicle is fitted with a five-speed dual range transmission with one reverse gear, front-wheel dual drum brakes and rear-wheel single drum brakes. It is powered by a four-stroke single cylinder engine of a cylinder capacity of 386 cc, the power being transmitted to the rear and front wheels by shafts. It is fitted with cargo racks to carry goods (total load capacity of 120 kg, excluding the driver) and a trailer hitch, and has a towing capacity of 410 kg (the vehicle itself has a weight of 273 kg). *Adoption : 1999*

8703.22

-- Of a cylinder capacity exceeding 1,000 cc but not exceeding 1,500 cc

CLASSIFICATION OPINIONS

1. Vehicle called a "mild hybrid" with a 1.5-litre turbocharged four-cylinder spark-ignition engine producing 135 kW and 280 Nm of torque. It is equipped with a starter / generator that can boost the engine's output by an additional 10 kW and 160 Nm of torque. This starter / generator allows for smoother engine start-stop operation and energy recovery during coasting. This vehicle does not have an exclusive electric driving mode.
This vehicle cannot be charged by plugging to an external source of electric power. **Application of GIRs 1 and .**
Adoption : 2022

8703.23

-- Of a cylinder capacity exceeding 1,500 cc but not exceeding 3,000 cc

CLASSIFICATION OPINIONS

1. On-road or off-road **motor vehicle** with a minimum ground clearance of 22 cm, with spark-ignition internal combustion reciprocating piston engine of a cylinder capacity of 2,960 cm3, two doors, with a tail-gate, two front bucket seats and foldaway rear seats. It can transport five people, including the driver, and has space at the back of the passenger compartment for transporting goods. The interior trimmings are similar to those found in other vehicles for the transport of persons. There are three windows on each side and a rear window. *Adoption : 1990*

2. **Two-wheel-driven motor vehicle,** with spark-ignition internal combustion piston engine of a cylinder capacity of 1,800 cc. The vehicle has two doors, two front seats, a non-collapsible rear bench for three persons in the passenger area (so-called double cab), and a well-finished interior (e.g., upholstered seats, decorative wall panels). The rear part, which is open and intended for the transport of cargo, is separated from the passenger area and has a drop-down tailgate. The total

load capacity (persons, including the driver, and cargo) is 495 kg, with a cargo capacity estimated at approximately 145 kg. The g.v.w. (gross vehicle weight) of the vehicle is 1,566 kg. *Adoption : 1999*

3. **Motor vehicle components, presented together and unassembled**, comprising all the components for the assembly of a complete four-wheeled motor car with a spark ignition internal combustion reciprocating piston engine of a cylinder capacity of 2,792 cc. After the assembly of all components into a complete motor car, the following operations are carried out : vehicle identification number fixation, brake system charging and bleeding air from brakes, charging of the steering booster system (power steering) and cooling and conditioning systems, headlights regulation, wheel geometry regulation (alignment), and regulation of brakes. **Application of GIRs 1, 2 (a) and 6.** *Adoption : 2012*

8703.24

-- Of a cylinder capacity exceeding 3,000 cc

8703.3

- Other vehicles, with only compression-ignition internal combustion piston engine (diesel or semi-diesel) :

8703.31

-- Of a cylinder capacity not exceeding 1,500 cc

8703.32

-- Of a cylinder capacity exceeding 1,500 cc but not exceeding 2,500 cc

CLASSIFICATION OPINIONS

Van type motor vehicle (monocoque body type having a chassis-body framework and a single enclosed space for the transport of both persons and goods) powered by a compression ignition engine of a cylinder capacity of 2,299 cc and having window side panels (for the passenger area (dual-purpose area)) and closed side panels (for the cargo area), a sliding door on one side, a lift-up rear door with window and a non-collapsible bench behind the front seats. Behind the bench is a loading space, which is separated from the passenger area by a removable partition (metal plate in the lower part and grill in the upper part). A panel of plywood is placed on the floor to provide a flat floor in the cargo area and the rear part of the passenger area (dualpurpose area). The panel has openings for mounting the bench on anchor points in the passenger area (dual-purpose area). There is no anchor point in the cargo area. The total load capacity (cargo and persons, excluding the driver) is 945 kg. The vehicle has a well-finished interior (e.g., upholstered seats or benches with headrests and decorative wall panels).
Adoption : 1998

Van type motor vehicle (monocoque body type having a chassis-body framework and a single enclosed space for the transport of both persons and goods) powered by a compression ignition engine of a cylinder capacity of 2,270 cc and having window side panels only, a sliding door on one or both sides, a lift-up rear door with window and a collapsible bench for three persons behind the front seats. Behind the bench is a loading space. A partition in the form of a grill to protect the driver and the passengers has been fixed to the side walls directly behind the bench. There is no anchor point for additional seats or benches in the cargo area. The total load capacity (without persons) is 1,000 kg when the bench is not collapsed and 1,250 kg when it is collapsed. The vehicle has a well-finished interior (e.g., upholstered seats or benches with headrests and decorative wall panels).
Adoption : 1998

8703.33

-- Of a cylinder capacity exceeding 2,500 cc
CLASSIFICATION OPINIONS

1. **On-road or off-road motor vehicle** with compression ignition engine of a cylinder capacity of 2,874 cc, two doors, a rear door with window, two foldable front seats, anchor points for a rear bench and provisions for the installation of seat belts, ashtrays and armrests in the area behind the front seats. The rear panels have windowshaped PVC sheets. The vehicle has a GVW of 2,410 kg, a load capacity of 500 kg and a net weight of 1,780 kg. *Adoption : 1998*

2. **Vehicle for the transport of goods permanently converted into a "motor-home" to provide accommodation for persons** by mounting on the chassis a body with a single access door, incorporating :
- a bedroom with a double bed;
- a kitchenette equipped with electrical appliances;
- a shower, a washbasin and toilets; and
- a sitting room equipped with a three-seat sofa, a table, a cupboard, etc.
The vehicle has a net weight of 10,250 kg and a gross vehicle weight of 11,990 kg. It is powered by a compression-ignition internal combustion piston engine of a cylinder capacity of 5,861 cc.
Application of GIRs 1 and 6.
Adoption : 2013



8703.40

- Other vehicles, with both spark-ignition internal combustion piston engine and electric motor as motors for propulsion, other than those capable of being charged by plugging to external source of electric power
CLASSIFICATION OPINIONS

1. Motor car, equipped with a "hybrid" power system which allows a spark-ignition internal combustion piston engine and an electric motor to work in combination. The engine has a cylinder capacity of 1497 cc and a maximum output of 53 kW (72 DIN hp) at 4500 rpm, and the electric motor (permanent magnet) has a maximum output of 33 kW (45 DIN hp) at 1040-5600 rpm. In the "hybrid" system, a sophisticated controller allows the spark-ignition internal combustion piston engine and electric motor to work together.

Application of GIRs 1 and 6.
Adoption : 2002

8703.50

- Other vehicles, with both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion, other than those capable of being charged by plugging to external source of electric power

8703.60

- Other vehicles, with both spark-ignition internal combustion piston engine and electric motor as motors for propulsion, capable of being charged by plugging to external source of electric power

8703.70

- Other vehicles, with both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion, capable of being charged by plugging to external source of electric power

8703.80

- Other vehicles, with only electric motor for propulsion

8703.90

- Other

Heading 8704

Motor vehicles for the transport of goods.

EXPLANATORY NOTES

87.04 - Motor vehicles for the transport of goods (+).

8704.10 - Dumpers designed for off-highway use

- Other, with only compression-ignition internal combustion piston engine (diesel or semi-diesel) :

8704.21 - - g.v.w. not exceeding 5 tonnes

8704.22 - - g.v.w. exceeding 5 tonnes but not exceeding 20 tonnes

8704.23 - - g.v.w. exceeding 20 tonnes

- Other, with only spark-ignition internal combustion piston engine :

8704.31 - - g.v.w. not exceeding 5 tonnes

8704.32 - - g.v.w. exceeding 5 tonnes

- Other, with both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion :

8704.41 - - g.v.w. not exceeding 5 tonnes

8704.42 - - g.v.w. exceeding 5 tonnes but not exceeding 20 tonnes

8704.43 - - g.v.w. exceeding 20 tonnes

- Other, with both spark-ignition internal combustion piston engine and electric motor as motors for propulsion :

8704.51 - - g.v.w. not exceeding 5 tonnes

8704.52 - - g.v.w. exceeding 5 tonnes

8704.60 - Other with only electric motor for propulsion.

8704.90 - Other

This heading covers in particular :

Ordinary lorries (trucks) and vans (flat, tarpaulin-covered, closed, etc.); delivery trucks and vans of all kinds, removal vans; lorries (trucks) with automatic discharging devices (tipping lorries (trucks), etc.); tankers (whether or not fitted with pumps); refrigerated or insulated lorries (trucks); multi-floored lorries (trucks) for the transport of acid in carboys, cylinders of butane, etc.; dropframe heavy-duty lorries (trucks) with loading ramps for the transport of tanks, lifting or excavating machinery, electrical transformers, etc.; lorries (trucks) specially constructed for the transport of fresh concrete, **other than** concrete-mixer lorries (trucks) of **heading 87.05**; refuse collectors whether or not fitted with loading, compressing, damping, etc., devices.

The heading also covers lightweight three-wheeled vehicles, such as :

- those fitted with motorcycle engine and wheels, etc. which, by virtue of their mechanical structure, possess the characteristics of conventional motor cars, that is motor car type steering system or both reverse gear and differential;

- those mounted on a T-shaped chassis, whose two rear wheels are independently driven by separate battery-powered electric motors. These vehicles are normally operated by means of a single central control stick with which the driver can start, accelerate, brake, stop and reverse the vehicle, as well as steer it to the right or to the left by applying a differential torque to the drive wheels or by turning the front wheel.

Three-wheeled vehicles of the above-described character are classified in **heading 87.03** if they are designed for the transport of persons.

The classification of certain motor vehicles in this heading is determined by certain features which indicate that the vehicles are designed for the transport of goods rather than for the transport of persons (**heading 87.03**). These features are especially helpful in determining the classification of motor vehicles, generally vehicles having a gross vehicle weight rating of less than 5 tonnes, which have either a separate closed rear area or an open rear platform normally used for the transport of goods, but may have rear bench-type seats that are without safety seat belts, anchor points or passenger amenities and that fold flat against the sides to permit full use of the rear platform for the transport of goods. Included in this category of motor vehicles are those commonly known as “multipurpose” vehicles (e.g., van-type vehicles, pick-up type vehicles and certain sports utility

vehicles). The following features are indicative of the design characteristics generally applicable to the vehicles which fall in this heading :

(a) Presence of bench-type seats without safety equipment (e.g., safety seat belts or anchor points and fittings for installing safety seat belts) or passenger amenities in the rear area behind the area for the driver and front passengers. Such seats are normally fold-away or collapsible to allow full use of the rear floor (van-type vehicles) or a separate platform (pick-up vehicles) for the transport of goods;

(b) Presence of a separate cabin for the driver and passengers and a separate open platform with side panels and a drop-down tailgate (pick-up vehicles);

(c) Absence of rear windows along the two side panels; presence of sliding, swing-out or lift-up door or doors, without windows, on the side panels or in the rear for loading and unloading goods (van-type vehicles);

(d) Presence of a permanent panel or barrier between the area for the driver and front passengers and the rear area;

(e) Absence of comfort features and interior finish and fittings in the cargo bed area which are associated with the passenger areas of vehicles (e.g., floor carpeting, ventilation, interior lighting, ashtrays).

This heading also covers :

(1) **Dumpers**, sturdily built vehicles with a tipping or bottom opening body, designed for the transport of excavated or other materials. These vehicles, which may have a rigid or articulated chassis, are generally fitted with off-the-road wheels and can work over soft ground. Both heavy and light dumpers are included in this group; the latter are sometimes characterised by a two-way seat, two seats facing in opposite directions or by two steering wheels, to enable the vehicles to be steered with the driver facing the body for unloading.

(2) **Shuttle cars**. These vehicles are used in mines to transport coal or ore from the hewing machinery to the conveyor belts. They are heavy, underslung vehicles, equipped with tyres and fitted with internal combustion piston engines or electric motors; they unload automatically by means of a conveyor belt which forms the floor of the vehicle.

(3) **Self-loading vehicles** equipped with winches, elevating devices, etc., but designed essentially for transport purposes.

(4) **Road-rail lorries (trucks)** specially equipped to travel both by road and rail. These vehicles, the road-wheels of which rest on the railway track, are fitted at the front and rear with a bogie-type device which can be raised by means of a jack to allow the vehicle to travel by road.

Motor vehicle chassis, fitted with an engine and cab, are also classified here.

*

* *

The heading also **excludes** :

(a) Straddle carriers used in factories, warehouses, dock areas or airports, etc., for the handling of long loads or containers (**heading 84.26**).

(b) Loader-transporters used in mines (**heading 84.29**).

(c) Motorcycles, motor-scooters or motorized cycles equipped for the transport of goods**,** such as delivery motorcycles, tricycles, etc., which do not have the characteristics of three-wheeled vehicles of this heading (**heading 87.11**).

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Subheading Explanatory Notes.

Subheading 8704.10

These dumpers can generally be distinguished from other vehicles for the transport of goods (in particular, tipping lorries (trucks)) by the following characteristics :

- the dumper body is made of very strong steel sheets; its front part is extended over the driver's cab to protect the cab; the whole or part of the floor slopes upwards towards the rear;

- in some cases the driver's cab is half-width only;

- lack of axle suspension;

- high braking capacity;

- limited speed and area of operation;

- special earth-moving tyres;

- because of their sturdy construction the tare weight/payload ratio does not exceed 1 : 1.6;

- the body may be heated by exhaust gases to prevent materials from sticking or freezing.

It should be noted, however, that certain dumpers are specially designed for working in mines or tunnels, for example, those with a bottom-opening body. These have some of the characteristics mentioned above, but do not have a cab or an extended protective front part of the body.

Subheadings 8704.21, 8704.22, 8704.23, 8704.31, 8704.32, 8704.41, 8704.42, 8704.43, 8704.51 and 8704.52

The **g.v.w.** (gross vehicle weight) is the road weight specified by the manufacturer as being the maximum design weight capacity of the vehicle. This weight is the combined weight of the vehicle, the maximum specified load, the driver and a tank full of fuel.

8704.10

- Dumpers designed for off-highway use

8704.2

- Other, with only compression-ignition internal combustion piston engine (diesel or semi-diesel) :

8704.21

-- g.v.w. not exceeding 5 tonnes

CLASSIFICATION OPINIONS

1. **Four-wheel-driven motor vehicle** with a compression-ignition internal combustion piston engine of a cylinder capacity of 2,779 cc, having a double cab and a separate loading platform, built on a separate chassis. The total load capacity (persons, including the driver, and cargo) is 625 kg, with a cargo capacity estimated at approximately 350 kg. The vehicle has four doors and a non-collapsible bench for three persons behind the two front seats, and has a well-finished interior, e.g., upholstered seats with headrests and decorative side panels. The loading platform has a dropdown rear tailgate and is covered by a canvas material over a metal frame. A removable board of plastics on which a bench seat is mounted is placed on the loading platform.
   The vehicle and the board with the bench are classified separately in subheadings 8704.21 and 9401.20, respectively.
   Adoption : 1999

2. **Three-wheeled vehicle**, enclosed for the transport of beverages and incorporating a driver's cab, propelled by a four-stroke, single-cylinder, compression-ignition engine with a cylinder capacity of 395 cc. The load capacity is 500 kg. The front wheel is steered using handlebars. The vehicle has a differential, a four-speed gear box with a reverse gear, a transmission shaft and drum brakes. The front wheel suspension consists of shock-absorbers and spiral springs, and the rear wheel suspension consists of leaf springs assisted by two telescopic shock-absorbers.
   Application of GIRs 1 and 6.
   Adoption : 2012



3. **Two-wheel-driven motor vehicle**, with a compression-ignition internal combustion piston (diesel) engine of a cylinder capacity of 1,686 cc. The vehicle has a single enclosed space with only two doors with windows and two seats with safety equipment for the driver and one passenger and comfort features in the front area. Behind the two seats, there is a barrier (bolted into place) separating the front part of the vehicle from the rear part with a platform intended to be loaded with goods; no permanent seats, nor permanent anchor points and fittings for installing seats and safety equipment; no comfort or safety features; and four rings on the platform to secure the load by using straps. There are two spaces behind the front seats, which can be used to install other seats to form a second row. The only access to the

load area is through the lift-up tailgate in the rear. The g.v.w. (gross vehicle weight) is 1,950 kg and the unladen vehicle weight is 1,290 kg.
Application of GIRs 1 and 6.
Adoption : 2015



8704.22

-- g.v.w. exceeding 5 tonnes but not exceeding 20 tonnes

8704.23

-- g.v.w. exceeding 20 tonnes

CLASSIFICATION OPINIONS

Tipping lorry (truck), with a six cylinder compression-ignition internal combustion piston engine of a cylinder capacity of 11,051 cc. The vehicle is 7,775 mm in length, 2,555 mm in width and 3,060 mm in height, and has a g.v.w. (gross vehicle weight) of 33.5 tonnes. The structure of the vehicle consists of a cab and tipping body mounted on a ladder type rigid truck chassis.

- The tipping body is made of rolled steel for welded structure; its front part is not extended over the driver's cab but covers only the back side of the cab; the whole or part of the floor does not slope upwards towards the rear; it has a tailgate;
- The cab occupies the full-width of the vehicle;
- The front and rear suspensions contain semi-elliptical leaf springs, and the front axle has shock absorbers;
- The front and rear brake systems are full air dual circuit;
- The maximum speed is 97 km/h;
- The tyre type is 315/80R22.5;
- The curb weight is 11.17 tonnes and the tare weight/payload ratio is calculated as 1:2 (11.17 tonnes : 22.33 tonnes).

The vehicle is intended for the transport and dumping of excavated or other materials.
Application of GIRs 1 and 6.
Adoption : 2010

8704.3

- Other, with only spark-ignition internal combustion piston engine :

8704.31

-- g.v.w. not exceeding 5 tonnes

CLASSIFICATION OPINIONS

1. **Two-wheel-driven motor vehicle,** with a spark-ignition internal combustion piston engine of a cylinder capacity of 2,254 cc. The vehicle has four doors, two seats in the front and a non-collapsible bench for three persons in the passenger area (so-called double cab). The superstructure of the vehicle consists of two separate bodies, one for the driver and passenger area, and one for the cargo area. The cargo area is open and has a drop-down tailgate to facilitate the loading or unloading of cargo. The total load capacity (persons, including the driver, and cargo) is 1,140 kg. The g.v.w. (gross vehicle weight) of the vehicle is 2,450 kg. Adoption : 1999

2. **Four-wheel-driven motor vehicle,** with a spark-ignition internal combustion piston engine of a cylinder capacity of 2,254 cc. The vehicle has four doors, two seats in the front and a non-collapsible bench for three persons in the passenger area (so-called double cab). The superstructure of the vehicle consists of two separate bodies, one for the driver and passenger area, and one for the cargo area. The cargo area is open and has a drop-down tailgate to facilitate the loading or unloading of cargo. The total load capacity (persons, including the driver, and cargo) is 950 kg. The g.v.w. (gross vehicle weight) of the vehicle is 2,450 kg. Adoption : 1999

3. **Multipurpose four-wheeled utility motor vehicle** that features a front seat and an open rear cargo area. It is powered by a gasoline engine with a top speed of 21 kilometres per hour and has a load capacity of 545 kilograms (including operator, passenger, accessories and cargo). The vehicle is 2.8 metres in length and 1.26 metres in width with a turning clearance diameter of 6.7 metres. This vehicle is used for all kinds of jobs including turf care jobs. **Application of GIRs 1 and 6.** *See also Opinion 8704.60/1* Adoption : 2009



4. **Three-wheeled vehicle** that features an open rear cargo area, propelled by a four-stroke, single-cylinder, spark-ignition engine with a cylinder capacity of 175 cc. The vehicle is 2900 mm long, 1050 mm wide and 1250 mm high. The dimensions of the cargo area (L x W x H) are 1250 x 1000 x 280 mm. The vehicle has a net weight of 260 kg and a maximum load capacity of 230 kg. The front wheel is steered using handlebars. The vehicle has a differential, a four-speed gear box with a reverse gear, a transmission shaft and drum brakes. The brakes are operated via the handlebars and by a pedal. The front wheel has cylinder suspension, and the rear wheels have leaf-spring suspension.

Application of GIRs 1 and 6.
Adoption : 2012



5. **Three-wheeled vehicle** that features a driver's cab, constructed and fitted out in the manner of a motor vehicle cab and an open rear cargo area. The vehicle is propelled by a four-stroke, single-cylinder, spark-ignition engine with a cylinder capacity of 249 cc. It is 3380 mm long, 1435 mm wide and 1545 mm high. The dimensions of the cargo area (L x W x H) are 1530 x 1412 x 300 mm. The vehicle is steered using a steering wheel. It has a differential, a four-speed gear box with a reverse gear and an electric starter. **Application of GIRs 1 and 6.**
Adoption : 2012



8704.32

-- g.v.w. exceeding 5 tonnes

8704.4

- Other, with both compression-ignition internal combustion piston engine (diesel or semi-diesel) and electric motor as motors for propulsion :

8704.41

-- g.v.w. not exceeding 5 tonnes

8704.42

-- g.v.w. exceeding 5 tonnes but not exceeding 20 tonnes

8704.43

-- g.v.w. exceeding 20 tonnes

8704.5

- Other, with both spark-ignition internal combustion piston engine and electric motor as motors for propulsion :

8704.51

-- g.v.w. not exceeding 5 tonnes

8704.52

-- g.v.w. exceeding 5 tonnes

8704.60

- Other with only electric motor for propulsion

CLASSIFICATION OPINIONS

1. Multipurpose four-wheeled utility motor vehicle that features a front seat and an open rear cargo area. It is powered by an electrical motor, having a top speed of 21 kilometres per hour and load capacity of 450 kilograms (including operator, passenger, accessories and cargo). The vehicle is 2.8 metres in length and 1.26 metres in width with a turning clearance diameter of 6.7 metres. This vehicle is used for all kinds of jobs including turf care jobs. **Application of GIRs 1 and 6.** *See also Opinion 8704.31/3. Adoption : 2009*

8704.90

- Other

Heading 8705

Special purpose motor vehicles, other than those principally designed for the transport of persons or goods (for example, breakdown lorries, crane lorries, fire fighting vehicles, concrete-mixer lorries, road sweeper lorries, spraying lorries, mobile workshops, mobile radiological units).

EXPLANATORY NOTES

87.05 - Special purpose motor vehicles, other than those principally designed for the transport of persons or goods (for example, breakdown lorries, crane lorries, fire fighting vehicles, concrete-mixer lorries, road sweeper lorries, spraying lorries, mobile workshops, mobile radiological units) (+).

8705.10 - Crane lorries

8705.20 - Mobile drilling derricks

8705.30 - Fire fighting vehicles

8705.40 - Concrete-mixer lorries

8705.90 - Other

This heading covers a range of motor vehicles, specially constructed or adapted, equipped with various devices that enable them to **perform certain non-transport functions**, i.e., the primary purpose of a vehicle of this heading is **not** the transport of persons or goods.

The heading includes :

(1) Motor breakdown lorries (trucks) consisting of a lorry (truck) chassis, with or without a floor, equipped with lifting gear such as non-rotating cranes, trestles, pulleys or winches, designed for lifting and towing broken-down vehicles.

(2) Motor pump vehicles, with a pump usually driven by the vehicle's engine (e.g., fire fighting vehicles).

(3) Lorries (trucks) fitted with ladders or elevator platforms for the maintenance of overhead cables, street lighting, etc.; lorries (trucks) with an adjustable arm and platform ("dollies") for cinematographic or television work.

(4) Lorries (trucks) used for cleansing streets, gutters, airfield runways, etc., (e.g., sweepers, sprinklers, sprinklersweepers and cesspool emptiers).

(5) Snow-ploughs and snow-blowers, **with built-in equipment**; i.e., vehicles constructed **solely** for snow clearance, and usually equipped with turbines, rotating blades, etc., driven either by the vehicle engine or by a separate engine.

Interchangeable snow-plough or snow-blower equipment of all types is in all cases **excluded** (**heading 84.30**), whether or not presented mounted on a vehicle.

(6) Spraying lorries (trucks) of all kinds, whether or not fitted with heating equipment, for spreading tar or gravel, for agricultural use, etc.

(7) Crane lorries (trucks), not for the transport of goods, consisting of a motor vehicle chassis on which a cab and a rotating crane are permanently mounted. However, lorries (trucks) with self-loading devices are **excluded** (**heading 87.04**).

(8) Mobile drilling derricks (i.e., lorries (trucks) fitted with a derrick assembly, winches and other appliances for drilling, etc.).

(9) Lorries (trucks) fitted with stacking mechanisms (i.e., with a platform which moves on a vertical support and is generally powered by the vehicle engine). But the heading **excludes** self-loading motor vehicles equipped with winches, elevating devices, etc., but which are constructed essentially for the transport of goods (**heading 87.04**).

(10) Concrete-mixer lorries (trucks) consisting of a cab and a motor vehicle chassis, on which is permanently mounted a concrete-mixer, capable of use for both making and transporting concrete.

(11) Mobile electric generator sets, consisting of a motor lorry (truck) on which is mounted an electric generator driven either by the vehicle engine or by a separate motor.

(12) Mobile radiological units (e.g., fitted with an examination room, dark room and complete radiological equipment).

(13) Mobile clinics (medical or dental) with operating theatre, anaesthetic equipment and other surgical apparatus.

(14) Searchlight lorries (trucks), consisting of a searchlight mounted on a vehicle, with current usually supplied by a generator driven by the vehicle motor.

(15) Outside broadcast vans.

(16) Telegraphy, radio-telegraphy or radio-telephony transmitting and receiving vans; radar vehicles.

(17) "Tote" vans, fitted with calculating machines for automatic calculation of wins and odds on racecourses.

(18) Mobile laboratories (e.g., for checking the performance of agricultural machinery).

(19) Test lorries (trucks), fitted with recording instruments for determining the tractive power of motor vehicles towing them.

(20) Mobile bakeries fully equipped (kneader, oven, etc.); field kitchens.

(21) Workshop vans, equipped with various machines and tools, welding appliances, etc.

(22) Mobile banks, travelling libraries, and mobile showrooms for the display of goods.

The heading also **excludes** :

(a) Self-propelled road rollers (**heading 84.29**).

(b) Agricultural rollers (**heading 84.32**).

(c) Small mobile pedestrian-controlled appliances, fitted with an auxiliary engine (e.g. sweepers for parks, public gardens, etc., and appliances used to mark lines on roads) (**heading 84.79**).

(d) Motor-homes (**heading 87.03**).

MOTOR VEHICLE CHASSIS OR LORRIES (TRUCKS) COMBINED WITH WORKING MACHINES

It should be noted that to be classified in this heading, a vehicle comprising lifting or handling machinery, earth levelling, excavating or boring machinery, etc., **must** form what is in fact an essentially complete motor vehicle chassis or lorry (truck) in that it comprises at least the following mechanical features : propelling engine, gear box and controls for gear-changing, and steering and braking facilities.

On the other hand, self-propelled machines (e.g., cranes, excavators) in which one or more of the propelling or control elements referred to above are located in the cab of a working machine mounted on a wheeled or track-laying chassis, whether or not the whole can be driven on the road under its own power, remain classified in, for example, **heading 84.26**, **84.29** or **84.30**.

Similarly, this heading **excludes** self-propelled wheeled machines in which the chassis and the working machine are specially designed for each other and form an integral mechanical unit (e.g., self-propelled motor graders). In this case, the machine is not simply mounted on a **motor vehicle**

chassis, but is completely integrated with a chassis that cannot be used for other purposes and may incorporate the essential automobile features referred to above.

It should be noted, however, that **self-propelled snow-ploughs or snow-blowers with built-in equipment** always fall in this heading.

°

° °

Subheading Explanatory Note.

Subheading 8705.10

See the Explanatory Note to heading 87.05, Item (7).

8705.10

- Crane lorries

8705.20

- Mobile drilling derricks

8705.30

- Fire fighting vehicles

8705.40

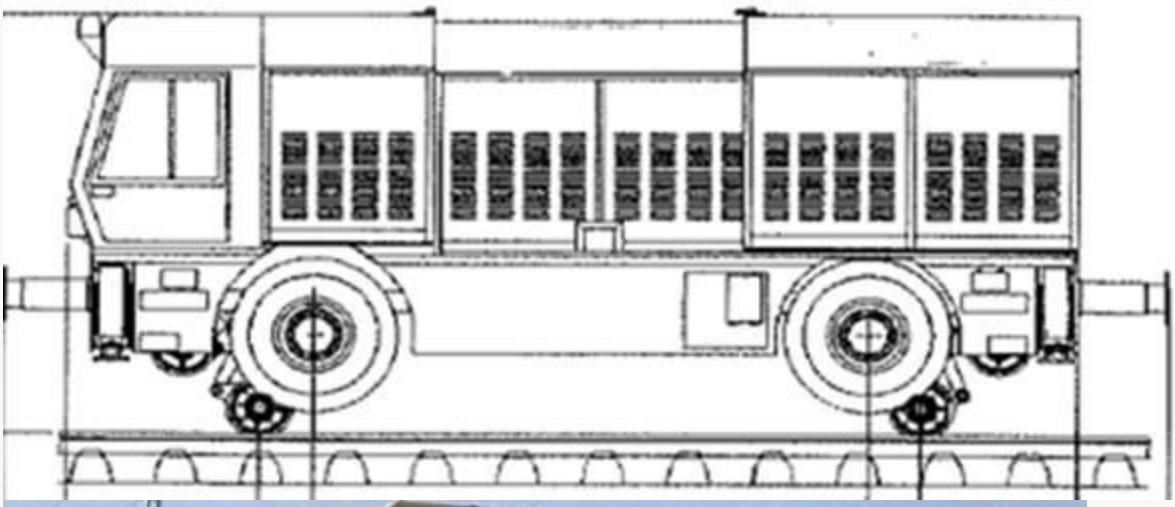
- Concrete-mixer lorries

8705.90

- Other

CLASSIFICATION OPINIONS

1. **Motor vehicle** constructed on a chassis frame with solid longitudinal rails and four tubular cross members, of steel. It is equipped with two traction axles fitted with two pneumatic tyres each, retractable bogies and differentials, a diesel propelling engine, a hydrostatic automatic transmission by cardan shafts from the engine to the two axles and three braking systems. The vehicle has a driving cabin with controls, a welding head attached to a double boom mounted on a rotating turret designed for electric rail welding operations, and a generator. It is capable of being driven on the railway track (with a maximum speed of 47 km/h) as well as on road (with a maximum speed of 32 km/h). **Application of GIRs 1 (Note 4 (a) to Section XVII) and 6.** Adoption : 2013





Heading 8706

Chassis fitted with engines, for the motor vehicles of headings 87.01 to 87.05.

EXPLANATORY NOTES

87.06 - Chassis fitted with engines, for the motor vehicles of headings 87.01 to 87.05.

This heading covers the chassis-frames or the combined chassis-body framework (unibody or monocoque construction), for the motor vehicles of headings 87.01 to 87.05, fitted with their engines and with their transmission and steering gear and axles (with or without wheels). That is to say, goods of this heading are motor vehicles without bodies.

The chassis classified in this heading may, however, be fitted with bonnets (hoods), windscreens (windshields), mudguards, running-boards and dashboards (whether or not equipped with instruments). Chassis also remain classified here whether or not fitted with tyres, carburettors or

batteries or other electrical equipment. However, if the article is a complete or substantially complete tractor or other vehicle it is **not covered** by this heading.

The heading also **excludes** :

(a) Chassis fitted with engines and cabs, whether or not the cab is complete (e.g., without seat) (**headings 87.02 to 87.04**) (see Note 3 to this Chapter).

(b) Chassis not fitted with engines, whether or not equipped with various mechanical parts (**heading 87.08**).

8706.00

Chassis fitted with engines, for the motor vehicles of headings 87.01 to 87.05.

Heading 8707

Bodies (including cabs), for the motor vehicles of headings 87.01 to 87.05.

EXPLANATORY NOTES

87.07 - Bodies (including cabs), for the motor vehicles of headings 87.01 to 87.05.

8707.10 - For the vehicles of heading 87.03

8707.90 - Other

This heading covers the bodies (including cabs) for the motor vehicles of headings 87.01 to 87.05.

It covers not only bodies designed to be mounted on a chassis, but also bodies for vehicles without chassis (in which case the body itself supports the engine and axles); it further includes unit construction bodies in which certain elements of the chassis are incorporated in the body.

The heading covers a wide range of bodies for various types of vehicles (e.g., passenger vehicles, lorries (trucks) and special purpose vehicles). They are generally made of steel, lightweight alloys, wood or plastics.

They may be completely equipped (e.g., with all their fittings and accessories such as dashboards, boots (trunks), seats and cushions, mats, luggage racks and electrical fittings).

Incomplete bodies also fall in this heading, for example, those in which parts such as windscreens or doors remain to be added, or those in which the upholstery or paintwork has not been completely finished.

Driving cabs (e.g., for lorries (trucks) and tractors) are also classified in this heading.

8707.10

- For the vehicles of heading 87.03

8707.90

- Other

Heading 8708

Parts and accessories of the motor vehicles of headings 87.01 to 87.05.
EXPLANATORY NOTES

87.08 - Parts and accessories of the motor vehicles of headings 87.01 to 87.05.

8708.10 - Bumpers and parts thereof

- Other parts and accessories of bodies (including cabs) :

8708.21 - - Safety seat belts

8708.22 - - Front windscreens (windshields), rear windows and other windows specified in Subheading Note 1 to this Chapter.

8708.29 - - Other

8708.30 - Brakes and servo-brakes; parts thereof

8708.40 - Gear boxes and parts thereof

8708.50 - Drive-axles with differential, whether or not provided with other transmission components, and non-driving axles; parts thereof

8708.70 - Road wheels and parts and accessories thereof

8708.80 - Suspension systems and parts thereof (including shock-absorbers)

- Other parts and accessories :

8708.91 - - Radiators and parts thereof

8708.92 - - Silencers (mufflers) and exhaust pipes; parts thereof

8708.93 - - Clutches and parts thereof

8708.94 - - Steering wheels, steering columns and steering boxes; parts thereof

8708.95 - - Safety airbags with inflater system; parts thereof

8708.99 - - Other

This heading covers parts and accessories of the motor vehicles of headings 87.01 to 87.05, **provided** the parts and accessories fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with the above-mentioned vehicles;

and (ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

Parts and accessories of this heading include :

(A) Assembled motor vehicle chassis-frames (whether or not fitted with wheels **but without engines**) and parts thereof (side-members, braces, cross-members; suspension mountings; supports and brackets for the coachwork, engine, running-boards, battery or fuel tanks, etc.).

(B) Parts of bodies and associated accessories, for example, floor boards, sides, front or rear panels, luggage compartments, etc.; doors and parts thereof; bonnets (hoods); framed windows, windows equipped with heating resistors and electrical connectors, window frames; running-boards; wings (fenders), mudguards; dashboards; radiator cowlings; number-plate brackets; bumpers and over-riders; steering column brackets; exterior luggage racks; visors; non-electric heating and defrosting appliances which use the heat produced by the engine of the vehicle; safety seat belts designed to be permanently fixed into motor vehicles for the protection of persons; floor mats (**other than** of textile material or unhardened vulcanised rubber), etc. Assemblies (including unit construction chassis-bodies) **not** yet having the character of incomplete bodies, e.g., not yet fitted with doors, wings (fenders), bonnets (hoods) and rear compartment covers, etc., are classified in this heading and not in heading 87.07.

(C) Clutches (cone, plate, hydraulic, automatic, etc., but **not** the electro-magnetic clutches of **heading 85.05**), clutch casings, plates and levers, and mounted linings.

(D) Gear boxes (transmissions) of all types (mechanical, overdrive, preselector, electro-mechanical, automatic, etc.); torque converters; gear box (transmission) casings; shafts (**other than** internal parts of engines or motors); gear pinions; direct-drive dog-clutches and selector rods, etc.

(E) Drive-axles, with differential; non-driving axles (front or rear); casings for differentials; sun and planet gear pinions; hubs, stub-axles (axle journals), stub-axle brackets.

(F) Other transmission parts and components (for example, propeller shafts, half-shafts; gears, gearing; plain shaft bearings; reduction gear assemblies; universal joints). But the heading **excludes** internal parts of engines, such as connecting-rods, push-rods and valvelifters of **heading 84.09** and crank shafts, cam shafts and flywheels of **heading 84.83**.

(G) Steering gear parts (for example, steering column tubes, steering track rods and levers, steering knuckle tie rods; casings; racks and pinions; servo-steering mechanisms).

(H) Brakes (shoe, segment, disc, etc.) and parts thereof (plates, drums, cylinders, mounted linings, oil reservoirs for hydraulic brakes, etc.); servo-brakes and parts thereof.

(IJ) Suspension shock-absorbers (friction, hydraulic, etc.) and other suspension parts (**other than** springs), torsion bars.

(K) Road wheels (pressed steel, wire-spoked, etc.), whether or not fitted with tyres; tracks and sets of wheels for tracked vehicles; rims, discs, hub-caps and spokes.

(L) Control equipment, for example, steering wheels, steering columns and steering boxes, steering wheel axles; gear-change and hand-brake levers; accelerator, brake and clutch pedals; connecting-rods for brakes, clutches.

(M) Radiators, silencers (mufflers) and exhaust pipes, fuel tanks, etc.

(N) Clutch cables, brakes cables, accelerator cables and similar cables, consisting of a flexible outer casing and a moveable inner cable. They are presented cut to length and equipped with end fittings.

(O) Safety airbags of all types with inflater system (e.g., driver-side airbags, passenger-side airbags, airbags to be installed in door panels for side-impact protection or airbags to be installed in the ceiling of the vehicle for extra protection for the head) and parts thereof. The inflater systems include the igniter and propellant in a container that directs the expansion of gas into the airbag. The heading **excludes** remote sensors or electronic controllers, as they are not considered to be parts of the inflater system.

The heading **does not cover** hydraulic or pneumatic cylinders of **heading 84.12**.

8708.10

- Bumpers and parts thereof

8708.2

- Other parts and accessories of bodies (including cabs) :

8708.21

-- Safety seat belts

8708.22

-- Front windscreens (windshields), rear windows and other windows specified in Subheading Note 1 to this Chapter

CLASSIFICATION OPINIONS

1. Coated heating automotive glass, of dimensions and in a format suitable for use as a windscreen (windshield) for motor vehicles, consisting of laminated glass interlayered with several sheets of metal film 50-250 nm thick attached to electrical connectors. When connected to the activated power system of the vehicle, the film acts as a heating resistor, heating the surface of the glass and removing frost and snow. **Application of GIRs 1 and 6.** *Adoption : 2018*

2. Print heating automotive glass, of dimensions and in a format suitable for use as a windscreen (windshield) for motor vehicles. The heating-resistor function is obtained by applying a silkscreen printing technique in order to affix silver paste to the glass, with the heating loop being formed by high temperature sintering. The electrical connector is soldered to the silver paste. It is then connected to the power system of the vehicle. When the power is switched on, the surface of the glass heats up, removing frost and snow. **Application of GIRs 1 and 6.** *Adoption : 2018*

3. Automotive glass with a rubber strip, of dimensions and in a format suitable for use as a windscreen (windshield) for motor vehicles. The strip, produced by injection moulding, has a

stiffness of between 60 and 95 (shore hardness) and is between 3 and 15 mm thick. It is permanently attached to the automotive glass, forming its frame. The framed product is intended to be installed directly in the motor vehicle as a windscreen (windshield). **Application of GIRs 1 and 6.**
Adoption : 2019

8708.29

-- Other
CLASSIFICATION OPINIONS

1. Bonnet opener cable and fuel cap cover cable, which consist of a flexible outer casing and a moveable inner cable. The outer casing is a tube made of spiral steel wire and covered with plastics. They are presented cut to length and designed for use in motor vehicles. The bonnet opener cable is designed to connect at one end to a bonnet release mechanism and is fitted at the other end with a handle for operating the inside cable to open the bonnet; the fuel cap cover cable, whose cross-section is significantly smaller than the other, is fitted with ends consisting of metal and plastic fittings. These cables are designed to form parts of bodies of motor vehicles. **Application of Note 1 (g) to Section XV.**
See also Opinions 8708.30/1, 8708.93/1 and 8708.99/2.
Adoption : 1993

8708.30

- Brakes and servo-brakes; parts thereof
CLASSIFICATION OPINIONS

Hand-brake cable, which is similar in construction to the cables described in Opinion 8708.29/1, consisting of a flexible outer casing and a moveable inner cable. The outer casing is a tube made of spiral steel wire and covered with plastics; it is fitted with a formed cap and a bellows at one end and a formed cap at the other. The moveable cable inside the flexible tube is a cable obtained by tightly twisting together several wires; each end of the cable is fitted with a stop. The hand-brake cable is presented cut to length and is designed to connect the parking brake hold and release mechanisms to a motor-vehicle brake system. **Application of Note 1 (g) to Section XV.**
See also Opinions 8708.29/1, 8708.93/1 and 8708.99/2.
Adoption : 1993

8708.40

- Gear boxes and parts thereof

8708.50

- Drive-axles with differential, whether or not provided with other transmission components, and non-driving axles; parts thereof
CLASSIFICATION OPINIONS

1. Flanged tapered roller bearing hub unit for inner ring rotating type, also called "2nd Generation Tapered Roller Bearing Hub Unit", with double rows of rollers consisting of (i) two steel inner rings (internal diameter: 54 mm), (ii) a flanged steel outer ring (outer diameter: 96 mm, flange diameter 159 mm), (iii) 40 pieces of steel rollers (20 pieces x 2 rows), (iv) two plastic cages and (v) two rubber seals. The flanged outer ring has tapped holes for bolts to allow attachment to the body of a motor vehicle.

This product is designed to be mounted onto the body of a motor vehicle by the flanged outer ring (ii). The inner rings (i) of the product are designed to be engaged to a wheel hub and driving shaft, when they are attached to a driving wheel. The functions include supporting the weight of a vehicle and making the driving shaft rotate smoothly, in addition to enabling friction to be considerably reduced. This product can be used on both driving wheels and non-driving wheels.
Application of GIRs 1 (Note 3 to Section XVII) and 6.
Adoption : 2019

A Inner rings

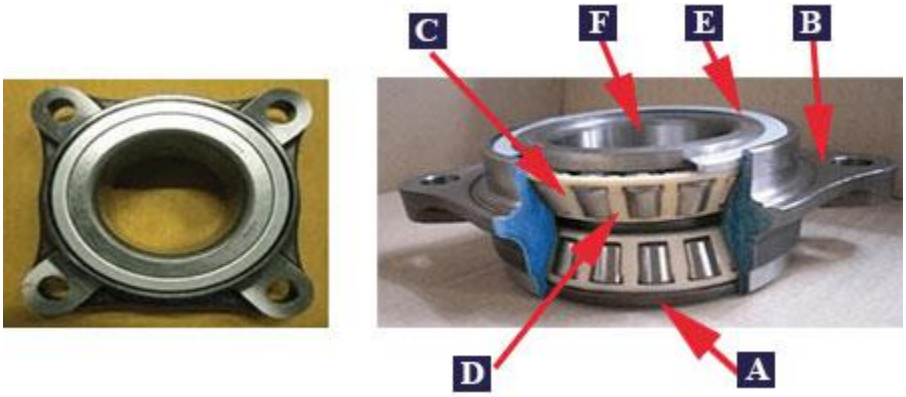
B Flanged outer ring

C Rollers

D Cages

E Rubber seals

F Inner rings



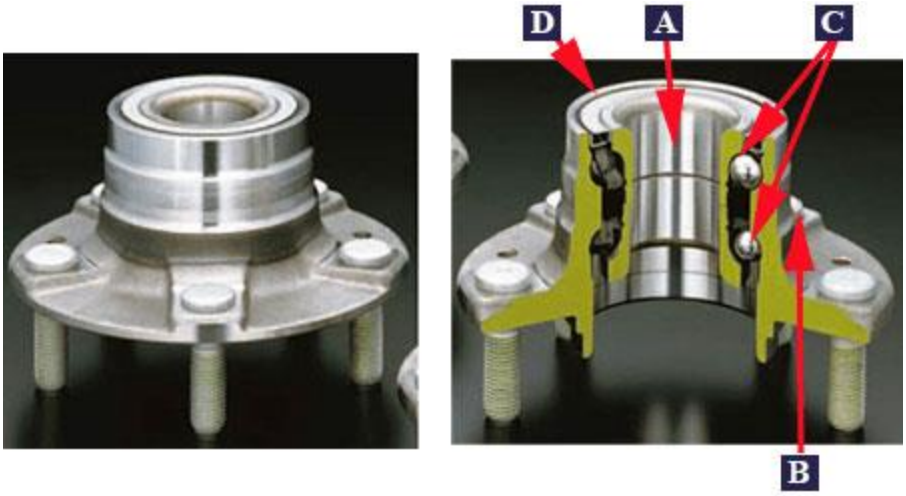
2. Bearing hub unit for outer ring rotating type (137 mm (diameter) x 68 mm (thickness)), also called "2nd Generation Hub Unit Bearing of the outer ring rotating type," consisting of (i) two inner rings, (ii) an outer ring, (iii) steel balls, (iv) cages and (v) rubber seals. The outer ring is integrally formed with a flange with five holes for mounting the wheel of a motor vehicle by bolts. The wheels rotate on a spindle attached through the hub unit bearing. The functions of this product are to support the weight of a vehicle, to attach the wheel, and to allow the wheel to rotate smoothly. It is used on non-driving wheels.
Application of GIRs 1 (Note 3 to Section XVII) and 6.
Adoption : 2019

A Inner rings

B Outer ring

C Steel balls

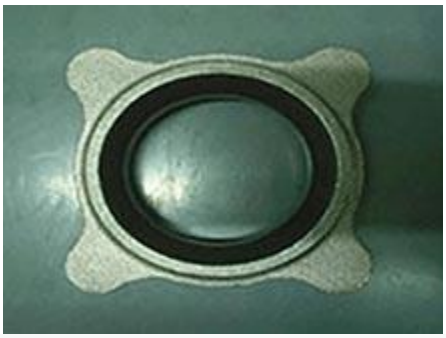
D Rubber seals



3. Finished outer ring for a Flanged Tapered Roller Bearing Hub Unit (outer diameter: 96 mm, flange diameter: 159 mm). It has tapped holes for bolts to allow attachment to the body of a motor vehicle after assembly into a Flanged Tapered Roller Bearing Hub Unit.
Application of GIRs 1 (Note 3 to Section XVII) and 6.
Adoption : 2019



4. Forged, unfinished, outer ring for a Flanged Tapered Roller Bearing Hub Unit (outer diameter: 96 mm, flange diameter: 159 mm). The outer ring has the shape and dimensions of a finished flange, but will be turned, heattreated and ground before being used as an outer ring. It has no double rows raceway for rolling elements and no holes for bolts in the flange.
Application of GIRs 1 (Note 3 to Section XVII and Note 1 (f) to Section XV), 2 (a) and 6.
Adoption : 2019



8708.70

- Road wheels and parts and accessories thereof

8708.80

- Suspension systems and parts thereof (including shock-absorbers)

8708.9

- Other parts and accessories

8708.91

-- Radiators and parts thereof

8708.92

-- Silencers (mufflers) and exhaust pipes; parts thereof

8708.93

-- Clutches and parts thereof

CLASSIFICATION OPINIONS

Clutch cable, which is similar in construction to the cables described in Opinion 8708.29/1 except for the ends, one of which is fitted with a rod and the other with a stop. It is also presented cut to length and is designed to connect a motor vehicle clutch pedal to the clutch. **Application of Note 1 (g) to Section XV.** *See also Opinions 8708.29/1, 8708.30/1 and 8708.99/2.* Adoption : 1993

8708.94

-- Steering wheels, steering columns and steering boxes; parts thereof

8708.95

-- Safety airbags with inflater system; parts thereof

8708.99

-- Other

CLASSIFICATION OPINIONS

1. **Track link assembly :** Identifiable as suitable, after fitting with shoes, as tracks for use solely or principally : On a vehicle of headings 87.01 to 87.05. *See also Opinions 8431.49/1, 8487.90/4 and 8710.00/1.* Adoption : 1965

2. **Accelerator cable,** which is similar in construction to the cables described in Opinion 8708.29/1 and is also presented cut to length and designed for use in motor vehicles. The accelerator cable is designed to connect a vehicle accelerator pedal with the engine fuel control system. **Application of Note 1 (g) to Section XV.** *See also Opinions 8708.29/1, 8708.30/1 and 8708.93/1.* Adoption : 1993

3. **Front section of a used motor vehicle** cut from a vehicle of unspecified make. This section, as presented, comprises an engine, a gear box, a bonnet, two front doors, front seat(s), a dashboard, a windscreen and a section of the chassis. Adoption : 1996

4. **Roof cargo box** (dimensions : 226 cm (L) x 55 cm (W) x 37 cm (H); weight : 12 kg; volume : 290 l; load capacity : 50 kg) for storing and protecting personal effects, such as skiing equipment, camping equipment, luggage, etc., during travel. It is designed to be mounted on exterior roof luggage racks of a motor vehicle by specific hardware delivered with the box. The box is composed of a top shell, which has a streamlined design, and a bottom shell, both of moulded plastics that are attached together on one side. It has an integrated lock to restrict access into the box.
Application of GIRs 1 and 6.
Adoption : 2013





5. **Foldable roof cargo box** (dimensions : 110 cm (L) x 80 cm (W) x 40 cm (H); weight : 7 kg; volume : 280 l; load capacity : 50 kg) for storing and protecting personal effects, such as camping equipment, luggage, etc., during travel. It is designed to be mounted on exterior roof luggage racks of a motor vehicle by specific hardware delivered with the box. The box is composed of a base of moulded plastics and an exterior surface made of waterproof textile material with welded seams. It is equipped with an integrated padlock, and a zipper which runs most of the way around the base. The box can be folded up and kept in a storage bag with a carrying strap delivered with the box.
Application of GIRs 1 and 6.
Adoption : 2013





6. **Demountable mobile camper pop-top**, designed to fit, or to be mounted onto, the back of vehicles with a tray back ("pick-up trucks"). It can be moved with ease from one place to another using the vehicle upon which it is fitted or mounted. The camper pop-top is fully equipped with fixed appliances, such as a refrigerator, stove, fresh water tank, on-board power, mattresses, etc. It can be used for accommodation while on the vehicle or in a dismounted (freestanding) position.
Application of GIRs 1 and 6.
Adoption : 2021





Heading 8709

Works trucks, self-propelled, not fitted with lifting or handling equipment, of the type used in factories, warehouses, dock areas or airports for short distance transport of goods; tractors of the type used on railway station platforms; parts of the foregoing vehicles.

EXPLANATORY NOTES

87.09 - Works trucks, self-propelled, not fitted with lifting or handling equipment, of the type used in factories, warehouses, dock areas or airports for short distance transport of goods; tractors of the type used on railway station platforms; parts of the foregoing vehicles.

- Vehicles :

8709.11 - - Electrical

8709.19 - - Other

8709.90 - Parts

This heading covers a group of self-propelled vehicles of the types used in factories, warehouses, dock areas or airports for the short distance transport of various loads (goods or containers) or, on railway station platforms, to haul small trailers.

Such vehicles are of many types and sizes. They may be driven either by an electric motor with current supplied by accumulators or by an internal combustion piston engine or other engine.

The main features common to the vehicles of this heading which generally distinguish them from the vehicles of heading 87.01, 87.03 or 87.04 may be summarised as follows :

(1) Their construction and, as a rule, their special design features, make them unsuitable for the transport of passengers or for the transport of goods by road or other public ways.

(2) Their top speed when laden is generally not more than 30 to 35 km/h.

(3) Their turning radius is approximately equal to the length of the vehicle itself.

Vehicles of this heading do not usually have a closed driving cab, the accommodation for the driver often being no more than a platform on which he stands to steer the vehicle. Certain types may be equipped with a protective frame, metal screen, etc., over the driver's seat.

The vehicles of this heading may be pedestrian controlled.

Works trucks are self-propelled trucks for the transport of goods which are fitted with, for example, a platform or container on which the goods are loaded.

Small tank trucks of a kind generally used in railway stations, whether or not fitted with subsidiary pumps, are also classified here.

Tractorsof the type used on railway station platforms are designed primarily to tow or push other vehicles, e.g., small trailers. They do not themselves carry goods, and are generally lighter and less powerful than the tractors of heading 87.01. Tractors of this type may also be used on wharfs, in warehouses, etc.

PARTS

This heading also covers parts of the vehicles specified in the heading, **provided** the parts fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with such vehicles;

and (ii) They must not be excluded from this heading by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

Parts of this heading include :

(1) Chassis.

(2) Bodies, platforms, detachable sides, tipping bodies.

(3) Wheels, whether or not fitted with tyres.

(4) Clutches.

(5) Gear boxes (transmissions), differentials.

(6) Axles.

(7) Steering wheels or bars.

(8) Braking systems and parts thereof.

(9) Clutch cables, brake cables, accelerator cables and similar cables, consisting of a flexible outer casing and a moveable inner cable. They are presented cut to length and equipped with end fittings.

The heading **excludes** :

(a) Straddle carriers and works trucks fitted with a crane (**heading 84.26**).

(b) Fork-lift trucks and other works trucks fitted with lifting or handling equipment (**heading 84.27**).

(c) Dumpers (**heading 87.04**).

8709.1

- Vehicles :

8709.11

-- Electrical

8709.19

-- Other

8709.90

- Parts

Heading 8710

Tanks and other armoured fighting vehicles, motorised, whether or not fitted with weapons, and parts of such vehicles.

EXPLANATORY NOTES

87.10 - Tanks and other armoured fighting vehicles, motorised, whether or not fitted with weapons, and parts of such vehicles.

This heading covers tanks and other armoured fighting “Vehicles, motorised, whether or not fitted with weapons, and” parts of such vehicles.

Tanks are armoured fighting vehicles mounted on tracks, and armed with various weapons (guns, machine-guns, flame-throwers, etc.) usually housed in a traversing turret. They are sometimes fitted with a special gyroscopic stabilisation gear to keep the sights on the target, irrespective of the movement of the vehicle. They may also be equipped with anti-mining devices, such as a “flail” (a rotating drum which is carried on arms in front of the tank and to which are attached chains with ball ends) or a number of heavy rollers attached to the front of the tanks.

The heading also includes amphibious tanks.

Armoured cars are faster and lighter than tanks and cannot carry such heavy armour or mount such large guns. Sometimes they are only partly armoured. They are mainly used for police duties, reconnaissance or for transport in fighting areas. Some armoured cars are track-laying, but the majority are of the road-wheel type. They may be amphibious (e.g., track-laying armoured landing vehicles).

This heading also covers :

(A) Tanks equipped with a crane for the recovery of fighting vehicles.

(B) Armoured supply vehicles, generally of the track-laying type, whether or not they are designed to be armed; these are used for the transport of petrol, ammunition, etc., in fighting areas.

(C) Small remote-controlled “tanks” which carry ammunition to advanced fighting vehicles or artillery units.

(D) Armoured vehicles permanently fitted with special demolition equipment.

(E) Armoured personnel carriers.

The heading **excludes** cars and lorries of the conventional type, lightly armoured or equipped with subsidiary removable armour (**headings 87.02 to 87.05** as appropriate).

Self-propelled artillery weapons fall in **heading 93.01**; they are characterised by the fact that they are designed to fire when stationary, the weapon itself having a limited traverse.

PARTS

The heading also covers parts of the above-mentioned vehicles **provided** the parts fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with such vehicles;

and (ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

Parts of this heading include :

(1) Bodies of armoured vehicles and parts thereof (turrets, armoured doors and bonnets, etc.).

(2) Tracks, specially constructed for use with tanks.

(3) Special road-wheels for armoured cars.

(4) Propulsion wheels for tank tracks.

(5) Armour plates, worked to such an extent that they are identifiable as parts of the vehicles of this heading.

(6) Clutch cables, brake cables, accelerator cables and similar cables, consisting of a flexible outer casing and a moveable inner cable. They are presented cut to length and equipped with end fittings.

8710.00

Tanks and other armoured fighting vehicles, motorised, whether or not fitted with weapons, and parts of such vehicles.

Heading 8711

Motorcycles (including mopeds) and cycles fitted with an auxiliary motor, with or without side-cars; side-cars.

EXPLANATORY NOTES

87.11 - Motorcycles (including mopeds) and cycles fitted with an auxiliary motor, with or without side-cars; side-cars.

8711.10 - With internal combustion piston engine of a cylinder capacity not exceeding 50 cc

8711.20 - With internal combustion piston engine of a cylinder capacity exceeding 50 cc but not exceeding 250 cc

8711.30 - With internal combustion piston engine of a cylinder capacity exceeding 250 cc but not exceeding 500 cc

8711.40 - With internal combustion piston engine of a cylinder capacity exceeding 500 cc but not exceeding 800 cc

8711.50 - With internal combustion piston engine of a cylinder capacity exceeding 800 cc

8711.60 - With electric motor for propulsion

8711.90 - Other

This heading covers a group of two-wheeled motorised vehicles which are essentially designed for carrying persons.

In addition to motorcycles of the conventional type, the heading includes motor-scooters, characterised by their small wheels and by a horizontal platform which joins the front and rear portions of the vehicle; mopeds, equipped with both a built-in engine and a pedal system; and cycles fitted with an auxiliary motor.

This heading also covers two-wheeled, electrically-powered transportation devices, designed for carrying a single person, for use within low speed areas such as pavements (sidewalks), paths, and bicycle lanes. Their technology allows the rider to stand upright while a system composed of gyroscope sensors and multiple onboard microprocessors maintains both the device's and rider's balance on two independent, non-tandem wheels. Motorcycles of this heading, which are propelled by one or more electric motors, are known as "Electric Motorcycles". These motorcycles incorporate an electric accumulator pack supplying power to the electric motors. The electric accumulators of these "plug-in" type motorcycles can be recharged by plugging them into an electrical power grid outlet or charging station.

Motorcycles may be equipped to protect the driver against the weather or be fitted with a side-car.

Three-wheeled vehicles (e.g., the "delivery tricycle" type) are also classified here **provided** they do not have the characteristics of motor vehicles of heading 87.03 or heading 87.04 (see the Explanatory Notes to headings 87.03 and 87.04).

The heading further covers side-cars of all kinds, a type of vehicle which is designed for the transport of passengers or goods, and which cannot be used independently. They are equipped with a wheel on one side, the other side bearing fittings enabling the side-car to be attached to, and to travel alongside, a cycle or motorcycle.

The heading **excludes** :

(a) Four-wheeled motor vehicles, for the transport of persons, with tube chassis, having a motor-car type steering system (e.g., a steering system based on the Ackerman principle) (**heading 87.03**).

(b) Trailers designed for attachment to a cycle or motorcycle (**heading 87.16**).

8711.10

- With internal combustion piston engine of a cylinder capacity not exceeding 50 cc

8711.20

- With internal combustion piston engine of a cylinder capacity exceeding 50 cc but not exceeding 250 cc

CLASSIFICATION OPINIONS

Motorcycle components, presented together and unassembled, belonging to the same model of motorcycle, consisting of the following :

- an instrument panel;
- a spark-ignition internal combustion reciprocating piston engine, of a cylinder capacity of 124.1 cc;
- a frame body;
- a fuel tank;
- a harness wire;
- a seat;
- a steering handle pipe;
- a headlight;
- a front mudguard ;
- a fork top bridge;
- a set/starting motor;
- two front fork tubes, right and left;
- two rear cushions;
- an exhaust silencer (muffler).

Application of GIRs 1, 2 (a) and 6.
Adoption : 2012

8711.30

- With internal combustion piston engine of a cylinder capacity exceeding 250 cc but not exceeding 500 cc

8711.40

- With internal combustion piston engine of a cylinder capacity exceeding 500 cc but not exceeding 800 cc

8711.50

- With internal combustion piston engine of a cylinder capacity exceeding 800 cc

CLASSIFICATION OPINIONS

1. **Motorcycle**, specially modified and equipped with fire-fighting equipment. The fire-fighting equipment, which is mounted on to an added stainless steel frame, consists of two interconnected 25 litre tanks for premixed water and foam, a 6.8 litre tank filled to 300 bars pressure for delivering compressed air, a 30 metre hose, a hose reel, nozzles/lance attachment, and emergency lights and sirens. A backup battery and separate circuit boards are also installed to accommodate additional electrical devices. In order to support the fire-fighting equipment, some parts of the motorcycle have been removed, such as the rear part of the motor bike, side panniers, top box, rear protection frame and passenger footrest.
Application of GIRs 1 and 6.
Adoption : 2015



8711.60

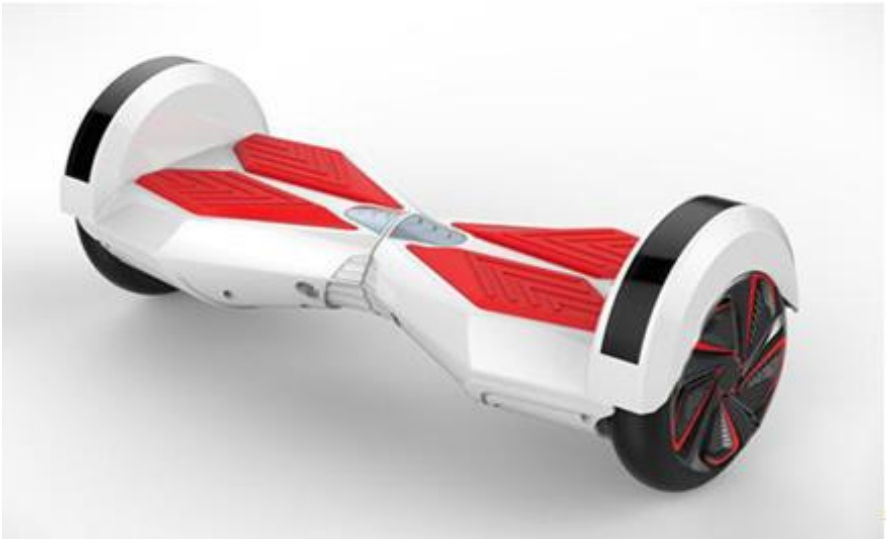
- With electric motor for propulsion

CLASSIFICATION OPINIONS

1. **A two-wheeled, electrically-powered transportation device,** designed for carrying a single person, for use within low speed areas such as pavements (sidewalks), paths, and bicycle lanes. Its technology allows the rider to stand upright while a system composed of gyroscope sensors and multiple onboard microprocessors maintains both the device's and rider's balance on two independent, non-tandem wheels.
It has a sensor system comprising five solid-state silicon gyroscopes, a control system comprising 10 onboard microprocessors, and an electric drive system comprising two brushless servo motors that have a maximum output of 2 hp. It is powered by two rechargeable batteries.
Application of GIRs 1 and 6.
Adoption : 2007 + 2016



2. **Two-wheeled, self-balancing, electrically-powered transportation device**, designed for carrying a single person, for use within low speed areas such as pavements (sidewalks), paths, and bicycle lanes. The maximum speed of the device is 10 km/h and the maximum distance per charge is 15-20 km.
Through the built-in gyroscope and acceleration sensors, the device uses the dynamic balance principle to control moving forward, backward, turning and stopping. It is controlled by the changes of the operator's body posture.
Application of GIRs 1 and 6.
Adoption : 2017



8711.90

- Other

Heading 8712

Bicycles and other cycles (including delivery tricycles), not motorised.

EXPLANATORY NOTES

87.12 - Bicycles and other cycles (including delivery tricycles), not motorised.

This heading covers non-motorised cycles, i.e., pedal-operated vehicles equipped with one or more wheels (e.g., bicycles (including those for children), tricycles and quadricycles).

The heading includes, in addition to cycles of conventional design, various specialised types such as the following :

(1) Delivery tricycles, usually in the form of an articulated unit incorporating a container (sometimes insulated) which is constructed over the two leading wheels.

(2) Tandem bicycles.

(3) Monocycles (unicycles) and bicycles specially designed for music-hall artists and characterised by their light weight, fixed wheel, etc.

(4) Bicycles specially constructed for the disabled (e.g., with a special attachment so that the bicycle can be pedalled with one foot).

(5) Bicycles equipped with a wheeled balancing-support fitted to a hub of the rear-wheel.

(6) Racing bicycles.

(7) Quadricycles, equipped with several seats and several sets of pedals, the whole being enclosed within a lightweight structure.

(8) Pedal-driven bicycle-like scooters designed to be ridden by children, youngsters and adults, with bicycle-type adjustable steering column and handle-bar, inflatable wheels, frame and hand brakes, equipped with a single pedal attached to a chain and sprocket system.

The cycles of this heading equipped with side-cars remain classified here, but side-cars presented separately are **excluded** (**heading 87.11**).

The heading also **excludes** :

(a) Cycles fitted with an auxiliary motor (**heading 87.11**).

(b) Children’s cycles (other than children’s bicycles) (**heading 95.03**).

(c) Special cycles suitable only for fairground use (**heading 95.08**).

8712.00

Bicycles and other cycles (including delivery tricycles), not motorised.

CLASSIFICATION OPINIONS

1. **Bicycle components, presented together and unassembled**, suitable for the same model of bicycle, not including all of the parts necessary to assemble a finished bicycle, with the following configuration :

- Frame;
- Fork;
- Handlebar;
- Brake levers;
- Stem (connecting the fork and handlebar);
- Grip;
- Complete crank set;
- Shifter(s);
- Brake mechanism/brakes;
- Bottom bracket (BB) parts;
- Saddle;
- Seat post;
- Chain wheel.

Application of GIRs 1 and 2 (a).
Adoption : 2017

2. **Bicycle components, presented together and unassembled**, suitable for the same model of bicycle, not including all of the parts necessary to assemble a finished bicycle, with the following configuration :

- Frame;
- Fork;
- Handlebar;
- Stem (connecting the fork and handlebar);
- Brake and gear levers and cables;
- Brakes;
- Crank arms;
- Crank set;
- Chain ring;
- Chain ring bolts;
- Front derailleur;
- Seat post clamp.

Application of GIRs 1 and 2 (a).
Adoption : 2017

3. **Bicycle components, presented together and unassembled**, suitable for the same model of bicycle, not including all of the parts necessary to assemble a finished bicycle, with the following configuration :

- Frame;
- Fork;
- Handlebar;
- Stem (connecting the fork and handlebar);
- Brake handles and cables.

Application of GIRs 1 and 2 (a).
Adoption : 2017

Heading 8713

Carriages for disabled persons, whether or not motorised or otherwise mechanically propelled.
EXPLANATORY NOTES

87.13 - Carriages for disabled persons, whether or not motorised or otherwise mechanically propelled.

8713.10 - Not mechanically propelled

8713.90 - Other

This heading covers carriages, wheelchairs, or similar vehicles, specially designed for the transport of disabled persons, whether or not fitted with means of mechanical propulsion.

Vehicles fitted with means of mechanical propulsion are usually driven by a light motor, or propelled by hand by means of a lever or handle-operated mechanism. The other carriages for disabled persons are pushed by hand or propelled by direct manual operation of the wheels.

The heading **excludes** :

(a) Normal vehicles simply adapted for use by disabled persons (for example, a motor car fitted with a hand-operated clutch, accelerator, etc. (**heading 87.03**), or a bicycle fitted with a special attachment and pedalled with one foot (**heading 87.12**)).

(b) Trolley-stretchers (**heading 94.02**).

8713.10

- Not mechanically propelled

8713.90

- Other

Heading 8714

Parts and accessories of vehicles of headings 87.11 to 87.13.
EXPLANATORY NOTES

87.14 - Parts and accessories of vehicles of headings 87.11 to 87.13.

8714.10 - Of motorcycles (including mopeds)

8714.20 - Of carriages for disabled persons

- Other :

8714.91 - - Frames and forks, and parts thereof

8714.92 - - Wheel rims and spokes

8714.93 - - Hubs, other than coaster braking hubs and hub brakes, and free-wheel sprocket-wheels

8714.94 - - Brakes, including coaster braking hubs and hub brakes, and parts thereof

8714.95 - - Saddles

8714.96 - - Pedals and crank-gear, and parts thereof

8714.99 - - Other

This heading covers parts and accessories of a kind used with motorcycles (including mopeds), cycles fitted with an auxiliary motor, side-cars, non-motorised cycles, or carriages for disabled persons, **provided** the parts and accessories fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with the above-mentioned vehicles;

and (ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

Parts and accessories of this heading include :

(1) Bodies and parts thereof for delivery tricycles, side-cars or carriages for disabled persons (hoods, doors, floors, etc.).

(2) Chassis and frames, and parts thereof.

(3) Gearing, gear boxes, clutches and other transmission equipment, and parts thereof, for motorcycles.

(4) Wheels and parts thereof (hubs, rims, spokes, etc.).

(5) Free-wheel sprocket-wheels.

(6) Derailleurs and other gear mechanisms, and parts thereof.

(7) Crank-gear and parts thereof (crank-wheels, cranks, axles, etc.), pedals and parts thereof (axles, etc.); toe-clips.

(8) Kickstarters, levers and other control gear.

(9) Brakes of all kinds (cantilever brakes, caliper brakes, drum brakes, hub brakes, disc brakes, coaster braking hubs, etc.), and parts thereof (levers, block-holder levers, drums and shoes for hub brakes, yokes for cantilever brakes).

(10) Handle-bars, handle-bar stems, and handle-bar grips (of cork, plastics, etc.).

(11) Saddles (seats) and saddle-pillars (seat-posts); saddle-covers.

(12) Forks, including telescopic forks, and parts thereof (fork crowns and blades, etc.).

(13) Tubes and lugs for cycle frames.

(14) Hydraulic shock-absorbers and parts thereof.

(15) Mudguards and their supports (stays, fastening rods, etc.).

(16) Reflectors (mounted).

(17) Clothes protectors (**other than** nets of **heading 56.08**); transmission-chain covers; foot-rests and leg-protectors.

(18) Stands for motorcycles.

(19) Tilting cowls and spare-wheel covers, for scooters.

(20) Silencers (mufflers) and parts thereof.

(21) Fuel tanks.

(22) Windscreens (windshields).

(23) Luggage racks; lamp brackets; water-bottle brackets.

(24) Propelling levers and crank-handles, back-rests and back-rest steering columns, foot-rests, leg-supports, armrests, etc., for carriages for disabled persons.

(25) Clutch cables, brake cables, accelerator cables and similar cables, consisting of a flexible outer casing and a moveable inner cable. They are presented cut to length and equipped with end fittings.

8714.10

- Of motorcycles (including mopeds)

CLASSIFICATION OPINIONS

1. Aluminium radiator (359 mm x 181 mm) for a motorcycle. It is designed to cool down the coolant fluid coming from the engine of the motorcycle by transferring excess heat from the coolant into the air. The coolant is then returned back to the engine. **Application of GIRs 1 and 6.** *See also Opinion 8431.49/2.*
Adoption : 2014



8714.20

- Of carriages for disabled persons

8714.9

- Other :

8714.91

-- Frames and forks, and parts thereof

8714.92

-- Wheel rims and spokes

8714.93

-- Hubs, other than coaster braking hubs and hub brakes, and free-wheel sprocket-wheels

8714.94

-- Brakes, including coaster braking hubs and hub brakes, and parts thereof

8714.95

-- Saddles

8714.96

-- Pedals and crank-gear, and parts thereof

8714.99

-- Other

Heading 8715

Baby carriages and parts thereof.

EXPLANATORY NOTES

87.15 - Baby carriages and parts thereof.

The heading covers :

(I) **Baby carriages**, whether or not folding, fitted with two or more wheels and generally pushed by hand (push-chairs, perambulators, strollers, etc.).

(II) **Parts of the above-mentioned carriages, provided** the parts fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with the carriages of this heading;

and (ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

Parts of this heading include :

(1) Bodywork for mounting on chassis, including the removable type of perambulator bodies which can be used as cradles.

(2) Chassis and parts thereof.

(3) Wheels (whether or not fitted with their tyres) and parts thereof.

8715.00

Baby carriages and parts thereof.

Heading 8716

Trailers and semi-trailers; other vehicles, not mechanically propelled; parts thereof.

EXPLANATORY NOTES

87.16 - Trailers and semi-trailers; other vehicles, not mechanically propelled; parts thereof.

8716.10 - Trailers and semi-trailers of the caravan type, for housing or camping

8716.20 - Self-loading or self-unloading trailers and semi-trailers for agricultural purposes

- Other trailers and semi-trailers for the transport of goods :

8716.31 - - Tanker trailers and tanker semi-trailers

8716.39 - - Other

8716.40 - Other trailers and semi-trailers

8716.80 - Other vehicles

8716.90 - Parts

This heading covers a group of **non-mechanically** propelled vehicles (**other than** those of the preceding headings) equipped with one or more wheels and constructed for the transport of goods or persons. It also includes non-mechanical vehicles not fitted with wheels (e.g., sledges, special sleds running on timber trackways).

The vehicles of this heading are designed to be towed by other vehicles (tractors, lorries, trucks, motorcycles, bicycles, etc.), to be pushed or pulled by hand, to be pushed by foot or to be drawn by animals.

The heading includes :

(A) **Trailers and semi-trailers**.

For the purposes of this heading, the terms “trailers” and “semi-trailers” means vehicles (other than side-cars) of a kind designed solely to be coupled to another vehicle by means of a special coupling device (whether or not automatic).

The most important types of trailers and semi-trailers falling in this group are those designed for use with motor vehicles. Trailers usually have two or more sets of wheels, and a coupling system mounted on the swivelling front wheels which steer the vehicles. Semi-trailers are fitted with rear wheels only, the forward end resting on the platform of the towing vehicle to which it is coupled by a special coupling device.

For the purposes of the following Explanatory Note, the term “trailers” includes semi-trailers.

Trailers falling here include :

(1) Trailers of the caravan type (travel trailers), for housing or camping.

(2) Self-loading agricultural trailers fitted with automatic loading devices and possibly also with attachments for chopping forage, maize (corn) stalks, etc.

This heading **does not cover** self-loading trailers permanently mounted with harvesting equipment, for cutting, chopping and transporting grass, maize (corn), etc. (**heading 84.33**).

(3) Self-unloading trailers for carrying different products (forage, manure, etc.), with a moving floor for unloading purposes; these vehicles can be fitted with various attachments (manure chopper, forage shredder, etc.) to adapt them for use as a muck spreader, forage box or root trailer.

(4) Other trailers for the transport of goods such as :

(a) Tanker trailers (whether or not fitted with pumps).

(b) Agricultural, public works, etc., trailers (whether or not tipping).

(c) Refrigerator or insulated trailers for the transport of perishable goods.

(d) Removal trailers.

(e) Single or double-decker trailers for the transport of livestock, motor cars, cycles, etc.

(f) Trailers adapted for the transport of certain goods (e.g., plate glass).

(g) “Road-rail” (intermodal) trailers (intended mainly for use as road trailers, but so designed that they may be transported on special railway wagons fitted with guide rails).

(h) Trailers fitted with rails for road transport of railway wagons.

(ij) Drop-frame trailers with loading ramps for the transport of heavy equipment (tanks, cranes, bulldozers, electrical transformers, etc.).

(k) Two- or four-wheel independent timber-carrying bogies.

(l) Logging trailers for the transport of timber.

(m) Small trailers towed by cycles or motor cycles.

(5) Other trailers such as :

(a) Motor vehicle trailers specially designed for the conveyance of persons.

(b) Fairground caravan or trailers (other than those specially designed for and forming part of fairground amusements (**95.08**)).

(c) Exhibition trailers.

(d) Library-trailers.

(B) **Hand- or foot-propelled vehicles**.

This group includes :

(1) Trucks and trolleys of various kinds including those specialised for use in particular industries (in the textile or ceramic industries, in dairies, etc.).

(2) Wheelbarrows, luggage-trucks, hopper-trucks and tipping-trucks.

(3) Food carts, buffet trolleys (**other than** the type falling in **heading 94.03**), of a kind used in railway stations.

(4) Hand-carts, e.g., for waste disposal.

(5) Rickshaws.

(6) Small insulated barrows for use by ice cream vendors.

(7) Tradesmen’s barrows of all kinds. These lightweight vehicles are sometimes fitted with pneumatic tyres.

(8) Sledges (hand-drawn) for the transport of wood in mountainous country.

(9) “Kicksleds”, propelled by the direct pressure of the rider's foot on the snow covered ground, designed particularly for the transport of persons in subarctic regions.

This heading **does not cover** :

(a) Mobile garbage bins (including those for outside use) (e.g., **heading 39.24** or **73.23**).

(b) Walking aids known as “walker-rollators”, which generally consist of a tubular metal frame on three or four wheels (some or all of which may swivel), handles and hand-brakes (**heading 90.21**).

(c) Small wheeled-containers (e.g., wheeled-baskets) of basketwork, metal, etc., not incorporating a chassis, of a kind used in shops (classification according to their constituent material).

(C) **Vehicles drawn by animals**.

This group includes :

(1) State (ceremonial) -coaches, coupés, calashes, hackney-coaches, cabriolets.

(2) Hearses.

(3) Sulkies.

(4) Children’s donkey-carts and pony-carts used in public gardens, squares, etc.

(5) Delivery vehicles of all kinds; removal vans.

(6) Carts of all kinds, including tipping-carts.

(7) Sledges and sleighs.

VEHICLES FITTED WITH MACHINERY, ETC.

The classification of units consisting of vehicles with **permanently built-on** machines or appliances is determined according to the **essential character of the whole**. The heading therefore covers such units which derive their essential character from the vehicle itself. On the other hand, units deriving their essential character from the machine or appliance they incorporate are **excluded**.

It follows from the above that :

(I) Trucks, carts or trailers with built-on tanks, whether or not they are fitted with subsidiary pumps for filling or emptying purposes, are classified here.

(II) The following, for example, are **excluded** and fall in the heading relating to the machine or appliance :

(a) Hand-truck, animal cart or trailer-type spraying appliances of **heading 84.24**.

(b) Machines and appliances mounted on a simple wheeled chassis, designed to be towed, such as mobile pumps and compressors (**heading 84.13** or **84.14**) and mobile cranes and ladders (**heading 84.26** or **84.28**).

(c) Trailed concrete mixers (**heading 84.74**).

PARTS

This heading also includes parts of the vehicles mentioned above, **provided** the parts comply with **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with such vehicles;

and (ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

Parts of this heading include :

(1) Chassis and component parts thereof (frame side members, cross members, etc.).

(2) Axles.

(3) Bodies and parts thereof.

(4) Wooden or steel wheels and parts thereof, including wheels fitted with their tyres.

(5) Coupling devices.

(6) Brakes and parts thereof.

(7) Shafts, swingle-bars and similar parts.

*

* *

Winter sports equipment, such as toboggans, bobsleighs (bobsleds), etc., is **excluded** (**heading 95.06**).

8716.10

- Trailers and semi-trailers of the caravan type, for housing or camping

8716.20

- Self-loading or self-unloading trailers and semi-trailers for agricultural purposes

8716.3

- Other trailers and semi-trailers for the transport of goods :

8716.31

-- Tanker trailers and tanker semi-trailers

8716.39

-- Other

8716.40

- Other trailers and semi-trailers

8716.80

- Other vehicles

CLASSIFICATION OPINIONS

Golf carts of base metal, to be pushed or pulled by hand, fitted with two wheels and a handbar and equipped with accessories (e.g., scorecard holder, cigarette holder, semitransparent rain-cover), designed to carry golf bags and other golf equipment.
Adoption : 2000

8716.90

- Parts

CLASSIFICATION OPINIONS

Reflectors for road trailers, consisting of a triangular sign plate of red plastics, with small pyramid-shaped bosses to improve the reflecting properties, mounted in a frame complete with bolts for fixing in position.
See also Opinion 3926.90/3.
Adoption : 1965

Chapter 88

Aircraft, spacecraft, and parts thereof

LEGAL NOTES

Notes.

1.- For the purposes of this Chapter, the expression “unmanned aircraft” means any aircraft, other than those of heading 88.01, designed to be flown without a pilot on board. They may be designed to carry a payload or equipped with permanently integrated digital cameras or other equipment which would enable them to perform utilitarian functions during their flight.

The expression “unmanned aircraft,”, however does not cover flying toys, designed solely for amusement purposes (heading 95.03).

Subheading Notes.

1.- For the purposes of subheadings 8802.11 to 8802.40, the expression “unladen weight” means the weight of the machine in normal flying order, excluding the weight of the crew and of fuel and equipment other than permanently fitted items of equipment.

2.- For the purposes of subheadings 8806.21 to 8806.24 and 8806.91 to 8806.94, the expression "maximum take-off weight" means the maximum weight of the machine in normal flying order, at take-off, including the weight of payload, equipment and fuel.

EXPLANATORY NOTES

Chapter 88

Aircraft, spacecraft, and parts thereof

Notes.

1.- For the purposes of this Chapter, the expression “unmanned aircraft” means any aircraft, other than those of heading 88.01, designed to be flown without a pilot on board. They may be designed to carry a payload or equipped with permanently integrated digital cameras or other equipment which would enable them to perform utilitarian functions during their flight.

The expression “unmanned aircraft,”, however does not cover flying toys, designed solely for amusement purposes (heading 95.03).

Subheading Notes.

1.- For the purposes of subheadings 8802.11 to 8802.40, the expression “unladen weight” means the weight of the machine in normal flying order, excluding the weight of the crew and of fuel and equipment other than permanently fitted items of equipment.

2.- For the purposes of subheadings 8806.21 to 8806.24 and 8806.91 to 8806.94, the expression "maximum take-off weight" means the maximum weight of the machine in normal flying order, at take-off, including the weight of payload, equipment and fuel.

GENERAL

This Chapter covers balloons and dirigibles and non-powered aircraft (heading 88.01), other aircraft (headings 88.02 or 88.06), spacecraft (including satellites) and spacecraft launch vehicles (heading 88.02), certain allied equipment such as parachutes (heading 88.04), aircraft launching gear, deck-arrestor gear and ground flying trainers (heading 88.05).

Incomplete or unfinished aircraft (e.g., aircraft not equipped with engines or internal equipment) are classified as the corresponding complete or finished aircraft, **provided** they have the essential character of the latter.

Heading 8801

Balloons and dirigibles; gliders, hang gliders and other non-powered aircraft.

EXPLANATORY NOTES

88.01 - Balloons and dirigibles; gliders, hang gliders and other non-powered aircraft.

(I) BALLOONS AND DIRIGIBLES

This group covers lighter-than-air aircraft whatever their intended use (military, sporting, scientific, publicity, etc.). These comprise **balloons**, free or captive (i.e., moored to the ground by a cable), and mechanically driven **dirigibles**.

This group also includes balloons of the following types, used in aeronautics or meteorology :

(1) **Sounding balloons**. These are used to carry radio-sounding instruments to high altitudes. They may weigh up to 4,500 g, but their normal weight varies between 350 and 1,500 g.

(2) **Pilot balloons**. These are released to indicate the speed and direction of wind. Normally they weigh from 50 to 100 g.

(3) **Ceiling balloons**. These are smaller than the balloons in (1) and (2) above and normally weigh 4 to 30 g. They are used to determine cloud height.

In most cases balloons used in meteorology are of very thin, high quality rubber allowing a high degree of expansion. Children's toy balloons are **excluded** (**heading 95.03**). They may be distinguished by their inferior quality, short inflation necks and the advertisements or decorations often found on them.

(II) GLIDERS AND HANG GLIDERS

Glidersare heavier-than-air aircraft which stay airborne using atmospheric currents. However, gliders fitted with or designed to be fitted with an engine are classified in **heading 88.02**.

Hang gliders include, in particular, delta wings which enable one or two persons, suspended by a harness, to perform certain aerial manoeuvres. These wings consist of material (generally textile) stretched over a rigid structure, usually tubular and of metal, incorporating a horizontal steering bar in the centre. Other types of hang gliders may be otherwise shaped, but are similar to delta wings in their structure and aerodynamic behaviour.

(III) OTHER NON-POWERED AIRCRAFT

This group includes **kites** which are heavier-than-air aircraft without mechanical propulsion. Kites are moored to the ground by a line in the same way as captive balloons and may be used, for example, to carry meteorological instruments.

Kites clearly designed as toys are **excluded** (**heading 95.03**).

*

* *

The heading also **excludes** models, whether or not built accurately to scale, used, for example, for decoration (e.g., **heading 44.20** or **83.06**), for purely demonstrational purposes (**heading 90.23**), or as toys or models for recreational purposes (**heading 95.03**).

8801.00

Balloons and dirigibles; gliders, hang gliders and other non-powered aircraft.

Heading 8802

Other aircraft (for example, helicopters, aeroplanes), except unmanned aircraft of heading 88.06; spacecraft (including satellites) and suborbital and spacecraft launch vehicles.

EXPLANATORY NOTES

88.02 - Other aircraft (for example, helicopters, aeroplanes), except unmanned aircraft of heading 88.06; spacecraft (including satellites) and suborbital and spacecraft launch vehicles.

- Helicopters :

8802.11 - - Of an unladen weight not exceeding 2,000 kg

8802.12 - - Of an unladen weight exceeding 2,000 kg

8802.20 - Aeroplanes and other aircraft, of an unladen weight not exceeding 2,000 kg

8802.30 - Aeroplanes and other aircraft, of an unladen weight exceeding 2,000 kg but not exceeding 15,000 kg

8802.40 - Aeroplanes and other aircraft, of an unladen weight exceeding 15,000 kg

8802.60 - Spacecraft (including satellites) and suborbital and spacecraft launch vehicles

This heading covers :

(1) **Heavier-than-air aircraft**, which are mechanically propelled. This group includes **aeroplanes** (landplanes, seaplanes and amphibians), **gyroplanes** (equipped with one or more rotors rotating freely on vertical axes), and **helicopters** (equipped with one or more mechanically driven rotors).

Such aircraft may be used for military purposes, the transport of persons or goods or for such activities as training, aerial photography, agricultural work, rescue duties, fire fighting or for meteorological or other scientific purposes.

Aircraft specially constructed so that they can be used as road vehicles are covered by this heading.

(2) **Spacecraft**, which are vehicles able to travel outside the earth's atmosphere (e.g., telecommunications or meteorological satellites).

(3) **Spacecraft launch vehicles** whose function is to place a given payload on a trajectory orbiting the earth ("satellite launch vehicles") or falling under the influence of a gravitational field other than that of the earth ("spacecraft launch vehicles"). These vehicles impart to the payload a terminal velocity exceeding 7,000 m/s at the end of the powered flight.

(4) **Suborbital launch vehicles** that follow a parabolic trajectory and generally carry instrumentation for scientific or other technical purposes, whether or not in the form of a retrievable payload, beyond the earth's atmosphere. In cases where payloads are released, these vehicles do not impart a terminal velocity exceeding 7,000 m/s. Payloads are often returned to the earth's surface by parachute for recovery.

The heading **excludes**, however, artillery rockets, guided missiles, e.g., "ballistic missiles", and similar munitions of war which do not impart a terminal velocity exceeding 7,000 m/s to the payload (**heading 93.06**). They deliver munitions of war, e.g., explosives, submunitions, chemical agents, and after following a parabolic trajectory cause the payload to impact on a target.

The heading also **excludes** :

(a) Models, whether or not built accurately to scale, used, for example, for decoration (e.g., **heading 44.20** or **83.06**) or for purely demonstrational purposes (**heading 90.23**).

(b) Unmanned aircraft specified in Note 1 to this Chapter (**heading 88.06**).

(c) Toys or models for recreational purposes (**heading 95.03**).

(d) Models specially designed for amusement park rides and fairground amusements **(heading 95.08**).

8802.1

- Helicopters :

8802.11

-- Of an unladen weight not exceeding 2,000 kg

8802.12

-- Of an unladen weight exceeding 2,000 kg

8802.20

- Aeroplanes and other aircraft, of an unladen weight not exceeding 2,000 kg

CLASSIFICATION OPINIONS

1. Ultralight motorized (ULM) hydroplane, pneumatic pendulum type, with integral motor, a wing, a propeller and a semi-rigid hull, enabling the vehicle to land on or take off from or on a water surface (sea, lake etc.).

The product has the following features:

-Twin cylinder, 2-stroke engine;
-Two-seats-in-tandem cockpit;
-Empty weight : 216 kg;
-Maximum gross weight : 406 kg;
-Stall speed : 48 km/h;
-Cruise speed : 70 km/h;
-Maximum speed : 80 km/h;
-Wingspan : 11.15 m;
-Wing area : 19.6 m^2

Application of GIR 1 and 6.
Adoption : 2021





8802.30

- Aeroplanes and other aircraft, of an unladen weight exceeding 2,000 kg but not exceeding 15,000 kg

8802.40

- Aeroplanes and other aircraft, of an unladen weight exceeding 15,000 kg

8802.60

- Spacecraft (including satellites) and suborbital and spacecraft launch vehicles

Heading 8804

Parachutes (including dirigible parachutes and paragliders) and rotochutes; parts thereof and accessories thereto.

EXPLANATORY NOTES

88.04 - Parachutes (including dirigible parachutes and paragliders) and rotochutes; parts thereof and accessories thereto.

This heading covers parachutes used for the descent of personnel, military supplies or equipment, meteorological instruments, flares, etc.; certain types are used as tail chutes for slowing jet propelled aircraft. According to their use, they may be of various sizes, and may be made of silk, man-made fibre materials, linen, cotton, paper, etc.

The upper part of the conventional type of parachute, as used by personnel, usually consists of a small **pilot chute** which opens when the rip cord is pulled. This, in turn, opens the **main chute canopy** to which are attached a certain number of **shroud lines**. These cords are brought together at the bottom into two or more **risers**, attached to the **harness** which is worn by the parachutist and which consists of an assembly of straps, fitted with buckles and snap-hooks. The pilot chute, the main chute canopy and the shroud lines are packed carefully in a **container** which is opened by means of the rip cords.

This heading also covers **paragliders** which are designed for launching oneself from the side of a mountain, the top of a cliff, etc., and which consist of a folding canopy or shroud (wing), cord shroud lines for steering in air currents and a harness for the pilot.

However, their similarity to parachutes does not extend to aerodynamic behaviour, since under certain conditions and if air currents so permit, paragliders may follow ascending trajectories.

The heading also includes **rotochutes**, a type of apparatus with a rotating wing unit, used in meteorology to control the descent of rocket-launched radio-sounding instruments.

The heading also covers parts and accessories for parachutes, such as the container, harness and spring frames for opening the parachute, and parts and accessories for rotochutes.

8804.00

Parachutes (including dirigible parachutes and paragliders) and rotochutes; parts thereof and accessories thereto.

Heading 8805

Aircraft launching gear; deck-arrestor or similar gear; ground flying trainers; parts of the foregoing articles.

EXPLANATORY NOTES

88.05 - Aircraft launching gear; deck-arrestor or similar gear; ground flying trainers; parts of the foregoing articles.

8805.10 - Aircraft launching gear and parts thereof; deck-arrestor or similar gear and parts thereof

- Ground flying trainers and parts thereof :

8805.21 - - Air combat simulators and parts thereof

8805.29 - - Other

This heading covers three entirely distinct types of goods, viz. :

(A) **Aircraft launching gear**.

Aircraft launching gear, generally used on board ships, incorporates a metal structure which guides the aircraft to be launched. The acceleration required for the take-off is provided by the action of compressed air, steam, exploding cartridges, etc., exerted on a trolley or ram on which the aircraft is mounted.

The heading **excludes** :

(a) Motor driven winch gear used for launching gliders (**heading 84.25**).

(b) Rocket-launching ramps and towers which merely guide rockets during take-off without propelling them, the rockets climbing under their own power (**heading 84.79**).

(B) **Deck-arrestor or similar gear**.

This gear, used on aircraft carriers and at some aerodromes, serves to reduce the speed of an aircraft at the moment of landing, in order to shorten the length of runway needed for the aircraft to come to a halt.

The heading **does not**, however, **cover** other equipment, such as safety equipment (nets, for example).

(C) **Ground flying trainers**.

Examples of these devices which are used for training pilots include :

(1) **Flight simulators** which function electronically. Flying conditions are simulated by electronic apparatus which feed into the controls the correct combination of “feel” and reading corresponding to given flying conditions. **Air combat simulators** refer to any electronic or mechanical system for training aircraft pilots by simulating air combat conditions during flight.

When mounted on a motor vehicle chassis or trailer, this type of equipment is classified in **heading 87.05** or **87.16** respectively (but see the Explanatory Note to heading 87.16).

(2) A device known as a “**link trainer**” comprising a small cabin pivoting on a base and equipped as an aeroplane cockpit enabling the pupil to carry out all the manoeuvres required in normal flying.

PARTS

This heading also covers parts of the above-mentioned articles, **provided** the parts fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with such articles;

and (ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

*

* *

The heading **excludes**, however, equipment principally intended to register human reactions under arduous flying conditions (e.g., high acceleration, shortage of oxygen); such equipment (e.g., compartments built on a rotating arm which simulate supersonic flying conditions) is in the nature of reflex-testing apparatus and as such is classified in **heading 90.19**.

Equipment which is not specially designed for the flying training of pilots but for the general instruction of aircrews (e.g., large scale models of gyroscopes) is also **excluded** (**heading 90.23**).

_____

8805.10

- Aircraft launching gear and parts thereof; deck-arrestor or similar gear and parts thereof

8805.2

- Ground flying trainers and parts thereof :

8805.21

-- Air combat simulators and parts thereof

8805.29

-- Other

Heading 8806

Unmanned aircraft.

EXPLANATORY NOTES

88.06 - Unmanned aircraft.

8806.10 - - Designed for the carriage of passengers

- Other, for remote-controlled flight only :

8806.21 - - With maximum take-off weight not more than 250 g

8806.22 - - With maximum take-off weight more than 250 g but not more than 7 kg

8806.23 - - With maximum take-off weight more than 7 kg but not more than 25 kg

8806.24 - - With maximum take-off weight more than 25 kg but not more than 150 kg

8806.29 - - Other

- Other :

8806.91 - - With maximum take-off weight not more than 250 g

8806.92 - - With maximum take-off weight more than 250 g but not more than 7 kg

8806.93 - - With maximum take-off weight more than 7 kg but not more than 25 kg

8806.94 - - With maximum take-off weight more than 25 kg but not more than 150 kg

8806.99 - - Other

In accordance with Note 1 to this Chapter, this heading covers unmanned aircraft, designed to be flown without a pilot on board, other than those specified in heading 88.01. Unmanned aircraft may be capable of remote-controlled flight only which is operated by an operator from another place (for example, ground, ship, another aircraft, or space) at all times during the flight operation, or capable of flight which is programmed to be performed without the intervention by an operator.

Although unmanned aircraft may have various shapes and sizes, they are commonly equipped with one or more propellers or rotors driven by motors, or fixed wings, and communication systems for command and control by a remote operator. They may also incorporate Global Navigation Satellite System (GNSS) receivers, (e.g., GPS, GLONASS or BEIDOU) for stable hovering and flying back to the take-off point and systems for obstacle avoidance, object recognition and tracking function.

Unmanned aircraft may be designed to carry a payload or equipped with permanently integrated digital cameras or other equipment to be used for utilitarian functions such as the carriage of cargo or passengers, aerial photography, agricultural or scientific work, rescue duties, fire-fighting, surveillance, or for military purposes.

The heading also excludes flying toys or models designed solely for recreational or amusement purposes, and that are not designed to perform utilitarian functions. They can be distinguished**,** for example by their low weight, limited height, distance or time they can fly, maximum speed, inability to fly autonomously or inability to carry a load/cargo, or because they are not equipped with sophisticated electronic apparatus(e.g. Global Positioning Systems, night flight requirements or nocturnal visibility) (**heading 95.03)**.

8806.10

- Designed for the carriage of passengers

8806.2

- Other, for remote-controlled flight only :

8806.21

-- With maximum take-off weight not more than 250 g

8806.22

-- With maximum take-off weight more than 250 g but not more than 7 kg

CLASSIFICATION OPINIONS

1. **Digital camera (14 MP) integrated on to a remote-controlled four-rotor helicopter**, also called “drone” or “quadcopter”, (dimensions : 29 cm long x 29 cm wide x 18 cm high; weight : 1,160 g) presented as a set for retail sale in a single cardboard box along with a radio remote

controller, Wi-Fi range extender and a mobile telephone mount. The range of the supplied Wi Fi range extender is approximately 300 metres and flying time is approximately 25 minutes before the battery must be recharged. The operator may use a separate program ("app") from the manufacturer to control the camera via a mobile telephone. **Application of GIRs 1 (Note 1 of Chapter 88) and 6.** Adoption : 2015

The mobile telephone is not included in the set.



2. **Digital camera integrated on to a remote-controlled four-rotor helicopter**, also called a "drone" or "quadcopter" (diagonal size: 35 cm; weight : 1,388 g), presented as a set for retail sale in a single box along with a remote controller with a 14 cm (5.5 inch) built-in monitor and Wi-Fi connectivity, a battery and a charger, cables and other accessories. The digital camera is equipped with a 2.54 cm (1 inch) 20 megapixel CMOS sensor and is capable of taking still photos at 14 fps and of recording video of 4K at 60 fps. The product includes GPS and GLONASS modules for stable hovering and fly back to the take-off point. It also has a computer vision system for avoiding obstacles, and active tracking function for automatic recognition of objects. The maximum flight height is 500 m but it is restricted to 120 m and flying time is approximately 30 minutes before the battery must be recharged. **Application of GIRs 1 (Note 1 of Chapter 88) and 6.** *Adoption : 2019*



8806.23

-- With maximum take-off weight more than 7 kg but not more than 25 kg

8806.24

-- With maximum take-off weight more than 25 kg but not more than 150 kg

8806.29

-- Other

8806.9

- Other :

8806.91

-- With maximum take-off weight not more than 250 g

8806.92

-- With maximum take-off weight more than 250 g but not more than 7 kg

8806.93

-- With maximum take-off weight more than 7 kg but not more than 25 kg

8806.94

-- With maximum take-off weight more than 25 kg but not more than 150 kg

8806.99

-- Other

Heading 8807

Parts of goods of heading 88.01, 88.02 or 88.06.

EXPLANATORY NOTES

88.07 - Parts of goods of heading 88.01, 88.02 or 88.06.

8807.10 - Propellers and rotors and parts thereof

8807.20 - Under-carriages and parts thereof

8807.30 - Other parts of aeroplanes, helicopters or unmanned aircraft

8807.90 - Other

This heading covers parts of the goods falling in heading 88.01, 88.02 or 88.06, **provided** the parts fulfil **both** the following conditions :

(i) They must be identifiable as being suitable for use solely or principally with the goods of the above-mentioned headings; and

(ii) They must not be excluded by the provisions of the Notes to Section XVII (see the corresponding General Explanatory Note).

The parts of this heading include :

(I) **Parts of balloons and dirigibles**, such as :

(1) Nacelles.

(2) Envelopes and parts thereof (strips or panels).

(3) Carrier hoops.

(4) Ballonets.

(5) Rigid frames and sections thereof.

(6) Stabilisers and rudders.

(7) Propellers for dirigibles.

(II) **Parts of aircraft, manned or unmanned, including gliders and kites**, such as :

(1) Fuselages and hulls; fuselage or hull sections; also their internal or external parts (radomes, tail cones, fairings, panels, partitions, luggage compartments, floors, instrument panels, frames, doors, escape chutes and slides, windows, port-holes, etc.).

(2) Wings and their components (spars, ribs, cross-members).

(3) Control surfaces, whether or not movable (ailerons, slats, spoilers, flaps, elevators, rudders, stabilisers, servo-tabs, etc.).

(4) Nacelles, cowlings, engine pods and pylons.

(5) Undercarriages (including brakes and brake assemblies) and their retracting equipment; wheels (with or without tyres); landing skis.

(6) Seaplane floats.

(7) Propellers (airscrews), rotors; blades for propellers and rotors; pitch control mechanisms for propellers and rotors.

(8) Control levers (control columns, rudder-bars and various other operational levers).

(9) Fuel tanks, including auxiliary fuel tanks.

8807.10

- Propellers and rotors and parts thereof

8807.20

- Under-carriages and parts thereof

8807.30

- Other parts of aeroplanes, helicopters or unmanned aircraft

8807.90

- Other

Chapter 89

Ships, boats and floating structures

LEGAL NOTES

Note.

1.- A hull, an unfinished or incomplete vessel, assembled, unassembled or disassembled, or a complete vessel unassembled or disassembled, is to be classified in heading 89.06 if it does not have the essential character of a vessel of a particular kind.

EXPLANATORY NOTES

Chapter 89

Ships, boats and floating structures

Note.

1.- A hull, an unfinished or incomplete vessel, assembled, unassembled or disassembled, or a complete vessel unassembled or disassembled, is to be classified in heading 89.06 if it does not have the essential character of a vessel of a particular kind.

GENERAL

This Chapter covers ships, boats and other vessels of all kinds (whether or not self-propelled), and also floating structures such as coffer-dams, landing stages and buoys. It also includes air-cushion vehicles (hovercraft) designed to travel over water (sea, estuaries, lakes), whether or not able to land on beaches or landing-stages or also able to travel over ice (see Note 5 to Section XVII).

The Chapter also includes :

(A) Unfinished or incomplete vessels (e.g., those not equipped with their propelling machinery, navigational instruments, lifting or handling machinery or interior furnishings).

(B) Hulls of any material.

Complete vessels presented unassembled or disassembled, and hulls, unfinished or incomplete vessels (whether assembled or not), are classified as vessels of a particular kind, if they have the essential character of that kind of vessel. In other cases, such goods are classified in heading 89.06.

Contrary to the provisions relating to the transport equipment falling in other Chapters of Section XVII, this Chapter **excludes** all separately presented parts (**other than** hulls) and accessories of vessels or floating structures, even if they are clearly identifiable as such. Such parts and accessories are classified in the appropriate headings elsewhere in the Nomenclature, for example :

(1) The parts and accessories specified in Note 2 to Section XVII.

(2) Wooden oars and paddles (**heading 44.21**).

(3) Ropes and cables of textile material (**heading 56.07**).

(4) Sails (**heading 63.06**).

(5) Masts, hatchways, gangways, rails and bulkheads for ships or boats and parts of hulls, having the character of metal structures of **heading 73.08**.

(6) Cables of iron or steel (**heading 73.12**).

(7) Anchors of iron or steel (**heading 73.16**).

(8) Propellers and paddle-wheels (**heading 84.87**).

(9) Rudders (**headings 44.21**, **73.25**, **73.26**, etc.) and other steering or rudder equipment for ships or boats (**heading 84.79**).

The following are also **excluded** from this Chapter :

(a) Model vessels used for ornamental purposes (e.g., galleons and other sailing vessels) (**headings 44.20**, **83.06**, etc.).

(b) Demonstrational apparatus or models of **heading 90.23**.

(c) Torpedoes, mines and similar munitions of war (**heading 93.06**).

(d) Wheeled toys, in the form of boats, designed to be ridden by children and other toys (**heading 95.03**).

(e) Water-skis and the like (**heading 95.06**).

(f) Small boats specially designed for use on amusement park rides,water park amusements or fairground amusements (**heading 95.08**).

(g) Antiques of an age exceeding 100 years (**heading 97.06**).

Amphibious motor vehicles and air-cushion vehicles designed to travel over both land and certain tracts of water (swamps, etc.) are classified as motor vehicles in **Chapter 87**, and seaplanes and flying boats fall in **heading 88.02**.

Heading 8901

Cruise ships, excursion boats, ferry-boats, cargo ships, barges and similar vessels for the transport of persons or goods.

EXPLANATORY NOTES

89.01 - Cruise ships, excursion boats, ferry-boats, cargo ships, barges and similar vessels for the transport of persons or goods.

8901.10 - Cruise ships, excursion boats and similar vessels principally designed for the transport of persons; ferry-boats of all kinds

8901.20 - Tankers

8901.30 - Refrigerated vessels, other than those of subheading 8901.20

8901.90 - Other vessels for the transport of goods and other vessels for the transport of both persons and goods

This heading covers all vessels for the transport of persons or goods, **other than** vessels of **heading 89.03** and lifeboats (other than rowing boats), troop-ships and hospital ships (**heading 89.06**); they may be for sea navigation or inland navigation (e.g., on lakes, canals, rivers, estuaries).

The heading includes :

(1) Cruise ships and excursion boats.

(2) Ferry-boats of all kinds, including train-ferries, car-ferries and small river-ferries.

(3) Tankers (petrol, methane, wine, etc.).

(4) Refrigerated vessels for the transport of meat, fruit, etc.

(5) Cargo vessels of all kinds (other than tankers and refrigerated vessels), whether or not specialised for the transport of specific goods. These include ore vessels and other bulk carriers (for the transport of, e.g., grain, coal), container ships, Ro-Ro (roll-on-roll-off) ships and LASH-type vessels.

(6) Barges of various kinds, lighters and pontoons being flat-decked vessels used for the transport of goods and, sometimes, of persons.

(7) Vessels of the hydroglider type, hydrofoils and hovercraft.

8901.10

- Cruise ships, excursion boats and similar vessels principally designed for the transport of persons; ferry-boats of all kinds

8901.20

- Tankers

8901.30

- Refrigerated vessels, other than those of subheading 8901.20

8901.90

- Other vessels for the transport of goods and other vessels for the transport of both persons and goods

Heading 8902

Fishing vessels; factory ships and other vessels for processing or preserving fishery products.

EXPLANATORY NOTES

89.02 - Fishing vessels; factory ships and other vessels for processing or preserving fishery products.

This heading covers all types of fishing vessels designed for commercial fishing at sea or on inland waters, but **excluding** rowing boats for fishing (**heading 89.03**). These include trawlers and tuna fishing vessels.

The heading also includes factory ships (for preserving fish, etc.).

Fishing vessels which may be used for excursions, generally during the tourist season, are also classified in this heading.

Sports fishing vessels are, however, **excluded** (**heading 89.03**).

8902.00

Fishing vessels; factory ships and other vessels for processing or preserving fishery products.

Heading 8903

Yachts and other vessels for pleasure or sports; rowing boats and canoes.

EXPLANATORY NOTES

89.03 - Yachts and other vessels for pleasure or sports; rowing boats and canoes (+).

- Inflatable (including rigid hull inflatable) boats :

8903.11 - - Fitted or designed to be fitted with a motor, unladen (net) weight (excluding the motor) not exceeding 100 kg

8903.12 - - Not designed for use with a motor and unladen (net) weight not exceeding 100 kg

8903.19 - - Other

- Sailboats, other than inflatable, with or without auxiliary motor :

8903.21 - - Of a length not exceeding 7.5 m

8903.22 - - Of a length exceeding 7.5 m but not exceeding 24 m

8903.23 - - Of a length exceeding 24 m

- Motorboats, other than inflatable, not including outboard motorboats :

8903.31 - - Of a length not exceeding 7.5 m

8903.32 - - Of a length exceeding 7.5 m but not exceeding 24 m

8903.33 - - Of a length exceeding 24 m

- Other :

8903.93 - - Of a length not exceeding 7.5 m

8903.99 - - Other

This heading covers all vessels for pleasure or sports and all rowing boats and canoes.

This heading includes yachts, marine jets and other sailboats and motorboats, dinghies, kayaks, sculls, skiffs, pedalos (a type of pedal-operated float), sports fishing vessels, inflatable craft and boats which can be folded or disassembled.

The heading also covers lifeboats propelled by oars (other lifeboats fall in **heading 89.06**).

Sailboards are, however, **excluded** (**heading 95.06**).

°

° °

Subheading Explanatory Note.

Subheading 8903.31, 8909.32 and 8903.33

“Outboard motors” are described in the Explanatory Note to heading 84.07.

8903.1

- Inflatable (including rigid hull inflatable) boats :

8903.11

-- Fitted or designed to be fitted with a motor, unladen (net) weight (excluding the motor) not exceeding 100 kg

8903.12

-- Not designed for use with a motor and unladen (net) weight not exceeding 100 kg

8903.19

-- Other

8903.2

- Sailboats, other than inflatable, with or without auxiliary motor :

8903.21

-- Of a length not exceeding 7.5 m

8903.22

-- Of a length exceeding 7.5 m but not exceeding 24 m

8903.23

-- Of a length exceeding 24 m

8903.3

- Motorboats, other than inflatable, not including outboard motorboats :

8903.31

-- Of a length not exceeding 7.5 m

8903.32

-- Of a length exceeding 7.5 m but not exceeding 24 m

8903.33

-- Of a length exceeding 24 m

8903.9

- Other :

8903.93

-- Of a length not exceeding 7.5 m

8903.99

-- Other

Heading 8904

Tugs and pusher craft.

EXPLANATORY NOTES

89.04 - Tugs and pusher craft.

This heading covers :

(A) **Tugs**. These are vessels primarily designed for towing other craft. They may be of the type used for sea or for inland navigation. They are distinguishable from other vessels by their specially shaped and strengthened hulls, by their powerful engines disproportionate to the size of the vessel, and by various deck fittings designed to carry a tow rope, hawser, etc.

(B) **Pusher craft**. These are vessels specially designed for pushing barges, lighters, etc. They are mainly distinguished by a snub bow (for pushing) and an elevated wheel house (which may be telescopic).

The heading also covers "**pusher-tugs**" designed for use both as pusher craft and as tugs. Like pusher craft they have a snub bow, but the stern is raked so that they can make way in that direction and tow barges, etc.

Tugs designed to assist ships in distress, are also covered by this heading.

The vessels of this heading are not designed for the transport of persons or goods. They may be fitted with specialised auxiliary equipment for fire-fighting, pumping, cargo heating, etc. However, fire-floats are **excluded** (**heading 89.05**).

8904.00

Tugs and pusher craft.

Heading 8905

Light-vessels, fire-floats, dredgers, floating cranes and other vessels the navigability of which is subsidiary to their main function; floating docks; floating or submersible drilling or production platforms.

EXPLANATORY NOTES

89.05 - Light-vessels, fire-floats, dredgers, floating cranes, and other vessels the navigability of which is subsidiary to their main function; floating docks; floating or submersible drilling or production platforms.

8905.10 - Dredgers

8905.20 - Floating or submersible drilling or production platforms

8905.90 - Other

This heading covers :

(A) **Light-vessels, fire-floats, dredgers, floating cranes, and other vessels the navigability of which is subsidiary to their main function**.

These normally perform their main function in a stationary position. They include : light-vessels; drill-ships; fire-floats; dredgers of all kinds (e.g., grab or suction dredgers); salvage ships for the recovery of sunken vessels; permanently moored air-sea rescue floats; bathyscaphes; pontoons fitted with lifting or handling machines (e.g., derricks, cranes, grain elevators) and pontoons clearly designed to serve as a base for these machines.

House-boats, laundry boats and floating mills are also covered by this group.

(B) **Floating docks**.

Floating docks are a type of floating workshop used instead of dry docks.

They are generally structures of a U-section comprising a platform and side-walls, and are equipped with pumping compartments which enable them to be partly submerged to permit the entrance of vessels requiring repair. In some cases they may be towed.

A further type of floating dock functions in a similar manner, but is self-propelled and equipped with powerful engines. These are used for the repair or transport of amphibious vehicles or other craft.

(C) **Floating or submersible drilling or production platforms**.

Such platforms are generally designed for the discovery or exploitation of off-shore deposits of oil or natural gas. Apart from the equipment required for drilling or production, such as derricks, cranes, pumps, cementing units, silos, etc., these platforms have living quarters for the personnel.

These platforms, which are towed or in some cases self-propelled to the exploration or production site and are sometimes capable of being floated from one site to another, may be divided into the following main groups :

(1) **Self-elevating platforms** which, apart from the working platform itself, are fitted with devices (hulls, caissons, etc.) which enable them to float, and with retractable legs which are lowered on the work site so that they are supported on the sea bed and raise the working platform above the water level.

(2) **Submersible platforms**, the substructures of which are submerged over the work sites with their ballast tanks resting on the sea bed in order to provide a high degree of stability to the working platform which is kept above the water level. The ballast tanks may have skirts or piles which penetrate more or less deeply into the sea bed.

(3) **Semi-submersible platforms** which are similar to submersible platforms, but differ from them in that the submerged part does not rest on the sea bed. When working, these floating platforms are kept in a fixed position by anchor lines or by dynamic positioning.

Fixed platforms used for the discovery or exploitation of off-shore deposits of oil or natural gas, which are neither floating nor submersible, are **excluded** from this heading (**heading 84.30**).

This heading also **excludes** ferry-boats (**heading 89.01**), factory ships for processing fishery products (**heading 89.02**), cable-laying ships and weather ships (**heading 89.06**).

8905.10

- Dredgers

8905.20

- Floating or submersible drilling or production platforms

CLASSIFICATION OPINIONS

1. Jack-up drilling platform, designed to operate at sea depths of up to 76 m. It rests on a mat (ballast tank) on the seabed via three tubular columns, and a hydraulic elevating unit keeps the platform above sea level while in operation. When the platform is to be moved to another location, the water in the mat is partially drained, enabling the mat to rise up. The drilling platform, along with the mat, is then towed to the next working site.
Adoption : 1997

8905.90

- Other

Heading 8906

Other vessels, including warships and lifeboats other than rowing boats.

EXPLANATORY NOTES

89.06 - Other vessels, including warships and lifeboats other than rowing boats.

8906.10 - Warships

8906.90 - Other

This headingcovers all vessels not included in the more specific **headings 89.01** to **89.05**.

It covers :

(1) Warships of all kinds, these include :

(a) Ships designed for warfare, fitted with various offensive weapons and defensive weapons and incorporating protective shields against projectiles (e.g., armour-plating or multiple watertight bulkheads), or with underwater devices (anti-magnetic mine-detectors). They are

generally also fitted with detection and listening devices such as radar, sonar, infra-red detection apparatus and scrambling equipment for radio transmissions.

Ships of this category may be distinguished from merchant ships by their greater speed and manoeuvrability, by the size of the crew, by bigger fuel tanks and by special magazines for the transport and use of ammunition at sea.

(b) Certain specially fitted ships which do not carry weapons or armour-plating but yet are recognisable as wholly or mainly for use in warfare, such as landing craft or certain fleet auxiliaries (for transporting ammunition or mines, etc.), troop-ships.

(c) Submarines.

(2) Ships having certain characteristics of warships but which are used by public authorities (e.g., by Customs and police).

(3) Lifeboats for placing on board ships, as well as those which are intended to be placed at certain points around the coast to help ships in distress. However, lifeboats propelled by oars fall in **heading 89.03**.

(4) Scientific research vessels; laboratory ships; weather ships.

(5) Vessels for the transportation and mooring of buoys; cable ships for laying underwater cables, e.g., for telecommunications.

(6) Pilot-boats.

(7) Ice-breakers.

(8) Hospital ships.

(9) Hopper-barges for the disposal of dredged material, etc.

The heading also includes "**dracones**", i.e., collapsible contrivances for the waterborne transport (by simple towing) of fluids and other goods, consisting of a flexible casing of coated textile fabric, identifiable by their shape (generally like a cigar) and by the presence of various devices such as stabilisers, towing fittings and sometimes buoyancy tubes.

The heading also **excludes** :

(a) Pontoons (flat-decked vessels used for the transport of persons or goods) (**heading 89.01**).

(b) Pontoons clearly designed to serve as bases for floating cranes, etc. (**heading 89.05**).

(c) Pontoons of the hollow cylinder type for the support of temporary bridges, etc., and rafts of all kinds (**heading 89.07**).

8906.10

- Warships

8906.90

- Other

Heading 8907

Other floating structures (for example, rafts, tanks, coffer-dams, landing-stages, buoys and beacons).

EXPLANATORY NOTES

89.07 - Other floating structures (for example, rafts, tanks, coffer-dams, landing-stages, buoys and beacons).

8907.10 - Inflatable rafts

8907.90 - Other

This heading covers certain floating structures **not having** the character of vessels. They are generally stationary when in use and include :

(1) Pontoons of the hollow cylinder type used for the support of temporary bridges, etc. But pontoons having the character of vessels are **excluded** (**heading 89.01** or **89.05**).

(2) Floating tanks used to contain live crustaceans or fish.

(3) Floating tanks used in certain harbours to supply ships with oil, water, etc.

(4) Coffer-dams being cases used in bridge building, etc.

(5) Floating landing-stages.

(6) Buoys, such as mooring buoys, marking buoys, light or bell buoys.

(7) Beacons used for marking channels, navigational hazards, etc.

(8) Re-floating appliances used to refloat boats.

(9) Paravanes, a type of float used in mine-sweeping.

(10) Rafts of all kinds including floating craft of circular shape, which inflate automatically on contact with the sea, for carrying shipwrecked persons.

(11) Floating structures designed to function as dock-gates.

The heading also **excludes** :

(a) Diving bells of the type comprising a metal chamber lowered or raised by external means (i.e., a lifting appliance); these are generally classified in **heading 84.79**.

(b) Life-belts and life-jackets (classified according to their constituent material).

(c) Sailboards (**heading 95.06**).

8907.10

- Inflatable rafts

8907.90

- Other

CLASSIFICATION OPINIONS

1. **Floating structure** consisting of a subassembly of six plastic cubes connected together. The structure provides flotation of 408 kg (68 kg x 6) and a floating surface above the water of 1.0 m (width) x 1.5 m (length). Each cube is made of high density polyethylene (HDPE) (length 48 cm, width 48 cm, height 36 cm and weight 5.2 kg) and is filled with expanded polystyrene. The cubes are fitted with pressure regulation and moisture control valves and equipped with tabs to facilitate linking them together.
The six-cube subassembly is a fairly substantial floating structure but would typically be used with others to form larger floating structures, such as floating docks, floating walkways, floating work platforms, marinas, etc.
Application of GIRs 1 and 6.
See also Opinion 8907.90/2.
Adoption : 2017



2. **Floating structure** consisting of 134 subassemblies, each subassembly comprising six cubes made of high density polyethylene (HDPE) and filled with expanded polystyrene. The subassemblies are to be assembled together to form larger pre-determined floating structures such as floating docks, floating walkways, floating work platforms, marinas, etc.
Application of GIRs 1, 2 (a) and 6.
See also Opinion 8907.90/1
Adoption : 2017

Heading 8908

Vessels and other floating structures for breaking up.

EXPLANATORY NOTES

89.08 - Vessels and other floating structures for breaking up.

This heading is restricted to the vessels and other floating structures of headings 89.01 to 89.07 when presented for the purpose of being broken up. Such vessels may be obsolete or damaged, and may have had their instruments, machinery, etc., removed prior to presentation.

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8908.00

Vessels and other floating structures for breaking up.

Section XVIII

OPTICAL, PHOTOGRAPHIC, CINEMATOGRAPHIC, MEASURING, CHECKING, PRECISION, MEDICAL OR SURGICAL INSTRUMENTS AND APPARATUS; CLOCKS AND WATCHES; MUSICAL INSTRUMENTS; PARTS AND ACCESSORIES THEREOF

EXPLANATORY NOTES

Section XVIII

OPTICAL, PHOTOGRAPHIC, CINEMATOGRAPHIC, MEASURING, CHECKING, PRECISION, MEDICAL OR SURGICAL INSTRUMENTS AND APPARATUS; CLOCKS AND WATCHES; MUSICAL INSTRUMENTS; PARTS AND ACCESSORIES THEREOF

Chapter 90

Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Articles of a kind used in machines, appliances or for other technical uses, of vulcanised rubber other than hard rubber (heading 40.16), of leather or of composition leather (heading 42.05) or of textile material (heading 59.11);

(b) Supporting belts or other support articles of textile material, whose intended effect on the organ to be supported or held derives solely from their elasticity (for example, maternity belts, thoracic support bandages, abdominal support bandages, supports for joints or muscles) (Section XI);

(c) Refractory goods of heading 69.03; ceramic wares for laboratory, chemical or other technical uses, of heading 69.09;

(d) Glass mirrors, not optically worked, of heading 70.09, or mirrors of base metal or of precious metal, not being optical elements (heading 83.06 or Chapter 71);

(e) Goods of heading 70.07, 70.08, 70.11, 70.14, 70.15 or 70.17;

(f) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV) or similar goods of plastics (Chapter 39);however, articles specially designed for use exclusively in implants in medical, surgical, dental or veterinary sciences are to be classified in heading 90.21;

(g) Pumps incorporating measuring devices, of heading 84.13; weight-operated counting or checking machinery, or separately presented weights for balances (heading 84.23); lifting or handling machinery (headings 84.25 to 84.28); paper or paperboard cutting machines of all kinds (heading 84.41); fittings for adjusting work or tools on machine-tools or water-jet cutting machines, of heading 84.66, including fittings with optical devices for reading the scale (for example, “optical” dividing heads) but not those which are in themselves essentially optical instruments (for example, alignment telescopes); calculating machines (heading 84.70); valves or other appliances of heading 84.81; machines and apparatus (including apparatus for the projection or drawing of circuit patterns on sensitised semiconductor materials) of heading 84.86;

(h) Searchlights or spotlights of a kind used for cycles or motor vehicles (heading 85.12); portable electric lamps of heading 85.13; cinematographic sound recording, reproducing or re-recording apparatus (heading 85.19); sound-heads (heading 85.22); television cameras, digital cameras and video camera recorders (heading 85.25); radar apparatus, radio navigational aid apparatus or radio remote control apparatus (heading 85.26); connectors for optical fibres, optical fibre bundles or cables (heading 85.36); numerical control apparatus of heading 85.37; sealed beam lamp units of heading 85.39; optical fibre cables of heading 85.44;

(ij) Searchlights or spotlights of heading 94.05;

(k) Articles of Chapter 95;

(l) Monopods, bipods, tripods and similar articles, of heading 96.20;

(m) Capacity measures, which are to be classified according to their constituent material; or

(n) Spools, reels or similar supports (which are to be classified according to their constituent material, for example, in heading 39.23 or Section XV).

2.- Subject to Note 1 above, parts and accessories for machines, apparatus, instruments or articles of this Chapter are to be classified according to the following rules :

(a) Parts and accessories which are goods included in any of the headings of this Chapter or of Chapter 84, 85 or 91 (other than heading 84.87, 85.48 or 90.33) are in all cases to be classified in their respective headings;

(b) Other parts and accessories, if suitable for use solely or principally with a particular kind of machine, instrument or apparatus, or with a number of machines, instruments or apparatus of the same heading (including a machine, instrument or apparatus of heading 90.10, 90.13 or 90.31) are to be classified with the machines, instruments or apparatus of that kind;

(c) All other parts and accessories are to be classified in heading 90.33.

3.- The provisions of Notes 3 and 4 to Section XVI apply also to this Chapter.

4.- Heading 90.05 does not apply to telescopic sights for fitting to arms, periscopic telescopes for fitting to submarines or tanks, or to telescopes for machines, appliances, instruments or apparatus of this Chapter or Section XVI; such telescopic sights and telescopes are to be classified in heading 90.13.

5.- Measuring or checking optical instruments, appliances or machines which, but for this Note, could be classified both in heading 90.13 and in heading 90.31 are to be classified in heading 90.31.

6.- For the purposes of heading 90.21, the expression “orthopaedic appliances” means appliances for :

- Preventing or correcting bodily deformities; or

- Supporting or holding parts of the body following an illness, operation or injury.

Orthopaedic appliances include footwear and special insoles designed to correct orthopaedic conditions, provided that they are either (1) made to measure or (2) mass-produced, presented singly and not in pairs and designed to fit either foot equally.

7.- Heading 90.32 applies only to :

(a) Instruments and apparatus for automatically controlling the flow, level, pressure or other variables of liquids or gases, or for automatically controlling temperature, whether or not their operation depends on an electrical phenomenon which varies according to the factor to be

automatically controlled, which are designed to bring this factor to, and maintain it at, a desired value, stabilised against disturbances, by constantly or periodically measuring its actual value; and

(b) Automatic regulators of electrical quantities, and instruments or apparatus for automatically controlling non-electrical quantities the operation of which depends on an electrical phenomenon varying according to the factor to be controlled, which are designed to bring this factor to, and maintain it at, a desired value, stabilised against disturbances, by constantly or periodically measuring its actual value.

EXPLANATORY NOTES

Chapter 90

Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof

Notes.

1.- This Chapter does not cover :

(a) Articles of a kind used in machines, appliances or for other technical uses, of vulcanised rubber other than hard rubber (heading 40.16), of leather or of composition leather (heading 42.05) or of textile material (heading 59.11);

(b) Supporting belts or other support articles of textile material, whose intended effect on the organ to be supported or held derives solely from their elasticity (for example, maternity belts, thoracic support bandages, abdominal support bandages, supports for joints or muscles) (Section XI);

(c) Refractory goods of heading 69.03; ceramic wares for laboratory, chemical or other technical uses, of heading 69.09;

(d) Glass mirrors, not optically worked, of heading 70.09, or mirrors of base metal or of precious metal, not being optical elements (heading 83.06 or Chapter 71);

(e) Goods of heading 70.07, 70.08, 70.11, 70.14, 70.15 or 70.17;

(f) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV) or similar goods of plastics (Chapter 39);however, articles specially designed for use exclusively in implants in medical, surgical, dental or veterinary sciences are to be classified in heading 90.21;

(g) Pumps incorporating measuring devices, of heading 84.13; weight-operated counting or checking machinery, or separately presented weights for balances (heading 84.23); lifting or handling machinery (headings 84.25 to 84.28); paper or paperboard cutting machines of all kinds (heading 84.41); fittings for adjusting work or tools on machine-tools or water-jet cutting machines, of heading 84.66, including fittings with optical devices for reading the scale (for example, “optical” dividing heads) but not those which are in themselves essentially optical instruments (for example, alignment telescopes); calculating machines (heading 84.70); valves or other appliances of

heading 84.81; machines and apparatus (including apparatus for the projection or drawing of circuit patterns on sensitised semiconductor materials) of heading 84.86;

(h) Searchlights or spotlights of a kind used for cycles or motor vehicles (heading 85.12); portable electric lamps of heading 85.13; cinematographic sound recording, reproducing or re-recording apparatus (heading 85.19); sound-heads (heading 85.22); television cameras, digital cameras and video camera recorders (heading 85.25); radar apparatus, radio navigational aid apparatus or radio remote control apparatus (heading 85.26); connectors for optical fibres, optical fibre bundles or cables (heading 85.36); numerical control apparatus of heading 85.37; sealed beam lamp units of heading 85.39; optical fibre cables of heading 85.44;

(ij) Searchlights or spotlights of heading 94.05;

(k) Articles of Chapter 95;

(l) Monopods, bipods, tripods and similar articles, of heading 96.20;

(m) Capacity measures, which are to be classified according to their constituent material; or

(n) Spools, reels or similar supports (which are to be classified according to their constituent material, for example, in heading 39.23 or Section XV).

2.- Subject to Note 1 above, parts and accessories for machines, apparatus, instruments or articles of this Chapter are to be classified according to the following rules :

(a) Parts and accessories which are goods included in any of the headings of this Chapter or of Chapter 84, 85 or 91 (other than heading 84.87, 85.48 or 90.33) are in all cases to be classified in their respective headings;

(b) Other parts and accessories, if suitable for use solely or principally with a particular kind of machine, instrument or apparatus, or with a number of machines, instruments or apparatus of the same heading (including a machine, instrument or apparatus of heading 90.10, 90.13 or 90.31) are to be classified with the machines, instruments or apparatus of that kind;

(c) All other parts and accessories are to be classified in heading 90.33.

3.- The provisions of Notes 3 and 4 to Section XVI apply also to this Chapter.

4.- Heading 90.05 does not apply to telescopic sights for fitting to arms, periscopic telescopes for fitting to submarines or tanks, or to telescopes for machines, appliances, instruments or apparatus of this Chapter or Section XVI; such telescopic sights and telescopes are to be classified in heading 90.13.

5.- Measuring or checking optical instruments, appliances or machines which, but for this Note, could be classified both in heading 90.13 and in heading 90.31 are to be classified in heading 90.31.

6.- For the purposes of heading 90.21, the expression “orthopaedic appliances” means appliances for :

- Preventing or correcting bodily deformities; or

- Supporting or holding parts of the body following an illness, operation or injury.

Orthopaedic appliances include footwear and special insoles designed to correct orthopaedic conditions, provided that they are either (1) made to measure or (2) mass-produced, presented singly and not in pairs and designed to fit either foot equally.

7.- Heading 90.32 applies only to :

(a) Instruments and apparatus for automatically controlling the flow, level, pressure or other variables of liquids or gases, or for automatically controlling temperature, whether or not their operation depends on an electrical phenomenon which varies according to the factor to be automatically controlled, which are designed to bring this factor to, and maintain it at, a desired value, stabilised against disturbances, by constantly or periodically measuring its actual value; and

(b) Automatic regulators of electrical quantities, and instruments or apparatus for automatically controlling non-electrical quantities the operation of which depends on an electrical phenomenon varying according to the factor to be controlled, which are designed to bring this factor to, and maintain it at, a desired value, stabilised against disturbances, by constantly or periodically measuring its actual value.

GENERAL

(I) GENERAL CONTENT AND ARRANGEMENT OF THE CHAPTER

This Chapter covers a wide variety of instruments and apparatus which are, as a rule, characterised by their high finish and high precision. Most of them are used mainly for scientific purposes (laboratory research work, analysis, astronomy, etc.), for specialised technical or industrial purposes (measuring or checking, observation, etc.) or for medical purposes.

The Chapter includes in particular :

(A) A wide group comprising not only simple optical elements of headings 90.01 and 90.02, but also optical instruments and apparatus ranging from spectacles of heading 90.04 to more complex instruments used in astronomy, photography, cinematography or for microscopic observation.

(B) Instruments and apparatus designed for certain specifically defined uses (surveying, meteorology, drawing, calculating, etc.).

(C) Instruments and appliances for medical, surgical, dental or veterinary uses, or for related purposes (radiology, mechano-therapy, oxygen therapy, orthopaedy, prosthetics, etc.).

(D) Machines, instruments and appliances for testing materials.

(E) Laboratory instruments and appliances.

(F) A large group of measuring, checking or automatically controlling instruments and apparatus, whether or not optical or electrical and in particular those of heading 90.32 as defined in Note 7 to the Chapter.

Some of these instruments are specified in certain headings, for example, compound optical microscopes (heading 90.11), electron microscopes (heading 90.12), other instruments and apparatus are covered by more general descriptions in headings which refer to a particular science, industry, etc. (e.g., astronomical instruments of heading 90.05, surveying instruments and appliances of heading 90.15, X-ray, etc., apparatus of heading 90.22). This Chapter also includes vacuum apparatus of a kind used in medical, surgical, dental or veterinary sciences (**heading 90.18**).

There are certain exceptions to the general rule that the instruments and apparatus of this Chapter are high precision types. For example, the Chapter also covers ordinary goggles (heading 90.04), simple magnifying glasses and non-magnifying periscopes (heading 90.13), divided scales and school rules (heading 90.17) and fancy hygrometers, irrespective of their accuracy (heading 90.25).

Except for certain exclusions referred to in Note 1 to this Chapter (e.g., rubber or leather washers and gaskets, and leather diaphragms for meters), the instruments, apparatus and parts thereof falling in this Chapter may be of any material (including precious metals or metal clad with precious metal, precious or semi-precious stones (natural, synthetic or reconstructed)).

(II) INCOMPLETE OR UNFINISHED MACHINES, APPARATUS, ETC.

(See General Interpretative Rule 2 (a))

Provided they have the essential character of the complete or finished article, incomplete or unfinished machines, appliances, instruments or apparatus are classified with the corresponding complete or finished articles (for example, a photographic camera or a microscope presented without its optical elements or an electricity supply meter without its totalling device).

(III) PARTS AND ACCESSORIES

(Chapter Note 2)

Subject to Chapter Note 1, parts or accessories identifiable as suitable for use **solely or principally** with the machines, appliances, instruments or apparatus of this Chapter are classified with those machines, appliances, etc.

This general rule **does not**, however, **apply to** :

(1) Parts or accessories which in themselves constitute articles falling in any particular heading of this Chapter or of **Chapter 84**, **85** or **91** (**other than** the residual **heading 84.87**, **85.48** or **90.33**. For example, a vacuum pump for an electron microscope remains a pump of **heading 84.14**; transformers, electro-magnets, capacitors, resistors, relays, lamps or valves, etc., remain classified in **Chapter 85**; the optical elements of **heading 90.01** or **90.02** remain in the headings cited regardless of the instruments or apparatus to which they are to be fitted; a clock or watch movement is always classified in **Chapter 91**; a photographic camera falls in **heading 90.06** even if it is of a kind designed for use with another instrument (microscope, stroboscope, etc.).

(2) Parts or accessories suitable for use with several categories of machines, appliances, instruments or apparatus falling in different headings of this Chapter are classified in **heading 90.33**, **unless** they are in themselves complete instruments, etc., specified in another heading (see paragraph (1) above).

(IV) MULTI-FUNCTION OR COMPOSITE MACHINES, APPARATUS, ETC.;

FUNCTIONAL UNITS

(Chapter Note 3)

Note 3 specifies that the provisions of Notes 3 and 4 to Section XVI apply also to this Chapter (see Parts (VI) and (VII) of the General Explanatory Note to Section XVI).

In general, multi-function machines are classified according to the principal function of the machine.

Multi-function machines are able to carry out different operations.

Where it is not possible to determine the principal function, and where, as provided in Note 3 to Section XVI, the context does not otherwise require, it is necessary to apply General Interpretative Rule 3 (c).

Composite machines or apparatus consisting of two or more machines or apparatus of different kinds, fitted together to form a whole, consecutively or simultaneously performing **separate** functions which are generally complementary and are described in different headings of this Chapter, are also classified according to the principal function of the composite machine or apparatus.

For the purposes of the above provisions, machines or apparatus of different kinds are taken to be **fitted together to form a whole** when incorporated one in the other or mounted one on the other, or mounted on a common base or frame or in a common housing.

Assemblies of machines or apparatus should not be taken to be fitted together to form a whole unless the machines or apparatus are designed to be permanently attached either to each other or to a common base, frame, housing, etc. This **excludes** assemblies which are of a temporary nature or are not normally built as a composite machine, apparatus, etc.

The bases, frames or housings may be provided with wheels so that the composite machines or apparatus can be moved about as required during use, **provided** they do not thereby acquire the character of an article (e.g., a vehicle) more specifically covered by a particular heading of the Nomenclature.

Floors, concrete bases, walls, partitions, ceilings, etc., even if specially fitted out to accommodate machines or apparatus should not be regarded as a common base joining such machines or apparatus to form a whole.

The provisions of Note 3 to Section XVI **need not be invoked** when the composite machines or apparatus are covered as such by a particular heading."

This Chapter covers, as functional units, for example, the electrical (including electronic) instruments or apparatus which make up an **analogue or digital telemetering system**. These are essentially the following :

(I) Apparatus at the transmitting end :

(i) **A primary detector** (transducer, transmitter, analogue-digital converter, etc.) which transforms the quantity to be measured, whatever its nature, into a proportional current, voltage or digital signal.

(ii) **A measurement amplifier, transmitter and receiver basic unit** which (if necessary) boosts this current, voltage or digital signal to the level required by the pulse or frequency-modulated transmitter.

(iii) **A pulse or frequency-modulated transmitter** which transmits an analogue or digital signal to another station.

(II) Devices at the receiving end :

(i) **A pulse, frequency-modulated or digital signal receiver** which converts the information into an analogue or digital signal.

(ii) **A measurement amplifier or converter** which, if necessary, amplifies the analogue or digital signal.

(iii) **Indicating or recording instruments** calibrated in terms of the primary quantity and equipped with a mechanical pointer or opto-electronic display.

Telemetering systems are mainly used in oil, gas and production pipelines, water, gas and sewage disposal installations and environmental monitoring systems.

Line or radio transmitters and receivers for telemetering pulses remain in their respective headings (**heading 85.17**, **85.25** or **85.27**, as the case may be) **unless** they are combined as a single unit with the instruments and apparatus referred to in (I) and (II) above or the whole forms a functional unit within the meaning of Note 3 to Chapter 90; the complete unit then falls in this Chapter.

*

* *

In addition to the exclusions mentioned in the text of the Explanatory Notes, the following are always **excluded** from this Chapter :

(a) Articles of a kind used in machines, appliances or for other technical uses, of vulcanised rubber other than hard rubber (**heading 40.16**), of leather or of composition leather (**heading 42.05**) or of textile material (**heading 59.11**).

(b) Parts of general use, as defined in Note 2 to Section XV, of base metal (**Section XV**) or similar goods of plastics (**Chapter 39**).

(c) Lifting or handling machinery (**headings 84.25** to **84.28** and **84.86**); fittings for adjusting work or tools on machine-tools or water-jet cutting machines, of **heading 84.66**, including fittings with optical devices for reading the scale (for example, “optical” dividing heads) but not those which are in themselves essentially optical instruments (for example, alignment telescopes); radar apparatus, radio navigational aid apparatus or radio remote control apparatus (**heading 85.26**).

(d) Spacecraft equipped with instruments or apparatus of this Chapter (**heading 88.02**).

(e) Toys, games, sports requisites and other articles of **Chapter 95**, and parts and accessories thereof.

(f) Capacity measures; these are classified according to their constituent material.

(g) Spools, reels or similar supports (classified according to their constituent material, for example, in **heading 39.23** or **Section XV**).

Heading 9001

Optical fibres and optical fibre bundles; optical fibre cables other than those of heading 85.44; sheets and plates of polarising material; lenses (including contact lenses), prisms, mirrors and other optical elements, of any material, unmounted, other than such elements of glass not optically worked.

EXPLANATORY NOTES

90.01 - Optical fibres and optical fibre bundles; optical fibre cables other than those of heading 85.44; sheets and plates of polarising material; lenses (including contact lenses), prisms, mirrors and other optical elements, of any material, unmounted, other than such elements of glass not optically worked.

9001.10 - Optical fibres, optical fibre bundles and cables

9001.20 - Sheets and plates of polarising material

9001.30 - Contact lenses

9001.40 - Spectacle lenses of glass

9001.50 - Spectacle lenses of other materials

9001.90 - Other

This heading covers :

(A) **Optical fibres and optical fibre bundles, as well as optical fibre cables other than those of heading 85.44**.

Optical fibres consist of concentric layers of glass or plastics of different refractive indices. Those drawn from glass have a very thin coating of plastics, invisible to the naked eye, which renders the fibres less prone to fracture. Optical fibres are usually presented on reels and may be several kilometers in length. They are used to make optical fibre bundles and optical fibre cables.

Optical fibre bundles may be rigid, in which case the fibres are agglomerated by a binder along their full length, or they may be flexible, in which case they are bound only at their ends. If coherently bundled, they are used for transmission of images, but if randomly bundled, they are suitable only for transmission of light for illumination.

Optical fibre cables of this heading (which may be fitted with connectors) consist of a sheath containing one or more optical fibre bundles, the fibres of which are not individually sheathed.

Optical fibre bundles and cables are used primarily in optical apparatus, particularly in endoscopes of heading 90.18.

(B) **Polarising material in sheets or plates** which consist of specially treated sheets or plates of plastics, or of sheets or plates in which a layer of "active" plastics is supported on one or both sides by other plastics or by glass. This sheet or plate material is cut to shape to make the polarising elements described at Item (6) below.

(C) **Optical elements of glass, optically worked, not permanently mounted**. In order to distinguish between optical elements of glass of this heading and those of **Chapter 70** it is necessary to determine whether or not they have been optically worked.

The optical working of glass is usually performed in two stages, viz., the production of the surfaces to the shape required (i.e., with the necessary curvature, at the correct angle, etc.), and the polishing of these surfaces. This working consists of grinding the surfaces by means of abrasives, rough at first, then gradually finer, the successive operations being roughing, trueing, smoothing and polishing. Finally, in the case of lenses required to be of an exact diameter, the edges are ground; this is known as the centring and edging operation. This heading applies only to optical elements of which the whole or part of their surface has been polished in order to produce the required optical properties. It applies therefore to elements which have been ground and polished as described above, and also to elements which have been polished after moulding. The heading **does not apply** to unpolished elements having undergone merely one or more of the processes which precede polishing. Such elements fall in **Chapter 70**.

(D) **Optical elements of any material other than glass, whether or not optically worked, not permanently mounted** (e.g., elements of quartz (other than fused quartz), fluorspar, plastics or metal; optical elements in the form of cultured crystals of magnesium oxide or of the halides of the alkali or the alkaline-earth metals).

Optical elements are manufactured in such a way that they produce a required optical effect. An optical element does more than merely allow light (visible, ultraviolet or infrared) to pass through it, rather the passage of light must be altered in some way, for example, by being reflected, attenuated, filtered, diffracted, collimated, etc.

Optical elements with a temporary mounting provided **solely** for protection during transport are considered to be unmounted.

Subject to the provisions set out above regarding optical elements of glass, this heading includes :

(1) **Prisms and lenses** (including compound prisms and lenses assembled by means of an adhesive cement), whether or not with unfinished edges.

(2) **Plates and discs with plane or plane-parallel faces** (e.g., proof planes or optical flats for checking the flatness of a surface).

(3) **Ophthalmic lenses**. These lenses may be aspherical, spherical, sphero-cylindrical, uni-focal, bi-focal or multi-focal. They also include **contact lenses**.

(4) **Mirrors constituting optical elements**. These are used, for example, in telescopes, projectors, microscopes, medical, dental or surgical instruments, and sometimes as vehicle rear-view mirrors.

(5) **Colour filters** (e.g., for photographic cameras).

(6) **Polarising elements** (for microscopes or other scientific instruments; for sunglasses; for spectacles for viewing three-dimensional cinematograph films, etc.).

(7) **Diffraction gratings**. These may be :

(a) Highly polished glass on which parallel lines have been cut close together at regular intervals (e.g., 100 lines per millimetre).

(b) "Replica" gratings consisting of a thin film of plastics or gelatin on a support such as a plate of glass. The thin film bears an impression of the lines of an original ruled grating.

These gratings are used in the same way as prisms for study of spectra.

(8) **Interference filters**. These consist of alternate very thin films of, for example, magnesium fluoride and silver sandwiched between two plates of glass or between two 45° glass prisms (forming a cube). They are used as colour filters or for splitting a beam of light into two components.

(9) **Halftone or similar printing screens, generally round or rectangular (including square), of carefully polished glass** (original screens for photogravure or process engraving), consisting of :

(i) two plates of glass, etched with very fine parallel lines, rendered opaque with a special varnish, which are then stuck together so that the lines are exactly at right angles; or

(ii) a single glass plate on which small hollows, usually square, have been etched and rendered opaque with a special varnish.

Some of the optical elements listed above (lenses, prisms, etc.) may be coloured, or coated with an anti-reflection film of cryolite, calcium or magnesium fluoride, etc. This does not affect their classification in this heading.

The heading **does not cover** :

(a) Cultured crystals, not being optical elements (generally **heading 38.24**).

(b) Mirrors of **heading 70.09**, i.e., glass mirrors not optically worked. Simple plane or even curved mirrors (e.g., shaving mirrors and mirrors for powder compacts) are therefore classified in **heading 70.09**.

(c) Optical elements of glass of **heading 70.14**, i.e., elements not optically worked (generally moulded) (see Explanatory Note to heading 70.14).

(d) Glasses of **heading 70.15**, not optically worked (e.g., blanks for contact lenses or for corrective spectacle lenses, for goggles, for protecting the dials of measuring instruments, etc.).

(e) Mirrors, not constituting optical elements, of precious metal (**Chapter 71**), or of base metal (**heading 83.06**).

(f) Connectors for optical fibres, optical fibre bundles or cables (**heading 85.36**).

(g) Optical fibre cables made up of individually sheathed fibres (**heading 85.44**).

9001.10

- Optical fibres, optical fibre bundles and cables

9001.20

- Sheets and plates of polarising material

9001.30

- Contact lenses

9001.40

- Spectacle lenses of glass

9001.50

- Spectacle lenses of other materials

9001.90

- Other

Heading 9002

Lenses, prisms, mirrors and other optical elements, of any material, mounted, being parts of or fittings for instruments or apparatus, other than such elements of glass not optically worked.

EXPLANATORY NOTES

90.02 - Lenses, prisms, mirrors and other optical elements, of any material, mounted, being parts of or fittings for instruments or apparatus, other than such elements of glass not optically worked.

- Objective lenses :

9002.11 - - For cameras, projectors or photographic enlargers or reducers

9002.19 - - Other

9002.20 - Filters

9002.90 - Other

With the exception of ophthalmic lenses (which when mounted constitute spectacles, lorgnettes or the like of **heading 90.04**), this heading covers the articles referred to in Items (B), (C) and (D) of the Explanatory Note to heading 90.01 when in a permanent mounting (viz., fitted in a support or frame, etc.) suitable for fitting to an apparatus or instrument. The articles of the heading are mainly designed to be incorporated with other parts to form a specific instrument or part of an instrument. The heading **does not include** mounted optical elements which are in themselves separate appliances,

for example, hand magnifying glasses (**heading 90.13**), and mirrors for medical or dental purposes (**heading 90.18**).

Subject to the above conditions, the heading includes :

(1) Objective lenses, additional lenses, colour filters, viewfinders, etc., for photographic or cinematographic cameras or for projectors.

(2) Polarising filters for microscopes or polarimeters.

(3) Eyepieces and objectives (including polarising) for astronomical instruments, binoculars or refracting telescopes, microscopes, etc.

(4) Mounted prisms for instruments or apparatus for physical or chemical analysis (polarimeters, etc.).

(5) Mounted mirrors for telescopes, projectors, microscopes, medical or surgical instruments, etc.

(6) Optical elements (lenses and prisms) for lighthouses or beacons, mounted on panels or drums.

(7) Mounted lenses clearly identifiable as fittings for optical benches.

(8) Mounted halftone or similar printing screens.

The objective lens in an optical instrument is the lens system that faces the object, giving an image of the latter. It may be a single lens but is usually a group of lenses in a single mounting.

Eyepieces are optical systems (placed near the eyes) through which a magnified image is observed.

The heading **does not cover** :

(a) Optical elements with a temporary mounting provided **solely** for protection during transport (**heading 90.01**).

(b) Mounted glass mirrors, optically worked, which are unsuitable for fitting to instruments or apparatus (for example, certain rear-view mirrors, chimney or drain inspection mirrors, and special mirrors for wind-tunnel observations) (**heading 90.13**).

(c) Sets of lenses put up in cases and designed for fitting into special frames for sight testing (used by opticians) (**heading 90.18**).

9002.1

- Objective lenses :

9002.11

-- For cameras, projectors or photographic enlargers or reducers

9002.19

-- Other

9002.20

- Filters
9002.90

- Other
Heading 9003

Frames and mountings for spectacles, goggles or the like, and parts thereof.
EXPLANATORY NOTES

90.03 - Frames and mountings for spectacles, goggles or the like, and parts thereof.

- Frames and mountings :

9003.11 - - Of plastics

9003.19 - - Of other materials

9003.90 - Parts

This heading covers frames and mountings, and parts thereof, for the spectacles or other articles of heading 90.04 (see the Explanatory Note to that heading). They are generally of base metal, precious metal, metal clad with precious metal, plastics, tortoise-shell or mother-of-pearl. They may also be of leather, rubber or fabric, for example, frames for goggles.

Parts of frames include spectacle side-pieces and side-piece cores, hinges or joints, eye-rims, bridges, nose-pieces, spring devices for pince-nez, handles for lorgnettes, etc.

Screws, chains (without securing device) and springs of base metal are **not** classified as parts of mountings but fall in their own respective headings (see Note 1 (f) to this Chapter).

This heading also **excludes** mountings and parts thereof of articles sometimes referred to as "spectacles" but which do not fall in heading 90.04, e.g., special spectacles used by oculists for examining eyes (**heading 90.18**).

9003.1

- Frames and mountings :
9003.11

-- Of plastics
9003.19

-- Of other materials
9003.90

- Parts
Heading 9004

Spectacles, goggles and the like, corrective, protective or other.
EXPLANATORY NOTES

90.04 - Spectacles, goggles and the like, corrective, protective or other.

9004.10 - Sunglasses

9004.90 - Other

This heading covers articles (usually comprising a frame or support with lenses or shields of glass or other material), for use in front of the eyes, generally intended either to correct certain defects of vision or to protect the eyes against dust, smoke, gas, etc., or dazzle; it also covers spectacles for viewing stereoscopic (three-dimensional) pictures.

Spectacles, pince-nez, lorgnettes, monocles, etc., used for correcting vision, generally have optically worked lenses.

Protective spectacles and goggles generally consist of plane or curved discs of ordinary glass (whether or not optically worked, or tinted), of safety glass, of plastics (poly(methyl methacrylate) polystyrene, etc.), of mica, or of metal (wire gauze, or slotted plates). These articles include sunglasses, spectacles used for mountaineering or winter sports, goggles for airmen, motorists, motor-cyclists, chemists, welders, foundry workers, moulders, sand-blast machine operators, electricians, roadmen, quarrymen, etc.

The heading also includes goggles for underwater use; removable spectacles (e.g., sunglasses) for fitting to other spectacles (generally corrective spectacles) and used either as protective filters or, in some cases, as additional corrective lenses; polarising spectacles fitted with lenses of plastics for viewing three-dimensional films (whether or not with a paperboard frame).

PARTS

Frames and mountings, and parts thereof, for spectacles or the like, are classified in **heading 90.03**. Eyepieces of glass are classified in **heading 70.15** if not optically worked, or in **heading 90.01** if optically worked; eyepieces of materials other than glass are classified in **heading 90.01** if they constitute optical elements; otherwise they are classified in this heading.

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As the heading covers **only** those spectacles, etc., designed to cover the eyes, it **excludes** articles designed to cover or protect most of the face (e.g., visors for welders; screens and eye-shades for motor-cyclists; face masks for underwater swimming).

The heading also **excludes** :

(a) Contact lenses of **heading 90.01**.

(b) Opera or racing glasses and similar articles, made with spectacle mountings (**heading 90.05**).

(c) Toy spectacles (**heading 95.03**).

(d) Carnival articles (**heading 95.05**).

9004.10

- Sunglasses

9004.90

- Other

CLASSIFICATION OPINIONS

1. **Virtual reality headset (VR headset) designed to be connected to and used with a specific type of mobile phone.** In the common housing resembling goggles, the product incorporates the following main components :

- an internal Central Processing Unit (CPU);
- a pair of convex lenses to magnify the image of mobile phone's screen;
- a focus wheel to adjust the position of magnifying lenses;
- a key to control the volume of a mobile phone;
- two micro-USB connectors to connect external power source and the mobile phone;
- an accelerometer sensor and a gyro sensor for tracking the movement of user's head;
- a proximity sensor to switch on/off mobile phone's screen;
- a touch pad to control a mobile phone.

The product is equipped with a flap holder for placing the mobile phone and holding it by its screen directly in front of the user's eyes. When a specific application is installed on the mobile phone and the mobile phone is connected to the headset, the built-in magnifying lenses allow the user to see a stereoscopic view of the mobile phone screen, which displays two, almost the same, side-by-side images. In addition, it also allows to control running of the application on the mobile phone by detecting the movements of the user's head (tilting and turning) in real time and transmitting the information, over the CPU of the headset, to the main board of the mobile phone. The touch pad and control keys of the headset can also be used to control the use of certain other functions (such as volume, etc.) of the mobile phone. **Application des RGI 1 et 6.** Adoption : 2017



Heading 9005

Binoculars, monoculars, other optical telescopes, and mountings therefor; other astronomical instruments and mountings therefor, but not including instruments for radio-astronomy.

EXPLANATORY NOTES

90.05 - Binoculars, monoculars, other optical telescopes, and mountings therefor; other astronomical instruments and mountings therefor, but not including instruments for radio-astronomy.

9005.10 - Binoculars

9005.80 - Other instruments

9005.90 - Parts and accessories (including mountings)

This heading includes :

(1) **Binoculars**, such as opera glasses, binoculars for touring or hunting, military binoculars (including night glasses and certain periscopic binoculars) and binoculars made in the form of spectacles.

(2) **Telescopes** for hunting, touring, for use at sea, for firing ranges, for health resorts (for observing scenery or the sky), etc. They may be in one piece (pocket or other telescopes) or with sliding drawers for focussing; they may also be designed to be fitted on a stand. Certain telescopes may incorporate a device so that they can be used only after the insertion of a coin.

(3) **Astronomical refracting telescopes**. Unlike reflecting telescopes which have a mirror for objective, refracting telescopes have objectives consisting of a system of lenses, some of which may be of large diameter. They are not equipped with an erecting eyepiece which would cause loss of light.

The heading includes refracting telescopes whether designed for visual, visual and photographic, or solely for photographic observation. When equipped with a photographic camera which forms an integral part of the complete instrument, they are classified in this heading; however, a photographic camera which does not form an integral part of the complete instrument is classified in **heading 90.06**.

(4) **Reflecting telescopes**. These are the main general purpose astronomical instruments. The objective, which forms the primary image, consists of a concave parabolic mirror which may be of a considerable diameter; the reflecting surface is silvered or aluminised.

Reflecting telescopes are usually designed to be mounted on stands which are frequently large structures with considerable associated equipment. When equipped with a photographic camera which forms an integral part of the complete instrument, they are classified in this heading; however, a photographic camera which does not form an integral part of the complete instrument is classified in **heading 90.06**.

This heading includes the Schmidt reflecting telescope, often referred to as the Schmidt camera. This is used solely in astronomy for photographic observation. It uses a spherical mirror and a correcting plate which is placed parallel to the mirror at the centre of its arc. The image is recorded at the focal point on a convex film.

(5) **Astronomical telescopes** fitted with photo-multipliers or image converter tubes. In this type of telescope the energy of the incident light is used to free electrons from a photoelectric surface placed where the eyepiece would otherwise be. The electrons may be multiplied and measured to show the amount of light originally received by the telescope, or may be focussed (e.g., by magnetic lenses) to form an image on a photographic plate or fluorescent screen.

(6) **Transit instruments**, which are used to observe the apparent passage (due to the rotation of the earth) of celestial bodies above the meridian line at the place of observation. They consist essentially of a telescope mounted on an East-West horizontal axis and can therefore move within the meridian plane.

(7) **Equatorial telescopes**. These are mounted on an equatorial stand which allows the telescope to move round an axis parallel to that of the earth (polar axis) and round another axis perpendicular to the former (axis of declination).

(8) **Zenith telescopes**, which are telescopes mounted so as to move round a horizontal and a vertical axis.

(9) **Altazimuths, or azimuth circles**. These are telescopes movable round a horizontal axis whereas their frames are movable round a vertical axis. These instruments are designed to measure both altitudes and azimuths. Theodolites are smaller instruments designed on the same principle, but used for surveying and are **excluded** (**heading 90.15**).

(10) **Coelostats**, which are instruments intended to facilitate astronomical observations, particularly by reflecting a given part of the sky into a vertical or horizontal stationary instrument (telescope, spectroheliograph). They consist essentially of two plane mirrors, one of which is controlled by a clockwork movement and turns a complete circle in 48 hours.

Heliostats and siderostats are special types of coelostats used for astronomical purposes. Certain instruments also called heliostats are used for surveying; these are **excluded** (**heading 90.15**).

(11) **Spectroheliographs and spectrohelioscopes**, which are instruments used in studying the sun. The spectroheliograph is used to take photographs of the sun in the light of any desired wavelength. It consists of a spectroscope with a slit in place of the eyepiece so that only light of the desired wavelength can pass through it on to a photographic plate. The spectrohelioscope operates on the same principle as the spectroheliograph but uses a rapidly oscillating slit so that the sun can be viewed by the naked eye. Other methods (e.g., rotating glass prism with a fixed slit) are used to obtain the same result.

(12) **Heliometers**, which consist of a telescope with its object glass divided along a diameter, the two halves being movable; they are used for measuring the sun's angular diameter and the angular distance between two heavenly bodies.

(13) **Coronographs and similar instruments**, which are used to observe the sun's corona at times other than that of a total solar eclipse.

The heading also includes telescopes, **and more particularly binoculars**, which utilize infra-red light and which incorporate image converter tubes to convert the magnified infra-red image into an image which can be seen by the human eye; these infra-red instruments are used at night, particularly by armed forces. Also included are telescopes, binoculars and the like which utilise light amplifiers (also

known as image intensifiers) to increase the brightness of an image which is below the visual threshold to a level where the image can be seen.

However, in accordance with Note 4 to this Chapter, this heading **does not cover** telescopic sights for fitting to arms, periscopic telescopes for fitting to submarines or tanks, or telescopes for machines, appliances, instruments or apparatus of this Chapter (for example, telescopes for fitting to theodolites, levels or other surveying instruments) or of Section XVI (**heading 90.13**).

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), this heading also covers parts and accessories of the goods of this heading. Such parts and accessories include : frames, housings, tubes and mountings; filar micrometers used with equatorial telescopes for measuring the diameters of planets (these devices consist of a graduated disc mounted on the eyepiece of the telescope and fitted with two fixed wires and one movable wire); Gerrish drives used with a motor to move astronomical instruments.

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The heading also **excludes** :

(a) Superstructures used for installing the instruments or facilitating access to them (domes, platforms, control boards, etc.); these are classified in their own appropriate headings (for example, in**Section XV**).

(b) Optical elements such as mirrors, lenses and prisms, presented separately (**heading 90.01** or **90.02** as the case may be).

(c) Blink microscopes, used in astronomy to find new stars by comparing photographs of the sky (**heading 90.11**).

(d) “Door eyes” or through door viewers (**heading 90.13**).

(e) Instruments used to determine a terrestrial position in relation to the stars, e.g., sextants (**heading 90.14**).

(f) Microphotometers or microdensitometers for the study of spectrograms (**heading 90.27**).

(g) Astronomical clocks (**Chapter 91**).

9005.10

- Binoculars

9005.80

- Other instruments

9005.90

- Parts and accessories (including mountings)

Heading 9006

Photographic (other than cinematographic) cameras; photographic flashlight apparatus and flashbulbs other than discharge lamps of heading 85.39.

EXPLANATORY NOTES

90.06 - Photographic (other than cinematographic) cameras; photographic flashlight apparatus and flashbulbs other than discharge lamps of heading 85.39.

9006.30 - Cameras specially designed for underwater use, for aerial survey or for medical or surgical examination of internal organs; comparison cameras for forensic or criminological purposes

9006.40 - Instant print cameras

- Other cameras :

9006.53 - - For roll film of a width of 35 mm.

9006.59 - - Other

- Photographic flashlight apparatus and flashbulbs :

9006.61 - - Discharge lamp (“electronic”) flashlight apparatus

9006.69 - - Other

- Parts and accessories :

9006.91 - - For cameras

9006.99 - - Other

(I) PHOTOGRAPHIC (OTHER THAN CINEMATOGRAPHIC) CAMERAS

This group covers all kinds of photographic cameras (**other than** cinematographic cameras), whether for professional or amateur use, and whether or not presented with their optical elements (objective lenses, viewfinders, etc.). Photographic cameras are those in which the exposure of a chemical based film (e.g., silver halide), plate or paper to the image or light from the camera’s optical system causes a chemical change to the film, plate or paper. Further processing is required to create a viewable image.

There are many different types of **cameras**, but the conventional types consist essentially of a light-tight chamber, a lens, a shutter, a diaphragm, a holder for a photographic plate or film, and a viewfinder. Variations in these essential features characterise the different kinds of cameras, such as :

(A) **Box cameras**; these are the simplest type.

(B) **Folding or collapsible cameras**, for studio or amateur use.

(C) **Reflex cameras**. In the majority of these cameras, the image received by the objective lens is reflected from a mirror to the viewfinder by means of a special prism (single lens reflex). Other apparatus of this type have a second objective lens from which the image is reflected onto a screen at the top of the camera (twin lens reflex).

(D) **Pocket cameras** which generally use film cassettes; however, some types use discs.

These cameras may also incorporate an automatic focusing system, a motor drive for winding film, an integral flash and a liquid crystal display all of which may be controlled by a microprocessor.

The cameras of this group include :

(1) **Stereo cameras**, equipped with two identical lenses and a shutter which exposes two images simultaneously.

(2) **Panoramic cameras**, used to photograph a wide panorama or a long line of people. The camera can be rotated at a uniform rate about a vertical axis, the exposure being made by a vertical slit which travels across the plate or film.

(3) **Recording cameras**. These cameras generally have no shutter, the film moving continuously behind the lens. They are usually intended for combining with other apparatus (for example, cathode-ray oscilloscopes) for recording transitory and ultra-rapid phenomena.

(4) **Instant print cameras (portable or cabinet type) in which processing is carried out automatically after exposure** so that the finished photograph is available in a short time. Coin-, token- or magnetic card operated cabinet type instant print cameras are classified here and not in heading 84.76.

(5) **Cameras with wide angle lenses** to cover a very wide field. Special lenses are used to give an all round view of the horizon. Extreme wide-angle cameras swing the lens during exposure in synchronisation with the shutter.

(6) "**Disposable" cameras**, also known as “single-use” or “one-time use” cameras, which are pre-loaded with film which is generally not replaced after use.

(7) **View cameras**. These consist of a flexible bellows which is attached to the front and rear panels that swing on a rigid base. The front panel holds the lens mounted on a board and the rear panel contains a film holder. The bellows connects the lens board to the film holder and allows them to move freely in relation to one another.

(8) **Cameras with air- and watertight cases** for underwater photography.

(9) **Cameras with automatic shutter release** (such as those with an electronically operated shutter) controlled by a watch movement designed to permit a series of shots to be taken at regular intervals. This type also includes cameras designed for photographing subjects without their knowledge; they are fitted with a photoelectric cell placed in the circuit of the shutter release, and some are in the form of a small wrist-watch.

(10) **Aerial survey cameras** designed to take successive pictures at predetermined time intervals so that a strip of ground is covered by overlapping photographs. Some aerial survey cameras have

multiple lenses to take vertical and oblique views. This group includes cameras for aerial photogrammetry.

(11) **Cameras for terrestrial photogrammetry** consisting of two cameras, interconnected and fixed on a tripod, for taking photographs simultaneously. These cameras are mainly used for archeological research, the upkeep of monuments or at road accidents.

(12) **Comparison cameras for forensic or criminological purposes**. With these cameras two articles can be photographed simultaneously and the images compared; these are used for verifying fingerprints, checking forgeries, etc.

(13) **Cameras for medical or surgical purposes**, e.g., those introduced in the stomach, for examination and subsequent diagnosis.

The heading **does not cover** video cameras used for these purposes (**heading 85.25**).

(14) **Cameras for microphotography**.

(15) **Cameras used for copying documents** (letters, receipts, cheques, drafts, order forms, etc.), including those recording on microfilms, microfiches or other microforms or on sensitive paper.

(16) **Laser photoplotter for creating latent "printed circuit board" images on photosensitive film, generally from digital formats,** (which is subsequently used in the production of printed circuit boards) **by means of a laser beam**. It is comprised of a keyboard, a screen (cathode ray tube), a raster image processor and an image reproducer.

(17) **Cameras used for composing or preparing printing plates or cylinders** by photographic means. This apparatus may be of considerable size and may differ considerably from the other types of photographic cameras mentioned above. This group includes **:**

(i) Vertical and horizontal process cameras, three-colour cameras, etc.

(ii) Cameras which photograph blocks of type previously set by hand or by machine.

(iii) Apparatus to select the primary colours in illustrations (photographs, transparencies, etc.), consisting essentially of an optical device and an electronic calculator, designed for the production, by photographic means, of screened and corrected negatives which will be used in the preparation of printing plates.

(iv) Laser photoplotter for creating latent images on photosensitive film, generally from digital formats, (e.g., colour transparencies, which are used to reproduce digital artwork with continuous-tone) by means of a laser beam. To reproduce an image, the primary colours (cyan, magenta and yellow) are first selected, whereupon each colour is separately turned into rasterized data by an automatic data processing machine or raster image processor. The raster image processor may be incorporated in the photoplotter.

Apparatus for preparing printing plates or cylinders by a photocopying or thermocopying process are excluded from this heading and fall in **heading 84.43**. Photographic enlarging or reducing apparatus fall in **heading 90.08**.

(II) PHOTOGRAPHIC FLASHLIGHT APPARATUS AND FLASHBULBS

This group covers photographic flashlight apparatus and flashbulbs which are used for professional or amateur photography, in photographic laboratories or in photogravure work.

These devices produce very bright light for a very short duration (flash) and are thus distinguished from photographic lighting equipment of **heading 94.05**.

Photographic flashlighting can be obtained either by means of electrically or mechanically ignited devices or by means of discharge lamps (see Explanatory Note to heading 85.39).

Included here are :

(1) **Separate flashbulbs**.

In these the light is produced by a chemical reaction initiated by an electric current. A flashbulb can be used only once. It consists of a bulb enclosing the active substance and the igniting device (either a filament or electrodes).

The most common types of flashbulbs are :

(i) Oxygen-filled bulbs containing wire or finely shredded strip of, for example, aluminium, zirconium, aluminium-magnesium alloy or aluminium-zirconium alloy.

(ii) Bulbs in which a ball of paste, consisting of one or more metal powders (e.g., zirconium) mixed with an oxidising agent, is attached to each of the electrodes.

(2) **Flashcubes**.

These are devices in the form of a cube containing four flashbulbs and four reflectors. Each bulb in the cube is ignited in turn either electrically, or mechanically by percussion of an explosive material.

(3) **Battery flashlamps**.

Such lamps are fitted with an electric battery and an electrically ignited flashbulb or flashcube, and are usually operated by a synchroniser in the camera shutter.

The apparatus using discharge lamps is more complex. Whether built as a single unit or comprising several elements, it usually consists of :

(A) A mains, battery or accumulator-operated power pack; this works on the principle of the charge and discharge of a condenser and is usually controlled by a synchroniser incorporated in the camera shutter. Some types may have provision for varying the flash intensity and duration.

(B) The discharge lamp with its stand and reflector.

(C) A control lamp.

(D) A socket for connecting extra flashlamps.

Power packs without the flashlamp stands and reflectors but comprising, besides the discharge elements, the flash release device and (possibly) auxiliary equipment for varying the intensity and duration of the flashes, fall in this heading as incomplete apparatus having the essential character of the complete apparatus.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), this heading also covers parts and accessories of the goods of this heading. Such parts and accessories include : camera bodies; bellows; ball and socket mounting heads; shutters and diaphragms; shutter (including delayed action) releases; magazines for plates or films; lens hoods, specialised stands or bases for forensic photography to which a camera is fitted (these often include discharge lamps and an adjustable calibrated mast for varying the height of the camera).

On the other hand, monopods, bipods, tripods and similar articles are, however, **excluded** (**heading 96.20**).

*

* *

The heading **does not apply** to apparatus consisting of an instrument equipped to record images by photographic means, but essentially designed for some other purpose, e.g., a telescope, microscope, spectrograph, stroboscope. A camera presented separately, however, even if it is a specialised part of another instrument (telescope, microscope, spectrograph, photo-theodolite, stroboscope, etc.) is classified in this heading and not as a part of that instrument.

The heading also **excludes** :

(a) Halftone or similar printing screens (**headings 37.05**, **90.01**, **90.02**, etc., as the case may be).

(b) Photocopying or thermocopying apparatus (**heading 84.43**).

(c) Digital cameras (**heading 85.25**).

(d) Digital camera backs (**heading 85.29**).

(e) Electric flashlight discharge lamps (**heading 85.39**).

(f) Photographic enlargers and reducers of **heading 90.08**.

(g) Electron diffraction apparatus (**heading 90.12**).

(h) Photographic rangefinders (**heading 90.15**), exposure meters (**heading 90.27**), whether or not designed to be mounted on cameras.

(ij) X-ray diffraction cameras (used in conjunction with X-ray apparatus for the examination of crystals), radiography apparatus (**heading 90.22**).

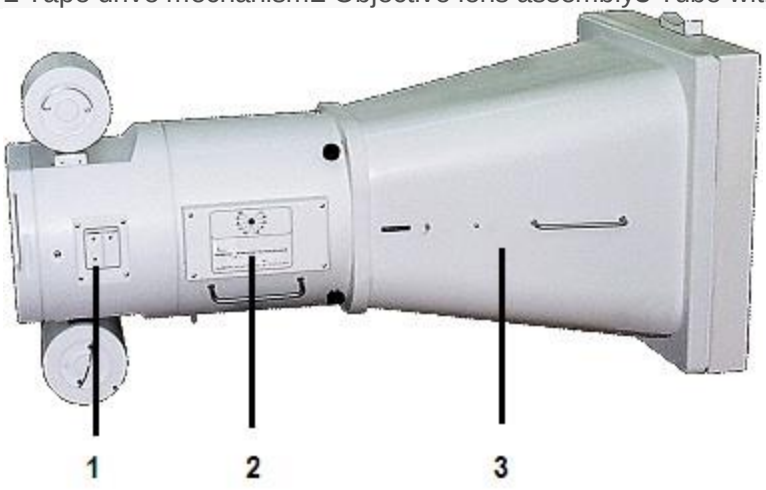
9006.30

- Cameras specially designed for underwater use, for aerial survey or for medical or surgical examination of internal organs; comparison cameras for forensic or criminological purposes

CLASSIFICATION OPINIONS

1. Photographic camera, separately presented, intended to be mounted inside an X-ray apparatus for the examination of patients. The camera consists of three main components : a tube with a fluorographic (X-ray) screen, an objective lens assembly and a tape drive mechanism. An X-ray image of the organs of the patient is displayed on the fluorescent screen and recorded on photographic film. **Application of GIRs 1 (Note 3 to Chapter 90) and 6.** Adoption : 2013

1 Tape drive mechanism**2** Objective lens assembly**3** Tube with a fluorographic (X-ray) screen



9006.40

- Instant print cameras

9006.5

- Other cameras :

9006.53

-- For roll film of a width of 35 mm

9006.59

-- Other

CLASSIFICATION OPINIONS

1. **Laser photoplotter** for creating latent "printed circuit board" images on photosensitive film from digital formats (which is subsequently used in the production of printed circuit boards) by means of a laser beam. To reproduce an image, the image is turned into rasterized data by an automatic data processing machine or raster image processor. Having been transformed into "raster data", the data is broken up into millions of individual picture elements, arranged in a series of regular, adjacent lines, all of which are exposed on photosensitive film by the laser beam. The product is comprised of a keyboard, a screen (cathode ray tube), a raster

image processor and an image reproducer.
Adoption : 2000

2. **Imagesetter** working with a visible red laser beam and a raster image processing platform to transfer digital data into a latent image on four photosensitive films (cyan, magenta, yellow and black) or other photosensitive media, including polyester printing plates. In this apparatus, the laser beam moves horizontally, dot by dot, line by line, over the entire surface of the film (drum-based imagesetter). The laser is switched on or off according to the "raster" data provided by an external automatic data processing machine. The image thus obtained may contain text, pictures, drawings, etc., and is used in the preparation of plates for the offset printing industry. The maximum image format is 754 x 635 mm and the resolution ranges from 1,200 to 3,600 dpi (dots per inch). **Application of GIRs 1 and 6.**
Adoption : 2000



3. **Laser photoplotter** for creating latent images on photosensitive film from digital formats (e.g., colour transparencies, which are used to reproduce digital artwork with continuous-tone) by means of a laser beam. To reproduce an image, the primary colours (cyan, magenta and yellow) are first selected, whereupon each colour is separately turned into rasterized data by an external host automatic data processing machine or raster image processor. Having been transformed into "raster data", the data for each separate colour is broken up into millions of individual picture elements, arranged in a series of regular, adjacent lines, all of which are exposed on photosensitive film by the laser beam. The raster image processor is not included.
Adoption : 2000

9006.6

- Photographic flashlight apparatus and flashbulbs :

9006.61

-- Discharge lamp («electronic») flashlight apparatus

9006.69

-- Other

9006.9

- Parts and accessories :

9006.91

-- For cameras

9006.99

-- Other

Heading 9007

Cinematographic cameras and projectors, whether or not incorporating sound recording or reproducing apparatus.

EXPLANATORY NOTES

90.07 - Cinematographic cameras and projectors, whether or not incorporating sound recording or reproducing apparatus.

9007.10 - Cameras

9007.20 - Projectors

- Parts and accessories :

9007.91 - - For cameras

9007.92 - - For projectors

This heading covers :

(A) **Cinematographic cameras** (including cameras for cinephotomicrography). They are similar in principle to the photographic cameras of heading 90.06, but they have specialised features enabling them to take a series of pictures in rapid succession.

(B) **Cinematographic cameras** for recording both image and sound on the same film.

(C) **Cinematographic projectors** which are static or portable apparatus for the diascopic projection of moving pictures whether or not having a sound track on the same film. They have an optical system which consists essentially of a light source, reflector, condenser and projection lens. The projectors also have a mechanism, generally consisting of a maltese cross movement, which draws the film intermittently past the optical system, usually at the same rate as the film was taken, and the light source is cut off when the film is being moved through the projection gate. The light source in cinema projectors is commonly an electric arc-lamp, but filament lamps may be used in some projectors. Cinematographic projectors may be equipped with a device to rewind the film and with a fan. Some projectors may be equipped with a refrigerated water cooling system.

The heading includes special types of cinematographic projectors, for example, projectors which project magnifications of varying degree on to an optically flat surface to permit a scientific study of photographed phenomena. “Frames” may be examined singly or continuously at varying numbers of frames per second. On the other hand “animated” viewers, specially designed for editing films, are **excluded** (**heading 90.10**).

Cinematographic projectors may be combined with sound recording or reproducing apparatus, these being equipped with a reader which incorporates a photoelectric sound-head and a charge-coupled device. The sound tracks for most commercial films are printed in dual format, i.e., analogue and digital. The analogue format sound tracks are printed between the frames and the sprocket perforations whereas digital format sound tracks are printed either on the edges of the film, outside the sprocket perforations, or between the sprocket perforations. Some commercial films are printed with an analogue sound track and digital timecode information only on the edges of the film, where the digital sound track is not printed on the film but is recorded separately on a CD-ROM. As the film passes through the reader the photoelectric sound-head reads the analogue sound track and the charge-coupled device reads the digital sound track, or in the latter case the timecode information to ensure synchronisation of sound from the CD-ROM with the projected moving pictures. The printing of dual format sound tracks enables sound to be reproduced if one of the sound track formats is damaged or where the sound reproducing apparatus does not have dual format reading capability.

Other cinematographic projectors may be equipped with either a photoelectric or a magnetic sound-head depending upon the process used for recording the sound-track - or with both types of sound-head for alternative use.

This heading covers motion picture cameras, etc., whether for the film industry or for use by amateurs. The heading also covers special type cinematographic cameras, e.g., those designed to be fitted on aircraft (aerial cinematography); watertight cameras for submarine cinematography; cameras and projectors for colour, three-dimensional (stereoscopic) or “panoramic” films.

Cinematographic apparatus presented without optical parts remain in this heading.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), this heading also covers parts and accessories of the goods of this heading. Such parts and accessories include : camera bodies and stands; ball and socket mounting heads; casings (“blimps”) designed to eliminate motor noise (**other than** those made of textile materials; these fall in **heading 59.11**); cases for portable cinematographic projectors, designed for use as projector stands; film cleaning devices (**except** those for laboratory apparatus; these fall in **heading 90.10**); multi-storey film cycling spools designed to simultaneously supply film to and rewind film from a cinematographic projector.

On the other hand, monopods, bipods, tripods and similar articles are, however, **excluded** (**heading 96.20**).

*

* *

As regards instruments and apparatus (e.g., microscopes, stroboscopes) equipped to record cinematographically, see the corresponding part of the Explanatory Note to **heading 90.06**.

*

* *

The heading also **excludes** :

(a) Lifting or handling machinery (e.g., camera dollies) of **Chapter 84**.

(b) Microphones, loudspeakers and audio-frequency electric amplifiers, other than those presented with and forming an integral part of any of the instruments of this heading (**heading 85.18**).

(c) Sound recording or reproducing apparatus and television image and sound recording or reproducing apparatus (**heading 85.19** or **85.21**).

(d) Photoelectric sound-heads (**heading 85.22**).

(e) Television cameras (**heading 85.25**).

(f) Video projectors (**heading 85.28**).

(g) Apparatus and equipment for cinematographic laboratories, e.g., splicers, editing desks, etc. (**heading 90.10**).

(h) Toy cinematographic projectors (**heading 95.03**).

9007.10

- Cameras

9007.20

- Projectors

9007.9

- Parts and accessories :

9007.91

-- For cameras

9007.92

-- For projectors

Heading 9008

Image projectors, other than cinematographic; photographic (other than cinematographic) enlargers and reducers.

EXPLANATORY NOTES

90.08 - Image projectors, other than cinematographic; photographic (other than cinematographic) enlargers and reducers.

9008.50 - Projectors, enlargers and reducers

9008.90 - Parts and accessories

(A) Whereas the apparatus of the previous heading is designed for projecting enlarged animated images on a screen, the instruments of this heading are designed for projecting still images. The most common type is the **projection lantern (or diascope)** which is used to project the image of a transparent object (slide or transparency). It uses two lenses : one, the condenser, forms an

image of the light source on the second lens, called the projection lens. The transparency is placed between the two lenses so that the projection lens forms an image of the transparency on the screen. A high power light source is used, the light from which is concentrated by a reflector. Slides may be changed manually, semi-automatically (by means of an electromagnet or by a motor controlled by the operator) or automatically (by means of a timer).

Certain diascopes (overhead projectors) have a large object field for the projection of written or printed texts on transparent positives.

The **episcope** is an image projector designed to throw on to a screen an enlarged image of a brightly illuminated opaque object. A source of light is directed on to the surface of the object and the light reflected from that surface is projected by a lens on to a screen.

The **epidiascope** is a projector which can be used either as a diascope or as an episcope.

The heading includes slide projectors and other still image projectors as used in schools, lecture rooms, etc.; spectrum projectors; instruments for projecting radiographs; magnifying microfilm, microfiche or other microform readers, whether or not subsidiarily used for photocopying these documents; and the projection apparatus used in the preparation of printing plates or cylinders.

The heading also includes projectors incorporating a small screen on which an enlarged image of the slide is projected.

(B) The heading also includes **photographic (other than cinematographic) enlargers and reducers**. These usually consist of a light source, a diffusing screen or a condensing lens, a negative holder, one or more objectives with a focussing device (often automatic), and an easel for supporting the sensitised paper; these parts are mounted on an adjustable vertical or horizontal support.

Photographic enlargers and reducers of the type used in the preparation of printing plates or cylinders for the printing industry are also classified in this heading.

*

* *

The above-mentioned apparatus is classified in this heading whether or not presented with optical parts. The optical elements presented separately are **excluded** (**heading 90.01** or **90.02**, as the case may be).

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), this heading also covers parts and accessories of the goods of this heading. Such parts and accessories include bodies, frames and supports, enlarger masking frames, microfilm or microfiche feeders.

*

* *

The heading also **excludes** :

(a) Halftone or similar printing screens (**headings 37.05**, **90.01**, **90.02**, etc., as the case may be).

(b) Microfilm photocopying apparatus incorporating an optical system, with a small glass image positioning screen (**heading 84.43**).

(c) Apparatus for the projection of circuit patterns on sensitised semiconductor materials ("projection mask alignment") (**heading 84.86**).

(d) Projectors, projection panels, display units or monitors (**heading 85.28**).

(e) Cinematographic reducers and enlargers (for example, those used for making a copy, on film, of an original film of a different size) (**heading 90.10**)

(f) Compound optical microscopes provided with means for projecting the image (**heading 90.11**).

(g) Slide viewers fitted with a single magnifying lens and used for examining photographic slides (**heading 90.13**).

(h) Photogrammetrical distortion-correcting ("restitution") apparatus (**heading 90.15**).

(ij) Profile projectors (**heading 90.31**).

(k) Toy magic lanterns (**heading 95.03**).

9008.50

- Projectors, enlargers and reducers

9008.90

- Parts and accessories

Heading 9010

Apparatus and equipment for photographic (including cinematographic) laboratories, not specified or included elsewhere in this Chapter; negatoscopes; projection screens.

EXPLANATORY NOTES

90.10 - Apparatus and equipment for photographic (including cinematographic) laboratories, not specified or included elsewhere in this Chapter; negatoscopes; projection screens.

9010.10 - Apparatus and equipment for automatically developing photographic (including cinematographic) film or paper in rolls or for automatically exposing developed film to rolls of photographic paper

9010.50 - Other apparatus and equipment for photographic (including cinematographic) laboratories; negatoscopes

9010.60 - Projection screens

9010.90 - Parts and accessories

(I) APPARATUS AND EQUIPMENT FOR PHOTOGRAPHIC (INCLUDING CINEMATOGRAPHIC) LABORATORIES, NOT SPECIFIED OR INCLUDED ELSEWHERE IN THIS CHAPTER

This group includes :

(A) **Automatic machines for developing rolls of photographic film or for exposing developed photographic film to rolls of photographic paper**.

(B) **Special film developing tanks**. These may be of metal, plastics, stoneware, etc.; they generally incorporate devices such as supporting rods, baskets for removing the films from the bath. Certain developing tanks are also used for rinsing, fixing and washing films.

(C) **Special trays** (of plastics, stainless steel, enamelled sheet iron, etc.), clearly intended for photographic use, but **not including** articles which may also be used for other purposes (e.g., for general purpose laboratory or hospital use).

(D) **Tanks for washing negatives**, including rotary washing apparatus.

(E) **Print driers, glazers and drier-glazers** (single face, double face, rotary types, etc.); **drying machines** (hand-operated, etc.); roller squeegees; polished stainless steel plates and chromium-plated plates clearly designed to be fitted to these articles or used separately.

(F) **Printing frames, including vacuum printing frames**, (of metal or of metal and wood) for contact printing; **printing machines** (for professional or amateur photographers, etc.); and **illuminated frames**, without a developer, for making exposures only.

(G) **Film cutting machines and apparatus**, of a kind used in photographic (including cinematographic) laboratories.

(H) **Special holding frames** for retouching negatives.

(IJ) **Dry-mounting presses** for photographic use.

(K) **Specialised machines and apparatus used in cinematographic laboratories**, such as :

(1) **Film developing machines** whether or not automatic.

(2) **Film slitting or cutting machines** (e.g., for cutting 35 mm film into two 16 mm films).

(3) **Printing machines and cinematographic reducers and enlargers (optical printers)**.

(4) **Optical effects machines**.

(5) **Sound control units** for editing and synchronising sound films.

(6) **Recording apparatus** which reproduces on a paper strip a “slowed down” and enlarged image of the sound track on a film, for use in synchronising and dubbing.

(7) **Film cleaning machines; machines for treating worn negatives before reprinting; combined cleaning and treatment machines; machines for cleaning negatives**.

(8) **Waxing machines** for depositing a thin coat of wax on both edges of the emulsion-coated side of the film.

(9) **Joiners (splicers)** (hand- or pedal-operated, etc.).

(10) **Film editing units**. These may be fitted with a picture-head and a sound-head. Such apparatus may be used, for example, to synchronise images with a sound track.

Separately presented picture-heads, and devices equipped with sound-heads which are used together with frame viewers on synchronisation tables, also fall in this heading. However, separately presented sound-heads are **excluded** (**heading 85.22**).

(11) **Machines for numbering copies of films by perforation**.

(12) **Editing desks for handling films**; these are fitted with spool rewinders. **Special film re-winders** for winding negatives (e.g., after printing); **film measurers and footage counters**, to check the length of films (separately presented counter mechanisms are **excluded**, see **heading 90.29**).

(13) **Film titling apparatus**.

(14) **Film viewers for editing printed cinematographic film**. These viewers may be combined with sound recording or reproducing apparatus.

(L) **Film viewers for still images** used to examine photographic negatives in photographic laboratories.

(M) **Specialised equipment used in reproduction work** (not being photocopying apparatus of **heading 84.43**), e.g., apparatus for developing specially sensitised paper by the ammonia vapour process.

(II) NEGATOSCOPES

Negatoscopes are used mainly for examining medical radiographs or radiophotographs. They may be of very different types, ranging from wall-mounted light boxes to automatic magazine-fed radiograph viewers.

(III) PROJECTION SCREENS

These screens are used in cinemas, schools, lecture rooms, etc. They include projection screens for three-dimensional presentation; also portable screens, rolled in sheaths or contained in boxes, for mounting on tripods, on tables, or for hanging from the ceiling.

They are often made of a fabric coated white, silver or with glass grains (microspheres), or of sheets of plastics; these fabrics or sheets are generally perforated. To fall in this heading, however, they **must be clearly identifiable** (e.g., by means of hems or rims, eyelet-holes).

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories identifiable as being solely or principally for use with the apparatus and equipment of this heading also fall here.

*

* *

This heading also **excludes** :

(a) Photographic (including cinematographic) studio equipment, such as lighting apparatus, reflectors, spotlights, electric lighting lamps and tubes of all kinds, sound effect equipment, microphone booms, scenery, etc.; these fall in their respective headings.

(b) Halftone or similar printing screens (**headings 37.05**, **90.01**, **90.02**, etc. as the case may be).

(c) Paper or paperboard cutting machines of all kinds (**heading 84.41**).

(d) Apparatus for the projection or drawing of circuit patterns on sensitized semiconductor materials (**heading 84.86**).

(e) Loudspeakers, microphones and audio-frequency electric amplifiers, **other than** those presented with and forming an integral part of any of the instruments of this heading (**heading 85.18**).

(f) Cameras for recording documents on microfilm, microfiche or other microforms (**heading 90.06**).

(g) X-ray fluorescent and intensifying screens (**heading 90.22**).

(h) Exposure calculating discs and rulers (**heading 90.17**); exposure meters, photometers, densitometers, colour temperature meters (**heading 90.27**).

(ij) Hand-operated stamps for numbering prints (**heading 96.11**).

9010.10

- Apparatus and equipment for automatically developing photographic (including cinematographic) film or paper in rolls or for automatically exposing developed film to rolls of photographic paper

9010.50

- Other apparatus and equipment for photographic (including cinematographic) laboratories; negatoscopes

9010.60

- Projection screens

9010.90

- Parts and accessories

Heading 9011

Compound optical microscopes, including those for photomicrography, cinephotomicrography or microprojection.

EXPLANATORY NOTES

90.11 - Compound optical microscopes, including those for photomicrography, cinephotomicrography or microprojection.

9011.10 - Stereoscopic microscopes

9011.20 - Other microscopes, for photomicrography, cinephotomicrography or microprojection

9011.80 - Other microscopes

9011.90 - Parts and accessories

Whereas magnifiers of **heading 90.13** have only a single stage of magnification of relatively low power, the **compound optical microscope** of this heading has a second stage of magnification for the observation of an already magnified image of the object.

A compound optical microscope normally comprises :

(I) An optical system consisting essentially of an objective designed to produce a magnified image of the object, and an eyepiece which further magnifies the observed image. The optical system usually also incorporates provision for illuminating the object from below (by means of a mirror illuminated by an external or an integral light source), and a set of condenser lenses which direct the beam of light from the mirror on to the object.

(II) A specimen stage, one or two eyepiece-holder tubes (according to whether the microscope is the monocular or binocular type), and an objective-holder (generally revolving).

The whole is fixed on a stand to which a limb or bracket and various adjusting accessories may be attached.

This heading covers microscopes as used by amateurs, teachers, etc., and those for industrial use or for research laboratories; they remain in the heading whether or not they are presented with their optical elements (objectives, eyepieces, mirrors, etc.). The heading includes universal microscopes; polarising microscopes; metallurgical microscopes; stereoscopic microscopes; phase contrast and interference microscopes; reflecting microscopes, microscopes with drawing attachments; special microscopes for examining clock or watch jewels; microscopes with heating or freezing stages.

Special purpose microscopes include :

(1) **Trichinoscopes**, a type of projection microscope, used for examining pork suspected of threadworm.

(2) **Microscopes for measuring or checking operations** in certain manufacturing processes; these may be of the conventional types or may be special models designed for fitting to machines. These appliances include comparison microscopes (for comparing the surface finish of precision articles with that of a standard article); co-ordinate reading microscopes (for locating the position

of clock or watch parts); tool-makers' or other measuring microscopes (for checking threads, profiles, gear-cutters or cutting tool profiles, etc.); small portable microscopes for placing directly on the object to be examined (for the Brinell hardness test, for printers' type, printing blocks, etc.); centring microscopes (fitted on spindles of machine-tools, instead of the tool, to bring the work into the correct position before working); etc.

Some of the last mentioned instruments (e.g., those for checking the profile of worked parts), may be fitted with projection devices which are usually in the form of a small circular screen fitted on top of the microscope.

(3) **Laboratory measuring microscopes**, e.g., for measuring line separation in spectrograms.

(4) **Surgical microscopes** for use by surgeons when operating on a very small portion of the body. Their light sources result in independent light paths which provide a three-dimensional image.

*

* *

The heading also covers :

(A) **Microscopes for photomicrography and microscopes for cinephotomicrography**. In addition to the visual observation of the specimen, these also permit the photographic recording of magnified images. They may be composed either of a microscope permanently incorporating a photographic or cinematographic camera (usually specially designed for this purpose), or of a conventional microscope to which a conventional photographic or cinematographic camera can be temporarily fixed by means of a simple attachment.

Separately presented photographic or cinematographic cameras for photomicrography or cinephotomicrography are **excluded** (**heading 90.06** or **90.07**, respectively).

(B) **Microscopes for microprojection with compound magnification**. These are used for the horizontal or vertical projection of images magnified by a microscope incorporated in the apparatus. They are equipped with special microscopes enabling rapid change of focus, and are used in education, scientific and medical demonstration rooms, technical laboratories, etc.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories identifiable as being solely or principally for use with microscopes are also classified here. These include :

Stands (brackets, bases, etc.); eyepiece-holder tubes and revolving objective-holder tubes (whether or not with lenses); specimen stages (including heating or freezing stages); specimen-guides; optical attachments enabling the image to be sketched; diaphragm-adjusting levers; etc.

*

* *

The heading also **excludes** :

(a) Specimen slides or covers, of glass (**heading 70.17**).

(b) Ophthalmic binocular-type microscopes (**heading 90.18**).

(c) Prepared slides for microscopic study (**heading 90.23**).

(d) Microtomes; refractometers (**heading 90.27**).

(e) Profile projectors and other apparatus with optical devices for checking mechanical parts, **not** being microscopes or microprojection apparatus, e.g., optical comparators, measuring benches, etc. (**heading 90.31**).

9011.10

- Stereoscopic microscopes

9011.20

- Other microscopes, for photomicrography, cinephoto-micrography or microprojection

9011.80

- Other microscopes

CLASSIFICATION OPINIONS

1. Compound optical microscopes (other than special-purpose microscopes) : Having the following two characteristics :

(i) eyepiece diameter (outside diameter of the lens tube) : not less than 16 mm;
(ii) tube-length (distance between the face where the eyepiece is attached and the face where the objective is attached) : not less than 110 mm.
See also Opinion 9503.00/6.
Adoption : 1970

9011.90

- Parts and accessories

Heading 9012

Microscopes other than optical microscopes; diffraction apparatus.

EXPLANATORY NOTES

90.12 - Microscopes other than optical microscopes; diffraction apparatus.

9012.10 - Microscopes other than optical microscopes; diffraction apparatus

9012.90 - Parts and accessories

This heading includes :

(A) **Electron microscopes** differ from optical microscopes in that they use a beam of electrons instead of light rays.

The normal type of electron microscope is an assembly of the following devices usually enclosed in a common frame as a unit :

(1) A device (known as an electron gun) for emitting and accelerating the electrons.

(2) A system (playing the part of the optical system of an ordinary microscope) consisting of electrostatic or electromagnetic "lenses" (which are respectively electrically charged plates or coils carrying a current); these act as condenser, objective and projector. There is usually also a further so-called field "lens", between the objective and the projector, which serves to vary the range of magnification while not altering the scope of the scanned field.

(3) The specimen stage.

(4) The vacuum pump unit which maintains a vacuum in the electron tube; these are sometimes self-contained units connected to the appliance.

(5) The elements for visual observation on a fluorescent screen and for photographic recording of the image.

(6) Control stands and panels bearing the elements controlling and regulating the electron beam.

This heading also includes scanning electron microscopes in which a very fine beam of electrons is directed repeatedly onto different points of the sample. Information is obtained by measuring, for example, the electrons transmitted, the secondary electrons emitted, or the optical rays. The result may then be displayed on a monitor screen which can be incorporated in the microscope.

The electron microscope has many uses both in the field of pure science (biological or medical research, composition of matter, etc.), and in industrial technique (examination of fumes, dust, textile fibres, colloids, etc.; examination of the structure of metals, paper, etc.).

(B) **Proton microscopes**. In place of electrons, these employ protons which have a wavelength 40 times shorter than the former. A correspondingly higher separating power is thus obtained and this permits the production of even more highly magnified images.

The structure and functioning of the proton microscope do not differ appreciably from those of the electron microscope; the electron gun is replaced by a proton gun and the source used is hydrogen.

(C) **Electron diffraction apparatus**. By means of a beam of electrons directed at a specimen, these produce diffraction patterns which are photographed. The dimensions, orientation and atomic arrangement of the crystals of the specimen examined can be calculated from the diameter, intensity and sharpness of the rings in the pattern.

This apparatus, which is chiefly used for studies on corrosion, lubrication, catalysis, etc., does not differ appreciably in principle from an electron microscope, and has the same essential elements (electron gun, cathode-ray tube, electro-magnetic coils, specimen holder, etc.). Moreover it should be noted that certain electron microscopes may be equipped with a diffraction chamber and can therefore perform a double function (visual examination and production of a diffraction pattern).

*

* *

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories suitable for use solely or principally with microscopes, other than optical microscopes, or diffraction apparatus are also classified here; examples are the frame and its constituent chambers and the specimen stage. On the other hand, the heading **excludes** vacuum pumps (**heading 84.14**), electrical equipment (batteries, rectifiers, etc.) (**Chapter 85**), and electrical measuring instruments (voltmeters, milliammeters, etc.) (**heading 90.30**).

9012.10

- Microscopes other than optical microscopes; diffraction apparatus

9012.90

- Parts and accessories

Heading 9013

Lasers, other than laser diodes; other optical appliances and instruments, not specified or included elsewhere in this Chapter.

EXPLANATORY NOTES

90.13 - Lasers, other than laser diodes; other optical appliances and instruments, not specified or included elsewhere in this Chapter.

9013.10 - Telescopic sights for fitting to arms; periscopes; telescopes designed to form parts of machines, appliances, instruments or apparatus of this Chapter or Section XVI

9013.20 - Lasers, other than laser diodes

9013.80 - Other devices, appliances and instruments

9013.90 - Parts and accessories

In accordance with Chapter Note 5, measuring or checking optical appliances, instruments and machines are **excluded** from this heading and fall in **heading 90.31**. Chapter Note 4, however, classifies certain refracting telescopes in this heading and not in heading 90.05. It should, moreover, be noted that optical instruments and appliances can fall not only in **headings 90.01 to 90.12** but also in other headings of this Chapter (in particular, **heading 90.15**, **90.18** or **90.27**). This heading includes :

(1) **Lasers**. These produce or amplify electro-magnetic radiation in the wavelength range between 1 nanometre and 1 millimetre (ultra-violet, visible light and infra-red regions of the spectrum), by the process of controlled stimulated emission. When the lasing medium (e.g., crystals, gases, liquids, chemical products) is excited by the light from an electric source or by the reaction from another source of energy, the light beams which are produced inside the lasing medium are repeatedly reflected and amplified in such a way that a coherent light beam (visible or invisible) is emitted from one end which is partly transparent.

In addition to the lasing medium, the energy source (pumping system) and the resonant optical cavity (reflector system), i.e., the basic elements combined in the laser head (possibly with

Fabry-Perot interferometers, interference filters and spectroscopes), lasers generally also incorporate certain auxiliary components (e.g., a power supply unit, a cooling system, a control unit and, in the case of the gas laser, a gas supply system or, in the case of liquid lasers, a tank, fitted with a pump for the dye solutions). Some of these auxiliary components may be contained in the same housing as the laser head (compact laser) or may take the form of separate units, connected to the laser head by cables, etc. (laser system). In the latter case the units are classified in this heading **provided** they are presented together.

Lasers are classified in this heading not only if they are intended to be incorporated in machines or appliances but also if they can be used independently, as compact lasers or laser systems, for various purposes such as research, teaching or laboratory examinations, for example, laser pointers.

However, the heading **excludes** lasers which have been adapted to perform quite specific functions by adding ancillary equipment consisting of special devices (e.g., work-tables, work-holders, means of feeding and positioning workpieces, means of observing and checking the progress of the operation, etc.) and which, therefore, are identifiable as working machines, medical apparatus, control apparatus, measuring apparatus, etc. Machines and appliances incorporating lasers are also **excluded** from the heading. **Insofar** as their classification is not specified in the Nomenclature, they should be classified with the machines or appliances having a similar function. Examples include :

(i) Machine-tools for working any materials by removal of material by laser (e.g., metal, glass, ceramics or plastics) (**heading 84.56**).

(ii) Laser soldering, brazing or welding machines and apparatus, whether or not capable of cutting (**heading 85.15**).

(iii) Instruments for levelling (aligning) pipes by means of a laser beam (**heading 90.15**).

(iv) Laser apparatus specially used for medical purposes(e.g., in ophthalmological operations) (**heading 90.18**).

Subject to the provisions of Notes 1 and 2 to this Chapter, parts and accessories for lasers, for example, laser tubes, are also classified in this heading. However, this heading **does not include** electric flash lamps used for pumping, such as xenon lamps, iodine lamps and mercury vapour lamps (**heading 85.39**), laser diodes (**heading 85.41**) and laser crystals (e.g., rubies), laser mirrors and lenses (**heading 90.01** or **90.02**).

(2) **Hand magnifying glasses and magnifiers** (e.g., pocket type or those for office use), and thread counters (these magnifiers may be fitted or combined with an illuminating lamp, they remain in this heading if the lamp enhances the use of the magnifier); binocular magnifying glasses (generally on supports) which, unlike stereoscopic microscopes of **heading 90.11**, are fitted with eyepieces but not with an objective.

(3) **"Door-eyes"** for viewing through doors; also similar articles fitted with an optical system.

(4) **Telescopic sights for weapons, refracting or reflecting, presented separately**; optical devices suitable for use with arms and mounted thereon or presented with the firearms on which they are designed to be mounted, are classified with the arm, see Note 1 (d) to **Chapter 93**.

(5) **Telescopes of a kind designed to form parts of instruments of other headings of this Chapter** (e.g., telescopes forming parts of surveying instruments) or of machines of Section XVI.

(6) **Fibrescopes for industrial use**. Fibrescopes for medical purposes (endoscopes) are **excluded** (**heading 90.18**).

(7) **Stereoscopes**, including **hand-operated stereoscopes**, for three-dimensional viewing of coloured photographic diapositives, consisting of a case of plastics incorporating two fixed lenses and a lever-operated revolving mechanism (to change the pictures which are mounted in sets on each interchangeable revolving disc).

(8) **Kaleidoscopes, other than** toy kaleidoscopes (**Chapter 95**).

(9) **Magnifying periscopes** for submarines or tanks; and **non-magnifying periscopes** (e.g., for trenches).

(10) **Mounted glass mirrors, optically worked, which are unsuitable for fitting to instruments or apparatus** (for example, certain rear-view mirrors, chimney or drain inspection mirrors, and special mirrors for wind-tunnel observations).

Rear-view or other mirrors, **not** optically worked (including shaving mirrors, whether or not magnifying) are **excluded** (**heading 70.09** or **83.06**).

(11) **Optical lightbeam signalling apparatus**, for the long-distance transmission of optical signals (for example, in morse code).

(12) **Slide viewers** fitted with a single magnifying lens and used for examining photographic slides.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories of apparatus or appliances of this heading remain classified here.

9013.10

- Telescopic sights for fitting to arms; periscopes; telescopes designed to form parts of machines, appliances, instruments or apparatus of this Chapter or Section XVI

9013.20

- Lasers, other than laser diodes

CLASSIFICATION OPINIONS

1. Laser pointers, which are portable, in the shape of pistols, pens, etc., and designed to function by their own source of energy. They consist of a laser diode and microelectronics in a housing of copper, fitted with a switch. They are battery-powered and may be equipped with a chain fixed to a key ring and a clasp, of base metal. Laser pointers produce a red visible coherent light beam in the wavelength range between 660-680 nanometers (nm). They can project a red beam and create a brilliant red dot on an object far away. Laser pointers are commonly used in teaching and presentations to draw the audience's attention.

Application of GIRs 1 and 6.
Adoption : 2000

9013.80

- Other devices, appliances and instruments

9013.90

- Parts and accessories

Heading 9014

Direction finding compasses; other navigational instruments and appliances.

EXPLANATORY NOTES

90.14 - Direction finding compasses; other navigational instruments and appliances.

9014.10 - Direction finding compasses

9014.20 - Instruments and appliances for aeronautical or space navigation (other than compasses)

9014.80 - Other instruments and appliances

9014.90 - Parts and accessories

(I) DIRECTION FINDING COMPASSES

This group covers all types of direction finding compasses, from the simple types used by hikers, cyclists, etc., to those specialised for use in mining, navigation, etc., (including magnetic compasses, gyroscopic compasses, gyromagnetic compasses, binnacle compasses, position finding compasses, etc.).

(II) OTHER NAVIGATIONAL INSTRUMENTS AND APPLIANCES

This group includes :

(A) **Instruments for the determination of a ship's position**, such as sextants, octants, azimuths, etc.

(B) **Other special marine or river navigational instruments**, for example :

(1) **Automatic pilots (Gyro pilots)**. These are complex units which control the ship's rudder in relation to the readings of a gyroscopic compass.

(2) **Course recording apparatus**. These give an accurate record of the course (and any changes of course) during a ship's journey.

(3) **Inclinometers**; for measuring rolling.

(4) **Logs**. These indicate the speed of a ship by measuring the apparent distance covered in a given time. Nowadays, these instruments are always automatic. One type operates by means of a **screw** or propeller (a screw is mounted in the ship's stream and is connected to a dial on

board the ship). Another type is based on the **principle of differential pressure**, the pressure varying according to the speed of the stream (they generally comprise a Pitot tube); the distance and speed is read on a dial on board the ship.

The heading also covers logs incorporating a counter which records the number of times an electric circuit is broken (i.e., the number of revolutions of the log), thus showing the distance covered by the ship.

(5) **Sounding leads** (hand leads and winch-operated deep-sea leads), which determine the depth of the water and the nature of the sea bed.

(6) **Echo sounding instruments**. An audible echo returned by the sea bed is detected on board ship by a very sensitive microphone, and read on a galvanometer.

(7) **Ultrasonic sounding or detecting equipment**, for example, asdic, sonar or the like, used for normal sounding operations, for mapping the sea bed, for detecting submarines, wrecks, shoals of fish, etc.

(C) **Special instruments for air navigation**, such as :

(1) **Altimeters**. A type of barometer calibrated in height units and based on the fact that atmospheric pressure decreases with altitude.

(2) **Air speed indicators**. These operate by differential pressure measurements of the aircraft's slipstream, and show the speed of the aircraft in relation to the surrounding air.

(3) **Climbing or diving speed indicators**. These show the vertical speed of descent or ascent of the aircraft, by means of a differential pressure gauge.

(4) **Artificial horizons or gyro-horizons and turning and banking indicators**. These are based on gyroscopic principles, the former indicating the angle of the aircraft by reference to the transversal or longitudinal axis, and the latter by reference to the vertical axis.

(5) **Mach-meters**. These indicate the ratio between the air speed and the local speed of sound. The ratio is expressed as a "Mach number".

(6) **Accelerometers**. These determine the maximum limit (not to be exceeded) of the inert forces produced by acceleration during high-speed evolutions.

(7) **Automatic pilots**. This apparatus temporarily replaces the pilot by controlling the equilibrium and flight of the aircraft in accordance with a pre-established setting (altitude, course, etc.). It consists chiefly of direct-operated or servo-motor controls (usually hydraulic motors which replace the pilot's movements), and of automatic acting apparatus (high-speed gyroscopes) which co-ordinate instrument readings and the action of the servo-motors.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories of apparatus or appliances of this heading remain classified here.

*

* *

This heading also **excludes** :

(a) Radar apparatus, radio navigational aid apparatus, e.g., global positioning system (GPS) receivers, and radio remote control apparatus (**heading 85.26**).

(b) Pantographs and eidographs, used for course plotting in navigation (**heading 90.17**).

(c) Barometers and thermometers (including reversible thermometers for underwater research) (**heading 90.25**).

(d) Pressure gauges, liquid level indicators and other instruments of **heading 90.26**.

(e) Revolution counters (**heading 90.29**).

(f) Ammeters, voltmeters and other apparatus for measuring or checking electrical quantities of **heading 90.30**.

(g) Marine chronometers and time-keepers (**Chapter 91**).

9014.10

- Direction finding compasses

9014.20

- Instruments and appliances for aeronautical or space navigation (other than compasses)

9014.80

- Other instruments and appliances

9014.90

- Parts and accessories

Heading 9015

Surveying (including photogrammetrical surveying), hydrographic, oceanographic, hydrological, meteorological or geophysical instruments and appliances, excluding compasses; rangefinders.

EXPLANATORY NOTES

90.15 - Surveying (including photogrammetrical surveying), hydrographic, oceanographic, hydrological, meteorological or geophysical instruments and appliances, excluding compasses; rangefinders.

9015.10 - Rangefinders

9015.20 - Theodolites and tachymeters (tacheometers)

9015.30 - Levels

9015.40 - Photogrammetrical surveying instruments and appliances

9015.80 - Other instruments and appliances

9015.90 - Parts and accessories

(I) INSTRUMENTS AND APPLIANCES USED IN GEODESY, TOPOGRAPHY, SURVEYING OR LEVELLING

These are generally intended for use in the field, for example, in cartography (land or hydrographic maps); in the preparation of plans; for triangulation measurements; for calculating the area of a piece of land; in determining heights above or below some horizontal reference level; and for all similar measurements in constructional work (building roads, dams, bridges, etc.), in mining, in military operations, etc.

This group includes :

(1) Optical or opto-electronic **theodolites** (vernier reading, microscope, suspended (wall-stand type), universal, mining, etc., types), optical or opto-electronic **tachymeters** (**tacheometers**) (theodolites incorporating a rangefinder), **transits, gyrotheodolites, compass-clinometers, sighting clinometers** for use in survey or artillery, etc.

(2) **Optical levels** (spirit, autoset, telescopic, collimator, laser, etc.), generally used mounted on a tripod.

(3) **Alidades** (whether or not with a telescope), **optical squares** and cross-staffs (whether or not with prisms) and **pantometers** (with or without sighting telescope), **clinometers** (with a collimator or sighting telescope), used to determine gradients and inclines, **mining dials**, graphometers, heliostats for trigonometrical survey, etc.

(4) **Plane tables, land chains and other special measures for surveying** (including band-measures specialised thereto, winch-type measures for mine-shafts, etc.), pickets or ranging poles, whether or not graduated (of metal, wood, etc.), levelling staves (self-reading, telescopic, folding, etc.), electromagnetic distance measuring equipment (EDM) reflector prisms and poles.

This heading **does not cover** :

(a) Global positioning system (GPS) receivers (**heading 85.26**).

(b) Measuring instruments consisting of a steel band, waterproof tape, etc., and similar unspecified devices for taking linear measurements (**heading 90.17**).

(c) Revolution counters, mileometers and the like (**heading 90.29**).

(d) Levels (air bubble type, etc.) used in building or constructional work (e.g., by masons, carpenters or mechanics), and plumb-lines (**heading 90.31**).

(II) PHOTOGRAMMETRICAL INSTRUMENTS AND APPLIANCES

These are mainly used for plotting topographic, archaeologic, etc., maps, but they are also used for other purposes (e.g., study of tides, ground-swells, etc.). The maps, etc., are plotted from photographs

or digital images taken from two different viewpoints a known distance apart, which must then be "restituted" (to obtain accurate information in respect of the shape, size and co-ordinates of objects in the image or photograph).

This apparatus consists essentially of :

(1) **The "erecting" apparatus** consisting mainly of a projector (with a light source), a negative-carrier, an objective and a projection table. This apparatus enables the scale to be changed, and it can also photographically correct negatives of aerial photographs which, in practice, contain errors in perspective, etc., due to variations in the terrain.

(2) **Restitution apparatus** (stereoplotting apparatus or photogoniometers) also called stereotopographs, stereoplanigraphs, "autographs", stereoplotters, stereocomparators, etc. These are complex apparatus used to plot the planigraphic details and contour lines constituting a map or plan, this operation generally being done continuously and without separate calculation.

(3) **Co-ordinatographs** of the type used with restitution apparatus; these bear the map on which the pencil controlled by the stereotopograph or the stereoplanigraph traces its indications.

(4) **Analytical stereomeasuring systems** which consist of an optomechanical apparatus, operated photogrammetrically, and a programmed calculator. These systems are used for visual or analytical interpretation of photographic or digital images.

But the heading **excludes** aerial survey photographic cameras (**heading 90.06**), and co-ordinatographs not designed for photogrammetric uses (**heading 90.17**).

(III) HYDROGRAPHIC INSTRUMENTS

Hydrography is the scientific description and plotting of water courses, depths, tide levels, etc. The majority of the instruments used for such purposes are, therefore, covered by the previous paragraphs.

(IV) OCEANOGRAPHIC OR HYDROLOGICAL INSTRUMENTS

(1) **Special level recorders**, for recording fluctuations in the level of lakes or rivers; they consist essentially of a float and recorder.

(2) **Bucket-wheel current meters and hydrometric paddle-wheels**, for measuring the speed of currents in rivers, canals, etc.

(3) **Swell or tide recorders**.

Industrial instruments based on the same working principles as the instruments described in paragraphs (IV) (1) and (2) above (e.g., liquid level indicators, flow meters, etc.) are, however, **excluded** (**heading 90.26**).

(V) METEOROLOGICAL INSTRUMENTS

It should be noted that this group **does not cover** thermometers, barometers, hygrometers and psychrometers, nor combinations of such instruments (**heading 90.25**).

The group does, however, include the following :

(1) **Wind direction indicators**, whether or not fitted with dials.

(2) **Anemometers**, i.e., meteorological instruments for measuring wind speed. One type consists of a rotor carrying three cup-shaped blades mounted on a vertical axis, readings being obtained by a counter. The other most common type consists of a kind of weather vane fitted with a tube in which the wind pressure is measured by a differential pressure gauge graduated in speed units. The group also covers **anemometers** in which a generator produces a fluctuating voltage which is then indicated on a voltmeter calibrated in wind speed.

It should be noted that special types of anemometers, for measuring the speed of air currents in mines, tunnels, chimneys, furnaces or other air passages, consisting essentially of a special type of fan and a dial, are **excluded** (**heading 90.26**).

(3) **Evaporation meters** (Piche, evaporation balance types, etc.).

(4) **Sunshine recorders** (glass sphere, sensitised paper types, etc.).

(5) **Nephoscopes**, for indicating the speed and direction of movement of clouds.

(6) **Ceilometers**, for determining the height of the cloud ceiling above the earth by indicating the angular elevation of a spot of light formed where a strong beam of light meets the cloud so that the height may be computed automatically by triangulation.

(7) **Visibility meters**, for measuring meteorological visibility or the capability of air to transmit light.

(8) **Rain gauges and indicators**, for measuring rainfall in a particular place. The simplest type consists of a funnel of known diameter fixed to a receptacle to collect the rain which is then measured in a calibrated tube.

(9) **Actinometers, solarimeters and pyrheliometers**, for measuring the intensity of solar rays or the total radiation received from the sky.

It should, however, be noted that the heading **excludes** simple or combined thermometers used for the same purpose (**heading 90.25**).

(10) **Aerological sounding apparatus** (radio-sonde or radio-wind apparatus) for suspending from a balloon or parachute. Such apparatus consist of instruments (thermometer, barometer and hygrometer) for high altitude research work, combined with a wireless transmitter enabling the instrument readings to be automatically recorded on the ground. When separately presented, the balloons and parachutes are **excluded** (**Chapter 88**).

(11) **Theodolites** for recording successive positions of sounding balloons.

(VI) GEOPHYSICAL INSTRUMENTS

Many geophysical instruments are **excluded**, for example, gas, sludge or soil analysis apparatus, photoelectric fluorometers and fluoroscopes (instruments using ultra-violet light to detect or identify numerous substances) (**heading 90.27**); electric or electronic measuring instruments (e.g.,

instruments for measuring resistivity, radioactivity counters, thermocouple instruments) (**heading 90.30**), etc.

The following remain in this heading :

(1) **Seismometers and seismographs**, for recording the time, duration and intensity of movements of a point on the earth's crust, and seismometers and seismographs used both for recording the various phenomena occurring during earthquakes, and in prospecting for mineral oil. In these instruments the seismic waves set up by an earthquake, or by the firing of an explosive charge, are converted into electric impulses.

(2) **Magnetic or gravimetric geophysical instruments used in prospecting for ores, oil, etc**. These highly sensitive instruments include magnetic balances, magnetometers, magnetic theodolites and gravimeters, torsion balances.

(3) **Electronic magnetic gradiometers** (also known as "proton magnetometers") which measure the gradient of the earth's magnetic field.

(4) **Circumferential acoustic scanning tools** which create a "picture" of a borehole by measuring the acoustic travel time of an ultrasonic signal emitted from a rotating transducer in the head of the tool.

(5) **Apparatus for measuring the inclination of a borehole**.

(VII) RANGEFINDERS

This group covers all types of optical or opto-electronic rangefinders for determining the distance between the instrument and a given object. They are used in surveying, photography and cinematography, by the armed forces, etc.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), this heading also covers parts and accessories of the goods of this heading. Such parts and accessories include arrows for land chains.

On the other hand, monopods, bipods, tripods and similar articles, even though specially designed for instruments or appliances of this heading, are **excluded** (**heading 96.20**).

9015.10

- Rangefinders

9015.20

- Theodolites and tachymeters (tacheometers)

9015.30

- Levels

9015.40

- Photogrammetrical surveying instruments and appliances

9015.80

- Other instruments and appliances
9015.90

- Parts and accessories
Heading 9016

Balances of a sensitivity of 5 cg or better, with or without weights.
EXPLANATORY NOTES

90.16 - Balances of a sensivity of 5 cg or better, with or without weights.

This heading covers balances of all types, including electronic balances, **provided their sensitivity is 5 cg or better**. Weights presented with such balances fall in this heading, but weights presented separately, even if made of precious metal, are **excluded** (**heading 84.23**).

Many of the balances of this heading are designed for precision measurement and are made of non-corrosive metal or of light alloys, with knife-edges, bearings and planes of agate. To protect the balances from air currents and dust, they may be enclosed in a glass or plastics case or built in a cabinet consisting chiefly of glass or plastics; they are then manipulated by handles and other devices outside the cabinet. They may also be fitted with an optical device (e.g., magnifying lens), be artificially illuminated to assist in reading the scale, or be fitted with levelling devices (tripod, adjustable screws, spirit-level, etc.).

In certain **torsion balances**, the weight to be measured is counterbalanced by the torsion of a wire.

Certain **electronic balances** are used in a vacuum or under controlled pressure, to record the variations in weight of substances submitted to special treatment (heating, cooling, the action of a gas, vacuum treatment, exposure to light, etc.). Weight variations are measured by recording the current passing through a magnetic balancing coil.

The heading includes :

(1) **Analytical balances** (e.g., microchemical balances, microbalances, aperiodic analytical balances) used mainly in quantitative chemical analysis.

(2) **Assay balances**, used in the assaying of precious metals.

(3) **Balances for precious stones**, graduated in carats.

(4) **Chemists' balances, yarn balances, samples balances** (used to establish the weight of paper, textile fabrics, etc.).

(5) **Hydrostatic (or specific gravity) balances**, for ascertaining the specific gravity of liquids or solids.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories (including mounted or unmounted agate knife-edges, bearings and planes), identifiable as being suitable for use solely or principally with the balances of this heading are also classified here (for example, beams, trays, cabinets, dials, swing dampers).

On the other hand, monopods, bipods, tripods and similar articles, even though specially designed for the apparatus of this heading, are **excluded** (**heading 96.20**).

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Balances of a sensitivity poorer than 5 cg are **excluded** (**heading 84.23**).

9016.00

Balances of a sensitivity of 5 cg or better, with or without weights.

Heading 9017

Drawing, marking-out or mathematical calculating instruments (for example, drafting machines, pantographs, protractors, drawing sets, slide rules, disc calculators); instruments for measuring length, for use in the hand (for example, measuring rods and tapes, micrometers, callipers), not specified or included elsewhere in this Chapter.

EXPLANATORY NOTES

90.17 - Drawing, marking-out or mathematical calculating instruments (for example, drafting machines, pantographs, protractors, drawing sets, slide rules, disc calculators); instruments for measuring length, for use in the hand (for example, measuring rods and tapes, micrometers, callipers), not specified or included elsewhere in this Chapter.

9017.10 - Drafting tables and machines, whether or not automatic

9017.20 - Other drawing, marking-out or mathematical calculating instruments

9017.30 - Micrometers, callipers and gauges

9017.80 - Other instruments

9017.90 - Parts and accessories

This heading includes drawing, marking-out or mathematical calculating instruments. It also includes instruments for measuring length, for use in the hand.

This heading **does not**, however, **include** :

(a) Mitre boxes and tools used in the graphic arts (e.g., chisels, gouges, etching needles) (**Chapter 82**).

(b) Graphic tablets and digitizers (**heading 84.71**).

(c) Pattern generating apparatus designed to produce masks and reticles from photoresist coated substrates (such as optical, E-beam, focused ion beam, X-ray or laser beam apparatus) (**heading 84.86**).

(d) Co-ordinatographs of a type used for photogrammetrical purposes (**heading 90.15**).

These include :

(A) **Drawing instruments**.

(1) **Pantographs and eidographs** for smaller, larger or same scale reproductions of maps, plans, drawings, parts to be machined, etc. The heading includes such instruments used for course plotting in navigation.

(2) **Drafting machines** generally using a system of parallelograms, with or without drawing boards or tables.

The heading also covers drafting machines incorporating automatic data processing machines or working in conjunction with such machines.

(3) **Drawing compasses**, dividers, reduction compasses, spring bows, mathematical drawing pens, dotting wheels, etc., whether in a case (e.g., drawing sets) or separately.

(4) **Set squares** (standard, hatching, wood or metal working), **adjustable squares, T squares** (standard or articulated), **drawing curves, rulers** (flat, square, hatching (parallel rules), standard, etc.).

(5) **Protractors**, from the ordinary protractors found in drawing sets to the complex protractors as used, for example, in engineering.

(6) **Stencils** of a kind clearly identifiable as being **specialised as drawing instruments**. Stencils not so specialised are classified according to their constituent material.

(B) **Marking-out instruments**.

(Marking-out consists in marking construction lines, etc., on the surface of a part to be machined, sawn, etc.).

(1) **Beam compasses** (marking, carpenters', etc.) with plain or divided laths.

(2) **Scribers and centre punches**.

(3) **Surface plates** used as a datum plane for marking-out or for checking plane surfaces, etc. **Straight-edges and squares** (of cast iron, stone, etc.) with a true plane surface.

(4) **V-blocks and X-blocks** for supporting cylindrical workpieces.

The heading **does not cover** engraving tools for working in the hand with self-contained motor (**heading 84.67**).

(C) **Mathematical calculating instruments**.

Slide rules, disc calculators, cylindrical calculators and other calculating instruments based on the slide rule or other mathematical calculating principle including, for instance, pocket-type adding and subtracting devices operated by the selection of numbers with a stylus according to a given procedure. This group also includes rules and discs for calculating photographic exposure times on adjustment by reference to the condition of the sky, time of day, aperture setting, type of subject and sensitivity of emulsion.

Calculating or accounting machines, however, are **excluded** (**heading 84.70**).

(D) **Instruments for measuring length, for use in the hand**.

These instruments are capable of indicating the length, i.e., linear dimensions, of the object to be measured, for example a line drawn or imaginary (straight or curved) on the object. The instruments are therefore capable of measuring dimensions such as diameters, depths, thicknesses and heights which are indicated as a unit of length (e.g., millimetres). These instruments must also have characteristics (size, weight, etc.) which enable them to be held in the hand to carry out the measurement.

Instruments specially designed to be used permanently mounted on a stand or other support or connected to machines or other apparatus by means of flexible tubing, cables, etc., to carry out the measurement are **excluded** (**heading 90.31**).

This groupincludes :

(1) **Micrometers**; instruments having a micrometric head , either of the screw- or screwless-type (the screwless-type incorporate a slide action and are usually electronic). They are used to measure, for example, outside or inside diameters, thicknesses, screw thread pitch. The measurement may be read on the screw itself, on a dial or on a digital display.

(2) **Callipers** (vernier, dial indicating or electronic), for measuring, e.g., diameters, depths, thicknesses.

(3) **Gauges**, having an adjustable measuring device.

Gauges without adjustable devices, used only for sizing parts or checking angles, forms, etc. (for example, plug gauges, ring gauges), are **excluded** (**heading 90.31**).

(4) **Comparators (dial type)**, used to check the inside or outside tolerance of dimensions (e.g., reaming or rectification checks). They incorporate a measuring rod, amplifying dial and transmission system (rack, gear, lever, spring, pneumatic, hydraulic, etc.).

(5) **Measuring rods** (plain or divided, straight or folding) and **measuring tapes** (e.g., spring rules, riband-rules, drum wound bands), including standard rods, measuring sticks and the like.

The heading **excludes** measuring devices specially designed for surveying (land chains, levelling staves, ranging poles, etc.) and winch-type measures for mine shafts (**heading 90.15**).

(6) **Divided scales** (school rulers, etc.), including V-shaped rules for measuring the diameter of convex bodies and vertical measuring apparatus with movable crossheads.

(7) **Map measurers** (opisometers); small instruments with or without a dial, used for measuring distances on maps, plans, etc.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), the heading also covers parts and accessories identifiable as being suitable for use solely or principally with the machines, apparatus and instruments described above, e.g., micrometer extension anvils; stands for slip gauges; micrometer stands; hinges or joints for folding rules.

9017.10

- Drafting tables and machines, whether or not automatic

CLASSIFICATION OPINIONS

1. **System for the control of industrial drafting instruments** (Computer Aided Design (CAD) system) consisting of the following components :

(i) an automatic data processing machine ("graphics processor");
(ii) an interactive design console together with an electronic pen and tablet with the aid of which drawings are drafted on a video screen and information is fed into the "graphics processor" while at the same time being shown on the screen;
(iii) a teledisplay with a keyboard for giving commands to the "graphics processor". The commands are shown on a video screen;
(iv) a digitiser/plotter, which produces drawings on paper and is controlled by signals from the "graphics processor". The unit is also used for "reading" drawings, the data thus collected from the drawings being fed into the "graphics processor";
(v) a "telewriter" which is used for giving commands to or receiving information from the "graphics processor".

Adoption : 1985

9017.20

- Other drawing, marking-out or mathematical calculating instruments

9017.30

- Micrometers, callipers and gauges

9017.80

- Other instruments

9017.90

- Parts and accessories

Heading 9018

Instruments and appliances used in medical, surgical, dental or veterinary sciences, including scintigraphic apparatus, other electro-medical apparatus and sight-testing instruments.

EXPLANATORY NOTES

90.18 - Instruments and appliances used in medical, surgical, dental or veterinary sciences, including scintigraphic apparatus, other electro-medical apparatus and sight-testing instruments (+).

- Electro-diagnostic apparatus (including apparatus for functional exploratory examination or for checking physiological parameters) :

9018.11 - - Electro-cardiographs

9018.12 - - Ultrasonic scanning apparatus

9018.13 - - Magnetic resonance imaging apparatus

9018.14 - - Scintigraphic apparatus

9018.19 - - Other

9018.20 - Ultra-violet or infra-red ray apparatus

- Syringes, needles, catheters, cannulae and the like :

9018.31 - - Syringes, with or without needles

9018.32 - - Tubular metal needles and needles for sutures

9018.39 - - Other

- Other instruments and appliances, used in dental sciences :

9018.41 - - Dental drill engines, whether or not combined on a single base with other dental equipment

9018.49 - - Other

9018.50 - Other ophthalmic instruments and appliances

9018.90 - Other instruments and appliances

This heading covers a very wide range of instruments and appliances which, in the vast majority of cases, are used only in professional practice (e.g., by doctors, surgeons, dentists, veterinary surgeons, midwives), either to make a diagnosis, to prevent or treat an illness or to operate, etc. Instruments and appliances for anatomical or autoptic work, dissection, etc., are also included, as are, under certain conditions, instruments and appliances for dental laboratories (see Part (II) below). The instruments of the heading may be made of any material (including precious metals).

The heading **does not cover** :

(a) Sterile catgut and other sterile material for surgical sutures, sterile laminaria and sterile laminaria tents (**heading 30.06**).

(b) Diagnostic or laboratory reagents of **heading 38.22**.

(c) Hygienic or pharmaceutical articles of **heading 40.14**.

(d) Laboratory, pharmaceutical or hygienic glassware of **heading 70.17**.

(e) Sanitary ware of base metal (in particular, **headings 73.24**, **74.18** and **76.15**).

(f) Manicure or pedicure sets and instruments (**heading 82.14**).

(g) Carriages for disabled persons (**heading 87.13**).

(h) Spectacles, goggles and the like, corrective, protective or other (**heading 90.04**).

(ij) Photographic cameras (**heading 90.06**) **unless** incorporated permanently in the instruments or appliances of this heading.

(k) Microscopes, etc., of **heading90.11** or **90.12**.

(l) Disc calculators used for calculating lung function, body mass index, etc., of **heading 90.17**.

(m) Mechano-therapy, oxygen therapy, ozone therapy, artificial respiration, aerosol therapy, massage apparatus, etc., of **heading 90.19**.

(n) Orthopaedic appliances, artificial parts of the body and fracture appliances, including those for animals (**heading 90.21**).

(o) X-ray apparatus, etc., (whether medical or not) of **heading 90.22**.

(p) Clinical thermometers (**heading 90.25**).

(q) Instruments and appliances used in laboratories to test blood, tissue fluids, urine, etc., whether or not such tests serve in diagnosis (generally **heading 90.27**).

(r) Medical or surgical furniture, including that for veterinary use (operating tables, examination tables, hospital beds), dentists' chairs not incorporating dental appliances of this heading, etc. (**heading 94.02**).

On the other hand, this heading includes specialised measuring instruments used exclusively in professional practice, such as cephalometers, dividers for measuring cerebral lesions, obstetrical pelvimeters, etc.

It should also be noted that a number of the instruments used in medicine or surgery (human or veterinary) are, in effect, tools (e.g., hammers, mallets, saws, chisels, gouges, forceps, pliers, spatulae, etc.), or articles of cutlery (scissors, knives, shears, etc.). Such articles are classified in this heading **only** when they are clearly identifiable as being for medical or surgical use by reason of their special shape, the ease with which they are dismantled for sterilisation, their better quality manufacture, the nature of the constituent metals or by their get-up (frequently packed in cases or boxes containing a set of instruments for a particular treatment : childbirth, autopsies, gynaecology, eye or ear surgery, veterinary cases for parturition, etc.).

The instruments and appliances classified here may be equipped with optical devices; they may also make use of electricity, either as motive power or for transmission, or as a preventive, curative or diagnostic agent.

This heading also covers instruments and appliances operated by laser or other light or photon beam processes and ultrasonic instruments and appliances.

(I) INSTRUMENTS AND APPLIANCES FOR HUMAN MEDICINE OR SURGERY

This group includes :

(A) **Instruments which may be used under the same names for several purposes**, for example :

(1) **Needles** (for sutures, ligatures, vaccination, blood tests, hypodermic needles, etc.).

(2) **Lancets** (for vaccination, blood-letting, etc.).

(3) **Trocars** (for puncturing) (gall-bladder, general purpose, etc., types).

(4) **Surgical knives and scalpels** of all kinds.

(5) **Sounds** (prostatic, bladder, urethral, etc.).

(6) **Specula** (nasal, mouth, laryngeal, rectal, vaginal, etc.).

(7) **Mirrors and reflectors** (for examination of eye, larynx, ear, etc.).

(8) **Scissors, shears, forceps, pliers, chisels, gouges, mallets, hammers, saws, scrapers, spatulae**.

(9) **Cannulae, catheters, suction tubes**, etc.

(10) **Cauteries** (thermo, galvano, micro, etc.).

(11) **Tweezers; dressing, swab, sponge or needle holders (including radium needle holders)**.

(12) **Retractors** (lip, jaw, abdominal, tonsil, liver, etc.).

(13) **Dilators** (laryngeal, urethral, oesophageal, uterine, etc.).

(14) **Wire guides** used for the placement of catheters, needles, tissue dilators, endoscopes and atherectomy devices.

(15) **Clips** (suture, etc.).

(16) **Syringes** (glass, metal, glass and metal, plastics, etc.), of all kinds, e.g., injection, puncture, anaesthesia, irrigation, wound washing, suction (with or without pump), eye, ear, throat, uterine, gynaecological, etc.

(17) **Surgical staplers** for inserting staples to close a wound.

(B) **Special diagnostic instruments and apparatus**.

These include :

(1) **Stethoscopes**.

(2) **Instruments to measure rate of breathing** (to determine basal metabolism).

(3) **Sphygmomanometers, tensiometers and oscillometers** (to measure blood pressure).

(4) **Spirometers** (to assess lung capacity).

(5) **Cephalometers**.

(6) **Pelvimeters**.

(C) **Ophthalmic instruments**. These fall into various categories :

(1) **Surgical instruments** such as corneal trephines, keratomes.

(2) **Diagnostic instruments** such as ophthalmoscopes; binocular loupes with head-bands and **binocular-type microscopes**, consisting of a microscope, an electric lamp with a slit, and a head-rest, the whole being mounted on an adjustable support, for the examination of the eyes; tonometers (for testing the intra-ocular tension); eye specula.

(3) **Orthoptic or sight-testing apparatus** including amblyoscopes, retinoscopes, skiascopes, strabometers, keratometers, keratoscopes, eye measurement meters designed to measure the distance between the pupils , trial-cases (of lenses) and trial-frames (for carrying the trial lenses), optometric scales, test charts. However, optometric scales and charts on paper, paperboard or plastics, used for colour perception tests, are **excluded** (**Chapter 49**).

This heading also covers electrically heated compresses for the eyes, and electro-magnets designed for removing metallic particles from the eyes.

(D) **Ear instruments**, e.g., auriscopes. However, tuning forks, whether or not for medical use, are **excluded** (**heading 92.09**).

(E) **Anaesthetic apparatus and instruments** (face masks, face-piece harness, intratracheal tubes, etc.).

(F) **Instruments for nose, throat or tonsil treatment** : clamps (for straightening the nasal cartilage); transillumination apparatus (for sinuses and nasal fossae); tonsilotomes and guillotines; direct laryngoscopes; laryngeal brushes, etc.

(G) **Pharyngeal, oesophageal, stomach or tracheotomy instruments** : oesophagoscopes, bronchoscopes, stomach pumps, intubation tubes, etc.

(H) **Urinary canal or bladder instruments** : urethrotomes, lithotrity instruments, bladder-grit suction apparatus, instruments for prostatectomy.

(IJ) **Artificial kidney (dialysis) apparatus**.

(K) **Gynaecological or obstetrical instruments** : vaginal retractors; hysterectomy instruments; obstetrical stethoscopes; specialised optical instruments for examination of the genital organs; forceps; perforators; embryotomy instruments (for dissection of the foetus); cephalotribes and cranioclasts (instruments to crush the head of a child which has died in the uterus); instruments for taking internal measurements; etc.

(L) **Portable pneumo-thorax apparatus, transfusion apparatus for whole blood, blood components and blood derivatives, artificial leeches**.

The heading also covers sterile hermetically sealed containers of plastics, from which air has been evacuated but containing a small quantity of anti-coagulant and fitted with an integral donor tube and a phlebotomy needle, used for the collection, storage and transfusion of human whole blood. However, special blood storage bottles of glass are **excluded** (**heading 70.10**).

(M) **Chiropodists' electric grinders**.

(N) **Acupuncture needles** - gold, silver, steel.

(O) **Endoscopes** : gastroscopes, thoracoscopes, peritoneoscopes, bronchoscopic telescopes, cystoscopes, urethroscopes, resectoscopes, cardioscopes, colonoscopes, nephroscopes, laryngoscopes, etc. Many of these have an operating channel large enough to perform surgery via remotely controlled instruments. However, endoscopes for non-medical purposes (fibrescopes) are **excluded** (**heading 90.13**).

(P) **Apparatus incorporating an automatic data processing machine** and designed solely for calculating the dose and distribution of therapeutic radiation.

(Q) **Hyperbaric chambers** (also known as decompression chambers) which are specially equipped pressure vessels to administer oxygen at elevated atmospheric pressure levels. They are used for the treatment of conditions such as decompression sickness, air embolism, gas gangrene, carbon monoxide poisoning, refractory osteomyelitis, skin grafts and flaps, actinomycosis and exceptional blood loss anaemia.

(R) **Lamps** which are specially designed for diagnostic, probing, irradiation, etc. purposes. Torches, such as those in the shape of a pen are **excluded** (**heading 85.13**) as are other lamps which are not clearly identifiable as being for medical or surgical use (**heading 94.05**).

(II) DENTAL INSTRUMENTS AND APPLIANCES

In addition to those common to this and the previous group (such as masks and other dental analgesic apparatus), the main instruments and appliances included in this category are :

(1) **Surgeons' finger-guards** (whether or not articulated) **and gags; cheek or lip retractors, tongue depressors and clips**.

(2) **Forceps** of all kinds, **elevators, tweezers** of all kinds (to remove exposed teeth, aligning pivot teeth, etc.), **cutters** (for dissecting, dressing, filling and gouging, etc.), **root forceps**.

(3) **Instruments for endodontic treatment** (broaches, reamers, files, pluggers, spreaders, etc.).

(4) **Bone scissors and files; gouges and mallets for resecting the jaw and the maxillary sinus; raspatories; scalpels; special knives and scissors; special dentists' tweezers; "excavators" and probes**.

(5) **Special instruments for cleaning gums and sockets; scalers for treating dental tartar; scrapers and enamel chisels**.

(6) **Miscellaneous probes; needles** (abscess, hypodermic, suture, cotton-wool, etc.); **cotton-wool holders and swab holders; insufflators; dental mirrors**.

(7) **Gold-filling instruments** (pluggers, mallets, etc.); **filling instruments** (cement or resin spatulae, amalgam stoppers and mallets, amalgam-carriers, etc.); **impression compound trays**.

(8) **Dental burrs, discs, drills and brushes**, specially designed for use with a dental drill engine or handpiece.

The heading also covers tools and instruments of a kind used in prosthetic dentistry either by the practitioner himself or by a dental technician, for example : knives; spatulae and other modelling tools; miscellaneous pliers and tweezers (for fixing clamps and crowns, cutting pivots, etc.); saws; shears; mallets; files; chisels; scrapers; burnishers; metal formers, for the manufacture, by beating, of metal dental crowns. The heading also covers dental casting machines, dental milling machines, and dental trimmers for trimming models of dentures. The heading **does not**, however, **include** tools or other articles of general use (furnaces, moulds, soldering tools, melting ladles, etc.); these are classified in their respective headings.

The following also fall in this heading :

(i) **Dental drill engines** with swivel arm, whether on a separate base, for wall-mounting, or for fitting to the equipment described under (ii) below.

(ii) **Complete dental equipment on its base** (stationary or mobile unit). The main usual features are a frame carrying a compressor, a transformer, a control panel and other electrical apparatus; the following are also often mounted on the unit : swivel arm drill, spittoon and mouth rinser, electric heater, hot air insufflator, spray, cautery instrument tray, diffused lighting, shadowless lamp, fan, diathermic apparatus, X-ray apparatus, etc.

Some types of this equipment are designed to operate by the use of abrasive materials (usually aluminium oxide) instead of with a drill; the abrasives are usually projected against the teeth by compressed gas (e.g., carbon dioxide).

(iii) **Spittoon mouth rinsers** whether on a base, stand or on swivel arms. They are usually combined with warm water supply and warm water syringe.

(iv) **Polymerisation devices** (light or heat), amalgamators, ultrasonic scalers, electrosurgery equipment, etc.

(v) **Devices for dental treatment** which operate by the use of lasers.

(vi) **Dentists' chairs incorporating dental equipment** or any other dental appliances classifiable in this heading.

The heading **does not**, however, **include** dentists' chairs not incorporating dental appliances of this heading; these dentists' chairs fall in **heading 94.02** whether or not fitted with equipment such as lighting fittings.

It should, however, be noted that the heading **excludes** certain items of dental equipment mentioned in paragraph (ii) above, when they are presented separately; these are classified in their own respective headings, for example, compressors (**heading 84.14**), X-ray, etc., apparatus (**heading 90.22**). **heading 90.22** also covers X-ray, etc., apparatus designed for a separate stand, or for wall-mounting in dental surgeries. Separately presented diathermy apparatus is, however, classified with the electro-medical apparatus of this heading (see Part (IV) below).

It should be noted that dental cements and other dental fillings fall in **heading 30.06**; the preparations known as "dental wax" or as "dental impression compounds", put up in sets, in packings for retail sale or in plates, horseshoe shapes, sticks or similar forms, and other preparations for use in dentistry, with a basis of plaster (of calcined gypsum or calcium sulphate), fall in **heading 34.07**.

(III) VETERINARY INSTRUMENTS AND APPLIANCES

This group includes a number of articles which, though designed for veterinary use, are similar to those of Part (I) or (II) above, for example :

(A) **General purpose instruments** (e.g., needles, lancets, trocars, scalpels, specula, sounds, scissors, forceps, hammers, curettes, retractors, syringes).

(B) **Special instruments and appliances**, such as, ophthalmoscopes, eye specula, laryngoscopes, stethoscopes, forceps, embryotomes.

(C) **Dental instruments**.

The group also includes instruments and apparatus specialised for veterinary use, for example :

(1) **Instruments and appliances for the udder**, e.g., teat dilators and puncturing sounds (to open the teats of cows); appliances for treating puerperal or milk fever in cows.

(2) **Instruments and appliances for castration** : emasculators; castrating clams and clamps (for producing atrophy of the male genital glands); castrating vices and forceps; ovariotomes, etc.

(3) **Instruments and appliances for parturition** : specialised obstetrical cords, straps, head-collars, forceps and hooks, mechanical calfing aids, etc.

(4) **Miscellaneous instruments** : artificial inseminators; tail-dockers; horn-cutters; sprays for treatment of diseases of respiratory, digestive, urinary, genital, etc., organs in animals; special

control apparatus, i.e., for preventing animals from moving during operations (mouth-gags, hobbles, etc.); special syringes for applying medicaments and syringes to be filled with an anaesthetic or a medicament (antiserum, vaccine, etc.) for remote projection at free-roaming animals, for example by means of a gun or pistol operated by compressed gas; appliances for administering pills; special snaffles for ingesting drenches; hooks for sand-crack (to close cracks in hooves); endoscopic instruments for determining the sex of chicks, etc.

The heading **excludes** trichinoscopes (optical instruments for examination of pork) (**heading 90.11**), orthopaedic appliances for animals (**heading 90.21**), operating tables for animals (**heading 94.02**, see corresponding Explanatory Note).

Tools of a type used equally by veterinary surgeons and blacksmiths are classified in **Chapter 82** (e.g., toeing files; nail or hoof clippers; paring knives; pliers; pincers; hammers, etc.); **Chapter 82** also covers cattle-branding tools (punches, irons for burning off hoof-rind, etc.) and shearing tools.

(IV) SCINTIGRAPHIC APPARATUS

These are apparatus which scan parts of the body and create images of an organ or a record of its functioning. It includes apparatus incorporating a scintillation counter the data from which is converted into analogue signals for the purpose of making medical diagnoses (e.g., gamma camera, scintillation scanner).

(V) OTHER ELECTRO-MEDICAL APPARATUS

This heading also covers electro-medical apparatus for preventive, curative or diagnostic purposes, **other than** X-ray, etc., apparatus of **heading 90.22**. This group includes :

(1) **Electro-diagnostic apparatus**, which include :

(i) **Electro-cardiographs** (apparatus which, by means of currents produced by contractions of the cardiac muscle, record heart movements as electrocardiograms).

(ii) **Phonocardiographs** (specially designed to register heart noises as phonocardiograms; they may also be used as electro-cardiographs).

(iii) **Cardioscopes** (used in conjunction with the two preceding instruments to enable simultaneous observation of cardiograms and phonocardiograms).

(iv) **Rheocardiographs** (electrical apparatus for measuring changes of electrical resistance due to the functioning of the heart).

(v) **Electroencephalographs** (for examination of the brain).

(vi) **Electrosphygmographs** (for registering arterial pressure and volume).

(vii) **Electrotonographs** (for registering variations in arterial, intravenous or intracardial pressure).

(viii) **Electroretinographs** (for measuring strain in the retina).

(ix) **Audiometers and similar apparatus** (for hearing tests based on frequency variations).

(x) **Diagnostic apparatus incorporating or operating in conjunction with an automatic data processing machine** for processing and visualising clinical data, etc.

(xi) **Ultrasonic diagnostic equipment** used for the representation of organs, e.g., on a display tube, by means of ultrasonic waves.

(xii) **Nuclear Magnetic Resonance (NMR) apparatus** used to represent the characteristics of tissues and organs inside the human body, using the magnetic properties of body atoms, such as hydrogen atoms.

(2) **Electrotherapy apparatus**. Apart from its use in diagnosis, this apparatus is employed to treat diseases such as neuritis, neuralgia, hemiplegia, phlebitis, endocrinal anaemia. Certain of these appliances can be combined with electro-surgical instruments referred to in paragraph (7) below.

(3) **Iono-therapy apparatus** used to administer active medicaments (sodium or lithium salicylate, potassium iodide, histamine, etc.) through the skin by the aid of an electric current.

(4) **Diathermy apparatus** to treat certain diseases which require heat (e.g., rheumatism, neuralgia, dental ailments). These operate by the use of high-frequency (shortwave, ultrasonic, ultra shortwave, etc.) currents, and employ electrodes in a variety of forms (e.g., plates, rings, tubes).

(5) **Electric shock treatment apparatus** to treat mental or nervous diseases.

(6) **Cardiac defibrillators** for defibrillating the heart by the application of electric current.

(7) **Electro-surgical apparatus**. These utilise high-frequency electric currents, the needle, probe, etc., forming one of the electrodes. They can be employed to cut tissues (**electrocutting**) with a lancet (electric lancet), or to coagulate the blood (**electrocoagulation**). Certain combined instruments may, by the use of control pedals, be made to act interchangeably as electrocutters or electrocoagulators.

(8) **Actinotherapy apparatus**. These employ radiations within, or more generally just outside, the visible spectrum (infra-red, ultra-violet) for treatment of certain diseases or for diagnostic purposes (special lighting to reveal skin diseases). This apparatus generally incorporates lamps, though infra-red ray apparatus may be fitted with heating resistances or heating panels with reflectors.

(9) **Artificial incubators for babies**. Basically these consist of a transparent cubicle of plastics, electrical heating equipment, safety and warning devices, and oxygen and air filtering and regulating apparatus. In most cases they are mounted on a trolley and have built-in baby scales.

Cases containing electrodes or other devices for use with the apparatus described above are also included in this group.

This heading also **excludes** prenatal listening apparatus for non-medical use of **heading 85.18** (see the Explanatory Note to that heading).

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories of apparatus or appliances of this heading remain classified here.

°

° °

Subheading Explanatory Notes.

Subheading 9018.12

This subheading covers electro-diagnostic ultrasonic scanning apparatus. This apparatus operates by sending high-frequency sound waves into the human body through a transducer. The transducer is placed in contact with the body, and alternately emits short pulses of ultrasound and “listens” for their echoes. The echoes result from the sound waves being reflected by the organs within the body, and their characteristics are interpreted to yield information about the location, size, shape and texture of the tissues. Interpretation is generally carried out by an automatic data processing machine, with the output being presented as a video image of the tissues.

This method of body scanning is used for examining the foetuses of pregnant women. It is also well suited for the examination of the breasts, heart, liver and gall-bladder.

Subheading 9018.13

Magnetic Resonance Imaging (MRI) relies on the principle that the nuclei of hydrogen atoms will align when subjected to an intense magnetic field. If a radio frequency is then aimed at these atoms, the alignment of the nuclei will shift. When the radio waves are turned off, the nuclei realign themselves, transmitting in the process a small electric signal. As the human body is primarily composed of hydrogen atoms, an image of virtually any area of the body can be generated from the returning pulses. Since the hydrogen represents water content, the returning pulses can be used to make distinctions between tissues. This makes it possible to obtain an image of bone-marrow and tissue.

The electro-diagnostic magnetic resonance imaging apparatus of this subheading consists of a huge electro-magnet, a radio-frequency generator and an automatic data processing machine for evaluation. It must be installed in a room completely shielded from external radio-frequencies. To obtain the intense magnetic field required, the electro-magnets are supercooled by means of liquid helium.

Hydrogen was chosen as the basis for magnetic resonance imaging because of its abundance in the human body and its prominent magnetic characteristics. It is also possible to use other elements such as, for example, sodium or phosphorus.

Subheading 9018.14

The electro-diagnostic apparatus of this subheading is used to obtain an image of the distribution of gamma rays in the human body. This image is produced using suitable apparatus such as the scintigraphic scanner and, above all, the gamma camera.

These nuclear scanners require giving the patient an oral dose or injection of a radioactive compound (the tracer) which is quickly absorbed by the organ being studied. The body is then scanned with a

gamma counter, which records the amount of radiation emitted by the tracer as it penetrates the target organ (for example, the brain), in order to determine where the radio-isotope is absorbed.

A video picture is produced by automatic data processing machine analysis of the radiation detected. This picture is a patchwork of light and dark areas or contrasting colours which show where in the organ the radio-isotope was taken up. Such scans provide information about both the structure and the function of the organ concerned.

An example of scintigraphic apparatus is the Positron Emission Tomography (PET) scanner. It combines the principles of nuclear medicine with the imaging techniques used in the Computed Tomography (CT) scanner (see the Subheading Explanatory Note to subheading 9022.12).

9018.1

- Electro-diagnostic apparatus (including apparatus for functional exploratory examination or for checking physiological parameters) :

9018.11

-- Electro-cardiographs

9018.12

-- Ultrasonic scanning apparatus

9018.13

-- Magnetic resonance imaging apparatus

9018.14

-- Scintigraphic apparatus

9018.19

-- Other

9018.20

- Ultra-violet or infra-red ray apparatus

9018.3

- Syringes, needles, catheters, cannulae and the like :

9018.31

-- Syringes, with or without needles

9018.32

-- Tubular metal needles and needles for sutures

CLASSIFICATION OPINIONS

1. Blanks for surgical needles, consisting of stainless steel tubes 44 mm long, of a circular cross-section, having an external diameter of 1.3 mm and an internal diameter of 0.9 mm. One end has been cut at right angles to the length and the other at an acute angle. The latter end has then been ground in two planes which intersect to form a sharp point.
Adoption : 1983

9018.39

-- Other

CLASSIFICATION OPINIONS

1. Evacuated tubes for the collection and transport of blood, containing chemical additives, of plastics, with a pre-defined vacuum to withdraw the exact volumes of blood. The tubes are used to

collect and, for a limited time, also to transport, preserve and store blood for specific testing of serum, plasma or whole blood in a clinical laboratory. They are suitable for use principally with phlebotomy needles and holders produced by the same manufacturer. They have a sterile interior with additives in predetermined amounts depending on the draw volumes. The tubes are fitted with colour-coded safety caps having colour-coded inner rings. The additives can be either chemically inert or of a kind to chemically interact with a blood sample. The chemically inert additives (clot activator, separation gel and polystyrene beads) have mechanical functions. The chemical additives act, for example, as anticoagulating agents (ethylenediaminetetraacetic acid (EDTA), heparin (ammonium, lithium, sodium), sodium citrate, potassium or ammonium oxalate) or as antiglycolytic agents (sodium fluoride and lithium iodoacetate).
Application of GIRs 1 and 6.
Adoption : 2007

2. **Evacuated tubes for the collection and transport of blood, not containing chemical additives,** of plastics, with a pre-defined vacuum to withdraw the exact volumes of blood. The tubes are used to collect and, for a limited time, also to transport, preserve and store blood for specific testing of serum, plasma or whole blood in a clinical laboratory. They are suitable for use principally with phlebotomy needles and holders produced by the same manufacturer. They have a sterile interior without any chemical additives and are fitted with specific colour-coded safety caps for this type of tubes.
Application of GIRs 1 and 6.
Adoption : 2007

9018.4

- Other instruments and appliances, used in dental sciences :

9018.41

-- Dental drill engines, whether or not combined on a single base with other dental equipment

9018.49

-- Other

9018.50

- Other ophthalmic instruments and appliances

9018.90

- Other instruments and appliances

CLASSIFICATION OPINIONS

1. **Single use blanket,** made up of two-ply nonwovens, coated on one side with plastics, layered and heat sealed along the edges, open at one end and fitted with a nozzle to allow the injection of warm air by means of a warming device, for the prevention and treatment of hypothermia in hospital patients.
Application of GIRs 1 (Note 2 (b) to Chapter 90) and 6.
Adoption : 2008



2. Total body cryotherapy chamber for the treatment of, e.g., skin diseases, joint inflammations or rheumatic illnesses, consisting of the following separate basic parts, which are presented together and unassembled :

(i) Cryotherapy chamber consisting of a pre-chamber (-60 °C) and a therapy chamber (approximately -110 °C) which are connected by a door.
The cryotherapy chamber is made up of insulating elements. The external dimensions of the chamber are 2400 mm (W) x 4200 mm (L) x 2550 mm (H). The internal dimensions of the pre-chamber are 1600 mm (W) x 2250 mm (H) x1760 mm (D) and of the therapy chamber are 2100 mm (W) x 2250 mm (H) x 1700 mm (D). Both the pre-chamber and the therapy chamber are equipped with a special water-resistant carpet on the floor, entrance doors, windows, lighting, loudspeakers, emergency signal switches, pressure balance elements, and with evaporators. The evaporators have three built-in fans enabling the air circulation and integrated defrost-heating device. The therapy chamber is further equipped with an inside handrail along three sides, a microphone and a video monitoring system.
(ii) Refrigeration machine.
The refrigeration machine is an air-cooled 3-level cascade system installed in a closed machine housing. The machine is located in a room other than the cryotherapy chamber, and together with the evaporator, it brings down the temperature in the chamber to -110 °C. The dimensions of the refrigeration machine are 1600 mm (W) x 1700 mm (H) x 800 mm (D).
(iii) Switching cabinet.
The switching cabinet incorporates an electric switching system which is necessary for operating the total body cryotherapy chamber as a whole. The cabinet is placed in the same room as the above-mentioned refrigeration machine. Its dimensions are 1000 mm (W) x 2000 mm (H) x 500 mm (D).
(iv) Control desk.
The control desk includes an automatic data processing machine equipped with nano-servers, a 15 inch (38.1 cm) TFT display with touch screen, an interphone, two loudspeakers, a microphone, a CD player and an emergency stop switch. All these components are integrated into the same housing. Using the touch screen, an operator can control all functions, adjustments and machine values. The desk has dimensions of 600 mm (W) x 980 mm (H) x 400 mm (D) and is separate from the cryotherapy chamber.

(v) Condenser.
The condenser consists of a heat exchanger with crossing twin ribs and ventilators with three-phase motors. The condenser is located outside the building where the cryotherapy chamber is placed and it contributes to lowering the temperature in the chamber.

All above-mentioned units are connected by copper tubes, through which the coolant circulates, and by electrical cables.
Application of GIRs 1 (Note 3 to Chapter 90 and Note 4 to Section XVI) and 6. Adoption : 2012

Heading 9019

Mechano-therapy appliances; massage apparatus; psychological aptitude-testing apparatus; ozone therapy, oxygen therapy, aerosol therapy, artificial respiration or other therapeutic respiration apparatus.

EXPLANATORY NOTES

90.19 - Mechano-therapy appliances; massage apparatus; psychological aptitude-testing apparatus; ozone therapy, oxygen therapy, aerosol therapy, artificial respiration or other therapeutic respiration apparatus.

9019.10 - Mechano-therapy appliances; massage apparatus; psychological aptitude-testing apparatus

9019.20 - Ozone therapy, oxygen therapy, aerosol therapy, artificial respiration or other therapeutic respiration apparatus

(I) MECHANO-THERAPY APPLIANCES

These appliances are mainly used to treat diseases of the joints or muscles, by mechanical reproduction of various movements. It should be noted that such treatment is usually carried out under medical supervision; the apparatus of this heading should therefore be distinguished from the ordinary physical culture or medical exercising equipment designed for use in the home or in specially equipped premises (**heading 95.06**) (e.g., elastic cable extenders or exercisers; spring grips of various kinds; “rowing” machines for reproducing rowing movements; stationary one-wheeled cycles for training purposes or for developing leg muscles).

Since mechano-therapy refers only to treatment involving movement of the joint, etc., this heading **excludes** wholly stationary apparatus (e.g., steps, ladders, parallel bars) even if they are for use in the rehabilitation of the limbs; such articles are classified in their respective headings. For the purposes of this heading, however, apparatus may be regarded as mechanical even if it incorporates only comparatively simple mechanical devices such as springs, wheels, pulleys, etc.

Subject to the above conditions, the heading includes :

(1) Apparatus for rotation exercises of the wrist.

(2) Apparatus for rehabilitation of the fingers.

(3) Apparatus for rotation exercises of the feet.

Most of these three types of appliances consist mainly of grips linked to levers, adjustable counterweights, devices for holding the limbs, the whole mounted on a base. They are hand-operated.

(4) Apparatus for simultaneous flexion and extension of the knee and hip.

(5) Apparatus for trunk exercises.

(6) Apparatus for walking exercises, consisting of a frame, with supporting crutches and hand grips, resting on a series of wheels.

(7) Apparatus for improving the circulation, strengthening heart muscles and rehabilitating the lower limbs, consisting of a kind of wheel-less cycle fixed on a frame, which can be pedalled when the patient is sitting up or lying down.

(8) Universal-type apparatus, power-operated, which by the use of interchangeable accessories, can be employed for numerous mechano-therapeutic purposes (e.g., for treatment of diseases of the joints or muscles of the neck, shoulder, elbow, wrist, fingers, hip, knee, etc.).

(II) MASSAGE APPARATUS

Apparatus for massage of parts of the body (abdomen, feet, legs, back, arms, hands, face, etc.) usually operate by friction, vibration, etc. They may be hand- or power-operated, or may be of an electro-mechanical type with a motor built in to the working unit (vibratory-massaging appliances). The latter type in particular may include interchangeable attachments (usually of rubber) to allow various methods of application (brushes, sponges, flat or toothed discs, etc.).

This group includes simple rubber rollers or similar massaging devices. It also covers hydromassage appliances for all-over or partial massage of the body, using the action of water or a blend ofwater and air under pressure. Examples of these appliances include spa baths, presented complete with pumps, turbines or blowers, ducts, controls and all fittings; devices for massaging the breasts, using the action of water distributed by a series of small nozzles mounted inside a form fitted over the breast, and made to revolve by a stream of water introduced through a flexible tube.

The following are also regarded as massage apparatus within the meaning of this heading : mattresses designed to prevent or treat bedsores by constantly varying the places at which the weight of the patient’s body rests and also providing a superficial massage effect on tissues liable to necrosis.

(III) PSYCHOLOGICAL APTITUDE-TESTING APPARATUS

This is used by doctors, etc., to test the speed of reflex actions, co-ordination of movements or other physical or psychological reactions. It is used in particular to test people whose occupations demand special aptitudes (airmen, drivers, etc.), or to test the educational or vocational aptitudes of children.

The heading covers various types of such apparatus (e.g., appliances for testing mechanical aptitudes or manual dexterity; revolving seats designed for variable speeds and abrupt stopping to test the reactions of aircraft pilots).

It should, however, be noted that the heading **excludes** apparatus of a kind normally used for medical diagnosis of sight, hearing, the heart, etc. (**heading 90.18**). Similarly, articles having the character of

constructional or building sets and equally suitable for use as amusements and for aptitude testing are classified as games or toys (**Chapter 95**).

(IV) OZONE THERAPY APPARATUS

This apparatus provides for the treatment of diseases of the respiratory organs by using the therapeutic properties of ozone (chemical formula O_3), e.g., by inhaling.

(V) OXYGEN THERAPY, ARTIFICIAL RESPIRATION OR OTHER THERAPEUTIC RESPIRATION APPARATUS

These are used in cases of drowning, electrocution, acute poisoning (e.g., carbon monoxide), for weak newly-born babies, post-operative shock, infantile paralysis (poliomyelitis), acute asthma, insufficient lung development, etc.

These appliances include :

(A) **Appliances used instead of manual methods of artificial respiration**, e.g., mechanical devices operating by bringing pressure to bear on the patient's chest, by a rocking movement, by forced inhalation, etc.

(B) **Oxygen therapy appliances proper**. These operate either by inhalation of oxygen or of a mixture of oxygen and carbon dioxide through a mask, or by feeding oxygen into a respiratory chamber consisting of a tent of transparent plastics fitted to the patient's bed.

(C) **Appliances known as "iron lungs" and the like**. These consist essentially of :

(1) A chamber, made of metal, wood or glass fibre, to accommodate the patient's body (the head remaining outside), or a smaller chamber of transparent plastics covering only the chest.

(2) An independent unit comprising an air suction system and an emergency blower which may be power- or hand-operated.

(3) A thick air-tight tube connecting the blower system to the chamber.

Certain oxygen therapy appliances described above (in particular oxygen tents) may also be used for administration of aerosols, the patient receiving simultaneously an inhalation of oxygen and a medicament dispersed as a micro-spray (see Part (VI) below).

The heading **does not include** hyperbaric or decompression chambers (**heading 90.18**).

(VI) AEROSOL THERAPY APPARATUS

This is used for the application of a therapeutic agent in the treatment of pulmonary, cutaneous, oto-rhino-laryngologic, gynaecologic diseases, etc., by the dispersion (nebulisation) in the form of a mist of various medicinal solutions (hormones, vitamins, antibiotics, broncho-dilating preparations, essential oils, etc.).

Some of these appliances are of the individual type (nebulisers) designed for connecting to cylinders of oxygen or compressed air, or for fitting to the oxygen tents described in Part (V) above. Others are of the aerosol generator type for doctors' consulting rooms or hospitals; these consist of a cabinet containing a motor-compressor unit, measuring instruments, the generator proper and various application devices (masks, nasal, buccal, gynaecological, etc., nozzles). The heading includes aerosol-type hand-sprays for spraying teeth or gums which operate by compressed gas contained in a screw-on cartridge; the action of the medicinal substance used cleans the mouth and treats diseases such as periodontitis.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories of apparatus or appliances of this heading remain classified here. Such parts and accessories include tents and tent fixing devices for oxygen therapy apparatus.

9019.10

- Mechano-therapy appliances; massage apparatus; psychological aptitude-testing apparatus

CLASSIFICATION OPINIONS

1. "AQUASPA" hydromassage apparatus consisting of :

(i) a bathtub made of acrylic plastics and fitted with a number of adjustable nozzles;
(ii) a hydromassage device which creates a whirlpool effect and comprises, inter alia, a pump used to project jets of water or a blend of air and water under pressure, and a turbine or air blower to project air under pressure; the direction and intensity of the jets are adjustable, allowing massage of all or parts of the body;
(iii) an electronic control box;
(iv) an electric water heating system;
(v) a skim filter to filter the water and remove the foam;
(vi) an electric lighting system;
(vii) a security device to prevent electrocution;
(viii) a system of ducts.

Application of Note 3 to Chapter 90.
Adoption : 1993

2. Massage apparatus, resembling a chair, consisting of a frame upholstered with leather on the inner side and with padded seat, back and headrest. It is fitted with built-in massage components comprising :

– Inflatable bladders with a mechanism delivering vibrational friction at a number of points;
– A system of rollers with air cells;
– Extendable footrests.

The massage apparatus also has an "L-shaped" guide rail, made of lead, a forward-sliding design, waist heating, a speaker, "Bluetooth®" connection and provides support for devices with the "Android 2.0+" operating system. This "zero gravity" massage apparatus is used to massage the body from neck to feet, by kneading, tapping, vibration, "shiatsu" technique or pressure. The massaging mechanism can be adjusted using a power-operated remote control. Massage time, area and speed are all adjustable, as is the air cell intensity.Rated power: 260 W; rated voltage : 110 V.
Application of GIRs 1, 3 (b) and 6.
Adoption : 2015



9019.20

- Ozone therapy, oxygen therapy, aerosol therapy, artificial respiration or other therapeutic respiration apparatus

CLASSIFICATION OPINIONS

1. Aerosol-type hand-spray, for use by a dentist or by the patient himself to spray the teeth or gums. The spray operates by means of compressed gas (e.g. CO_2) contained in a screw-on cartridge; the action of the medicinal substance used and the massage resulting from spraying the mucous membranes cleans the mouth and treats certain diseases (e.g. periodontitis).
Adoption : 1967

Heading 9020

Other breathing appliances and gas masks, excluding protective masks having neither mechanical parts nor replaceable filters.

EXPLANATORY NOTES

90.20 - Other breathing appliances and gas masks, excluding protective masks having neither mechanical parts nor replaceable filters.

(I) BREATHING APPLIANCES

The heading includes breathing appliances of a kind used by, for example, airmen, divers, mountaineers or firemen. These may be self-contained (where the breathing circuit is fed from a cylinder of oxygen or compressed air) or may be connected by a hose to compressors, compressed air supply pipes, storage cylinders or (in the case of certain short distance apparatus) the outside atmosphere.

This heading also includes divers' helmets which require to be fitted to divers' suits before they are air-tight, and **anti-radiation or anti-contamination protective suits**, incorporating breathing apparatus.

(II) GAS MASKS

These enable the wearer to breathe in atmospheres polluted by dust, poisonous vapours, smoke, etc., and are therefore used in certain industries, or in warfare (against poison gases).

In these appliances air for breathing comes directly from the outside and is passed through a filtering device which absorbs poison gases or retains dust. They therefore consist essentially of a mask, with an arrangement enabling the wearer to see, a metal frame with outlet and inlet valves, and a socket to which is fitted either a filter or a flexible tube connected to a filter system carried on the back or chest. A more simple type protects only the mouth and the nose; it consists of a sheath held in place by one or more elastic ribbons, and contains a filtering or absorbent material (asbestos wool, sponge rubber, cotton wadding, etc., which may be impregnated or not) easily replaced after use.

The following articles are **not** regarded as breathing appliances or gas masks of this heading :

(a) Masks for protection against dust, odours, etc., not equipped with a replaceable filter, but consisting of several layers of bonded fibre fabric, whether or not treated with activated carbon or having a central layer of synthetic fibres, and masks of textile materials, used by surgeons, nurses, etc., operating upon or attending to a patient (**heading 63.07**).

(b) Masks for protection against dust or particles of materials, consisting of a simple wire mesh sheath with no filtering device other than a sheet of gauze (**Section XV**).

(c) Masks for administering anaesthetics (**heading 90.18**).

(d) Divers' respiratory masks of a kind used without oxygen or compressed air bottles, and simple underwater breathing tubes (generally known as "snorkels") for swimmers or divers (**heading 95.06**).

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories of apparatus or appliances of this heading remain classified here.

9020.00

Other breathing appliances and gas masks, excluding protective masks having neither mechanical parts nor replaceable filters.

Heading 9021

Orthopaedic appliances, including crutches, surgical belts and trusses; splints and other fracture appliances; artificial parts of the body; hearing aids and other appliances which are worn or carried, or implanted in the body, to compensate for a defect or disability.

EXPLANATORY NOTES

90.21 - Orthopaedic appliances, including crutches, surgical belts and trusses; splints and other fracture appliances; artificial parts of the body; hearing aids and other appliances which are worn or carried, or implanted in the body, to compensate for a defect or disability.

9021.10 - Orthopaedic or fracture appliances

- Artificial teeth and dental fittings :

9021.21 - - Artificial teeth

9021.29 - - Other

- Other artificial parts of the body :

9021.31 - - Artificial joints

9021.39 - - Other

9021.40 - Hearing aids, excluding parts and accessories

9021.50 - Pacemakers for stimulating heart muscles, excluding parts and accessories

9021.90 - Other

(I) ORTHOPAEDIC APPLIANCES

Orthopaedic appliances are defined in Note 6 to this Chapter. These are appliances for :

- Preventing or correcting bodily deformities; or
- Supporting or holding parts of the body following an illness, operation or injury.

They include :

(1) Appliances for hip diseases (coxalgia, etc.).

(2) Humerus splints (to enable use of an arm after resection), (extension splints).

(3) Appliances for the jaw.

(4) Traction, etc., appliances for the fingers.

(5) Appliances for treating Pott's disease (straightening head and spine).

(6) Orthopaedic footwear and special insoles designed to correct orthopaedic conditions, provided that they are either (1) made to measure or (2) mass-produced, presented singly and not in pairs and designed to fit either foot equally.

(7) Dental appliances for correcting deformities of the teeth (braces, rings, etc.).

(8) Orthopaedic foot appliances (talipes appliances, leg braces, with or without spring support for the foot, surgical boots, etc.).

(9) Trusses (inguinal, crural, umbilical, etc., trusses) and rupture appliances.

(10) Appliances for correcting scoliosis and curvature of the spine as well as all medical or surgical corsets and belts (including certain supporting belts) characterised by :

(a) Special pads, springs, etc., adjustable to fit the patient.

(b) The materials of which they are made (leather, metal, plastics, etc.); or

(c) The presence of reinforced parts, rigid pieces of fabric or bands of various widths.

The special design of these articles for a particular orthopaedic purpose distinguishes them from ordinary corsets and belts, whether or not the latter also serve to support or hold.

(11) Orthopaedic suspenders (**other than** simple suspenders of knitted, netted or crocheted materials, etc.).

This group also includes crutches and crutch-sticks. (It should, however, be noted that ordinary walking-sticks, even if specially made for disabled persons, are **excluded** (**heading 66.02**).)

This group further includes walking aids known as “walker-rollators”, which provide support for the users as they push them. They generally consist of a tubular metal frame on three or four wheels (some or all of which may swivel), handles and hand-brakes. “Walker-rollators” can be adjustable in height and can be equipped with a seat between the handles and with a wire basket for carrying personal items. The seat allows the user to take short rest breaks whenever necessary.

The heading **does not include :**

(a) Stockings for varicose veins (**heading 61.15**).

(b) Simple protectors or devices designed to reduce pressure on certain parts of the foot, (**heading 39.26**, if made of plastics, or **heading 40.14**, if of cellular rubber fixed on gauze with adhesive plaster).

(c) Supporting belts or other support articles of the kind referred to in Note 1 (b) to this Chapter, e.g., pre-natal or maternity belts (generally **heading 62.12** or **63.07**).

(d) Mass-produced footwear the inner soles of which have been simply arched to alleviate flat-footedness (**Chapter 64**).

This group also covers **orthopaedic appliances for animals**, for example, hernia trusses or straps; leg or foot fixation apparatus; special straps and tubes to prevent animals from crib-biting, etc.; prolapsus bands (to retain an organ, rectum, uterus, etc.); horn supports, etc. But it **excludes** protective devices having the character of articles of ordinary saddlery and harness for animals (e.g., shin pads for horses) (**heading 42.01**).

(II) SPLINTS AND OTHER FRACTURE APPLIANCES

Fracture appliances are used either to immobilise injured parts of the body (for extension or protection), or for setting fractures. They are also used in the treatment of dislocations and other joint injuries.

Some of these articles are designed for fitting onto the patient (e.g., wire, zinc or wooden cradles for holding limbs, plaster bandage splints, fracture appliances for ribs, etc.); others are designed to be fixed to a bed, a table or another support (protective bed cradles, extension fracture apparatus made

of tubing, to be used in the place of splints or cradles, etc.). However, when the latter appliances form an inseparable part of the bed, table or another support, they are **excluded** from this heading.

Subject to the provisions of Note 1 (f) to this Chapter, the heading also includes plates, nails, etc., which are inserted inside the human body by surgeons to hold together the two parts of a broken bone or for similar treatment of fractures.

(III) ARTIFICIAL LIMBS, EYES, TEETH AND OTHER ARTIFICIAL PARTS OF THE BODY

These wholly or partially replace defective parts of the body and usually resemble them in appearance. They include :

(A) **Artificial ocular fittings :**

(1) **Artificial eyes**. These are usually made of plastics or glass to which small quantities of metallic oxides have been added in order to imitate the features and colouring of the various parts of the human eye (sclera, iris, pupil). They may be of single or of double shell types.

(2) **Intra-ocular lenses**.

Artificial eyes for tailors' dummies, for furs, etc., are **excluded** (generally classified in **heading 39.26** or **70.18**); artificial eyes identifiable as parts of dolls or of toy animals fall in **heading 95.03** or in **heading 70.18**, if they are of glass.

(B) **Artificial teeth and dental fittings**, for example :

(1) **Solid artificial teeth**, usually made of porcelain or plastics (acrylic polymers in particular). These may be "diatoric" teeth having a small number of holes into which the fixing material penetrates (generally molars), or may be fitted with two metallic pins for fixing (generally incisors and canines) or with a groove for sliding on to a metal ridge fixed to the dental plate (also usually incisors and canines).

(2) **Hollow artificial teeth**, also made of porcelain or plastics and with the external shape of teeth (incisors, canines or molars).

According to the method of fixing, they are called "pivot teeth" (placed on a small metallic pin or pivot fitted into the prepared root), or "crowns" (fitted by means of artificial resin on to a previously shaped stump).

(3) **Dentures**, whole or part, comprising a plate of vulcanised rubber, plastics or metal to which the false teeth are fitted.

(4) **Other articles** such as, prefabricated **metal crowns** (gold, stainless steel, etc.) used for the protection of real teeth; **cast tin bars** ("heavy bars") for weighting and increasing the stability of dentures; **stainless steel bars** for reinforcing vulcanised rubber dental plates; various other dentists' accessories, clearly identifiable as such, for making metal crowns or dentures (sockets, rings, pivots, hooks, eyelets, etc.).

It should be noted that dental cements and other dental fillings fall in **heading 30.06**; the preparations known as "dental wax" or as "dental impression compounds", put up in sets, in packings for retail

sale or in plates, horseshoe shapes, sticks or similar forms, and other preparations for use in dentistry, with a basis of plaster (of calcined gypsum or calcium sulphate), fall in **heading 34.07**.

(C) **Other artificial parts of the body**, e.g., arms, forearms, hands, legs, feet, noses, artificial joints (e.g., for hips, knees), and tubes of synthetic fabric for replacing blood vessels and heart-valves.

The heading **excludes** pieces of bone or skin for grafting, in sterile containers (**heading 30.01**) and bone reconstruction cements (**heading 30.06**).

(IV) HEARING AIDS

These are generally electrical appliances with a circuit containing one or more microphones (with or without amplifier), a receiver and a battery. The receiver may be worn internally or behind the ear, or it may be designed to be held in the hand against the ear.

This group is **restricted** to appliances for overcoming deafness; it therefore **excludes** articles such as headphones, amplifiers and the like used in conference rooms or by telephonists to improve the audibility of speech.

(V) OTHER APPLIANCES WHICH ARE WORN OR CARRIED, OR IMPLANTED IN THE BODY, TO COMPENSATE FOR A DEFECT OR DISABILITY

This group includes :

(1) Speech-aids for persons having lost the use of their vocal cords as a result of an injury or a surgical operation. These consist essentially of an electronic impulse generator. When pressed against the neck, for example, they generate vibrations in the cavities of the throat which are modulated by the user to produce audible speech.

(2) Pacemakers for stimulating defective heart muscles. These are roughly the size and weight of a pocket watch and are implanted beneath the skin of the patient's chest. They incorporate an electric battery and are connected by electrodes to the heart, which they provide with the impulses necessary for its functioning. Other types of pacemakers are used to stimulate other organs (for example, the lungs, the rectum or the bladder).

(3) Electronic aids for the blind. These consist essentially of an ultrasonic transmitter-receiver powered by an electric battery. The frequency variations resulting from the time taken for the ultrasonic beam to travel out to an obstacle and be reflected back enable the user, through an appropriate device (e.g., an internal ear-piece), to detect the obstacle and judge its distance.

(4) Appliances implanted in the body, used to support or replace the chemical function of certain organs (e.g., secretion of insulin).

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories of apparatus or appliances of this heading remain classified here.

9021.10

- Orthopaedic or fracture appliances

CLASSIFICATION OPINIONS

1. **Orthopaedic walking aid known as a "rollator"** to assist persons who have difficulty in walking by providing support for the person pushing it as he/she walks. It consists of a tubular aluminium frame on four wheels (the front two of which swivel), handles and hand-brakes. The "rollator" is adjustable in height and is equipped with a seat between the handles and with a wire basket for carrying personal items. This seat allows the user to take short rest breaks whenever necessary. The "rollator's" collapsible design allows the product to be folded for transport or storage.
Application of GIRs 1 (Note 6 to Chapter 90) and 6.
Adoption : 2010



2. **Screw designed for use in the field of trauma surgery**, made of extra hard, colour-finished titanium alloy, of a length of approximately 12 mm. It has a wholly threaded shank with a constant outer diameter of 3 mm and a head. The shank has an asymmetrical thread. The head is also threaded, allowing it to lock into a compression plate in fixation systems, with a recessed socket drive. The product corresponds to the ISO/TC 150 standards for implant screws. It is presented in a sterilized packing. The product is marked with a number and thereby traceable throughout production, distribution and use.
Application of GIRs 1 and 6.
Adoption : 2017



3. **Screw designed for use in the field of trauma surgery** as a part of a system for posterior stabilization of the spine, made of extra-hard titanium alloy, of a length of 20 to 45 mm. It has a wholly threaded shank with a constant outer diameter of 4 mm and a dual core thread

containing a transition zone for the core diameter change. It has also a self-tapping profile and a blunt, threaded tip. The product has a polyaxial (movable) U-shaped, internally threaded head that offers 25° of angulation around its axis allowing its adjustment and a specialized locking cap for fixing a rod (presented separately) in its head. The product corresponds to the ISO/TC 150 standards for implant screws. The product is marked with a number and thereby traceable throughout production, distribution and use. **Application of GIRs 1 and 6.** Adoption : 2017



9021.2

- Artificial teeth and dental fittings :

9021.21

-- Artificial teeth

9021.29

-- Other

9021.3

- Other artificial parts of the body :

9021.31

-- Artificial joints

9021.39

-- Other

9021.40

- Hearing aids, excluding parts and accessories

9021.50

- Pacemakers for stimulating heart muscles, excluding parts and accessories

9021.90

- Other

Heading 9022

Apparatus based on the use of X-rays or of alpha, beta, gamma or other ionising radiations, whether or not for medical, surgical, dental or veterinary uses, including radiography or radiotherapy apparatus, X-ray tubes and other X-ray generators, high tension generators, control panels and desks, screens, examination or treatment tables, chairs and the like.

EXPLANATORY NOTES

90.22 - Apparatus based on the use of X-rays or of alpha, beta gamma or other ionising radiations, whether or not for medical, surgical, dental or veterinary uses, including radiography or radiotherapy apparatus, X-ray tubes and other X-ray generators, high tension generators, control panels and desks, screens, examination or treatment tables, chairs and the like (+).

- Apparatus based on the use of X-rays, whether or not for medical, surgical, dental or veterinary uses, including radiography or radiotherapy apparatus :

9022.12 - - Computed tomography apparatus

9022.13 - - Other, for dental uses

9022.14 - - Other, for medical, surgical or veterinary uses

9022.19 - - For other uses

- Apparatus based on the use of alpha, beta gamma or other ionising radiations, whether or not for medical, surgical, dental or veterinary uses, including radiography or radiotherapy apparatus :

9022.21 - - For medical, surgical, dental or veterinary uses

9022.29 - - For other uses

9022.30 - X-ray tubes

9022.90 - Other, including parts and accessories

(I) APPARATUS BASED ON THE USE OF X-RAYS

The fundamental element of this apparatus is the unit containing the X-ray generating tube or tubes. This unit, which is usually suspended or mounted on a pedestal or other support with a directing or elevating mechanism, is fed with appropriate voltages from special equipment consisting of an assembly of transformers, rectifiers, etc. In most other respects, the structural characteristics of X-ray apparatus vary according to the use for which they are designed, for example :

(A) **X-ray apparatus used in diagnosis**. These depend on the facts that X-rays can penetrate bodies which are impervious to ordinary light and that their absorption increases with the density of the bodies traversed. They include :

(1) **Radioscopic (fluoroscopic) apparatus**. X-rays which have traversed the organ under examination are made to cast a shadow on a screen; the varying densities of the shadow image represent the state of the organ.

(2) **Radiographic apparatus**. After leaving the body under examination, the X-rays strike a photographic plate or film and are recorded thereon. The same apparatus may be used for radioscopy and radiography.

(3) **Apparatus consisting of X-ray apparatus combined with a specially designed camera**. These photograph the image of which is produced on an X-ray screen mounted in the camera itself. **Provided** the apparatus and specialised camera are presented at the same time, they are to be classified together in this heading even if they are separately packed for convenience of transport. Separately presented cameras, however, are classified in **heading 90.06**.

(B) **Radiotherapy apparatus**. Both the penetrating power of X-rays and their destructive effect on certain living tissues are used in the treatment of many diseases, e.g., certain skin diseases and certain tumours. This treatment is known as “superficial” or “deep” according to the depth reached by the rays.

(C) **X-ray apparatus for industrial use**. There are many industrial applications of X-rays. They are used, for example, in metallurgy to locate blisters or to check the uniformity of alloys; in engineering to check the accuracy of assemblies; in the electrical industry to check heavy cables or frosted glass lamps; in the rubber industry to check the reactions of the inner casings of tyres (e.g., stretching of canvases); in various industries for checking or measuring the thickness of materials. For all these various applications the apparatus generally resembles that used for diagnostic purposes described above, except that it may be equipped with adaptors and ancillary equipment for particular purposes.

The heading also covers :

(1) Special apparatus (X-ray diffraction and X-ray spectrometry equipment) used for the examination of the crystalline structure as well as the chemical composition of materials; the X-rays are diffracted by crystals and then made to fall on a photographic film or an electronic counter.

(2) Apparatus for radioscopic examination of bank notes or other documents.

(II) APPARATUS BASED ON THE USE OF ALPHA, BETA OR GAMMA RADIATIONS

Alpha, beta or gamma radiations emanate from a radioactive substance with the property of emitting radiations by spontaneous transformation of its atoms. This radioactive substance is placed in a container, normally of steel coated with lead (bomb), which has an aperture designed to let the radiations pass in one direction only. Gamma radiations can be used for much the same purpose as X-rays.

The following types may be distinguished, according to the radiations employed and the use for which they are designed :

(1) **Therapy apparatus**, in which the radioactive source is a charge of radium, radio-cobalt or some other radioactive isotope.

(2) **Apparatus for radiological examinations**, used mainly in industry for checking metal parts, etc., without damaging their structure.

(3) **Apparatus** having a measuring instrument such as beta and gamma ray thickness gauges for measuring the thickness of materials (sheets, linings and the like), apparatus for monitoring the contents of packages containing any product (pharmaceutical products, foodstuffs, sporting gun cartridges, perfumes, etc.) or ionisation anemometers. In these apparatus, the required information is generally obtained by measuring the change in the amount of radiation applied to the factor under examination.

(4) **Fire alarms** incorporating smoke detectors containing a radioactive substance.

The heading **does not cover** instruments and apparatus which are not designed to incorporate a radioactive source and which merely measure or detect radiation even when such instruments are calibrated in arbitrary terms (**heading 90.30**).

(III) X-RAY TUBES AND OTHER X-RAY GENERATORS, HIGH TENSION GENERATORS, CONTROL PANELS AND DESKS, SCREENS, EXAMINATION OR TREATMENT TABLES, CHAIRS AND THE LIKE

This group includes :

(A) **X-ray tubes**. These are devices in which electrical energy is transformed into X-rays.

The characteristics of such tubes vary according to the use for which they are designed. They consist essentially of a cathode from which the electrons are emitted, and a target (anti-cathode or anode) on which the electrons impinge, thus causing it to emit X-rays. In some cases, the tubes also have a number of intermediate electrodes for accelerating the stream of electrons. The electrodes are mounted in a tube or container, usually of glass, with the appropriate electrical contacts. The tube is often mounted in an electrically insulated metal container filled with oil. Sometimes the tube is gas filled, but more usually it is maintained at a high degree of vacuum.

The heading **excludes** glass envelopes for X-ray tubes (**heading 70.11**).

(B) **Other X-ray producing apparatus**, e.g., apparatus incorporating a betatron which greatly accelerates the stream of electrons and so produces X-rays of a very high penetrating power. Betatrons and other electron accelerators not adapted for the production of X-rays nor incorporated in X-ray apparatus are **excluded** (**heading 85.43**).

(C) **X-ray screens**. Radioscopic screens are fluorescent surfaces on which the radiations are received. The active surface usually consists of barium cyanoplatinate, cadmium sulphide or cadmium tungstate. They are often also coated with a lead-glass facing. Some screens, known as intensifying screens, produce an image which consists of actinic light that adds to the density of the photographic image formed purely by the X-rays.

(D) **X-ray high tension generators**. These incorporate a transformer and rectifying valves mounted inside an insulating screen; they also have detachable high tension contacts for making connections to the X-ray tube. It should be noted that this heading is **restricted** to generators which are specialised for use with X-ray apparatus.

(E) **X-ray control panels and desks**. These incorporate devices for controlling the exposure time and voltage, and often also include a dosimeter forming an integral part of the apparatus. It should be noted that this heading is **restricted** to panels and desks which are specialised for use with X-ray apparatus.

(F) **Examination or treatment tables, chairs and the like specialised for X-ray work**, whether designed to be incorporated in the X-ray apparatus or to form separate articles. **Provided** they are exclusively or primarily designed for use with X-ray apparatus, such tables, chairs, etc., remain classified in this heading even if presented separately; but tables, chairs, etc., not specialised for X-ray work are **excluded** (usually **heading 94.02**).

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This heading also includes lightning arresters based on the principle of radioactivity.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories identifiable as being solely or principally for use with X-ray apparatus, etc., are also classified in this heading. Such parts and accessories include :

(1) **Applicators**, usually lead-lined, for fitting to the X-ray tube port or radioactive "bomb"; they are sometimes called "localisers".

(2) **Electric incandescent centring devices**, used particularly in radiotherapy to check the area treated, by direct sighting on the skin. Like the previous accessories, these devices are usually mounted on the outlet port of the X-ray tube or of the "bomb".

(3) **Protective casings** of lead-glass or of other substances based on certain salts opaque to X-rays. These casings are placed around the X-ray tubes to protect operators against harmful radiations.

(4) **Lead covered or lead-glass protective screens or shields** for placing between the operator and the X-ray tubes.

The heading **does not**, however, **cover** protective devices designed to be worn by the operator, such as overalls or gloves of lead-filled rubber (**heading 40.15**), or lead-glass goggles (**heading 90.04**).

*

* *

The heading also **excludes** :

(a) Radium needles, and tubes, needles and the like containing other radioactive materials (**Chapter 28**).

(b) Photographic plates and film (**Chapter 37**).

(c) Kenotrons and other rectifying tubes or valves, used in power supply units for X-ray apparatus **(heading 85.40)**.

(d) Apparatus for examining radiophotographs (including image projectors) (**heading 90.08** or **90.10**), and apparatus for developing radiographic or radiophotographic photographs (**heading 90.10**).

(e) Medical apparatus for application of ultra-violet or infra-red rays (actinotherapy) (**heading 90.18**).

(f) Instruments for measuring or detecting alpha, beta, gamma or X-radiations; these fall in **heading 90.30**, unless incorporated in radiology apparatus.

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Subheading Explanatory Note.

Subheading 9022.12

This subheading includes so-called whole-body computed tomographs. These are radiodiagnosis systems for wholebody examination by electronic body-section radiography (tomography). The regions of the body are scanned by an X-ray beam in individual steps and layers and the varying attenuation of the X-rays in the body is measured by hundreds of detectors arranged annularly around the tunnel in which the patient lies on a table.

The system's own automatic data processing machine converts the data from the sensors into an image which is displayed on the system monitor. The tomographic images are usually photographed by a special camera incorporated in the system and if necessary they are stored electromagnetically.

9022.1

- Apparatus based on the use of X-rays, whether or not for medical, surgical, dental or veterinary uses, including radiography or radiotherapy apparatus :

9022.12

-- Computed tomography apparatus

9022.13

-- Other, for dental uses

9022.14

-- Other, for medical, surgical or veterinary uses

9022.19

-- For other uses

9022.2

- Apparatus based on the use of alpha, beta, gamma or other ionising radiations, whether or not for medical, surgical, dental or veterinary uses, including radiography or radiotherapy apparatus :

9022.21

-- For medical, surgical, dental or veterinary uses

9022.29

-- For other uses

9022.30

- X-ray tubes

9022.90

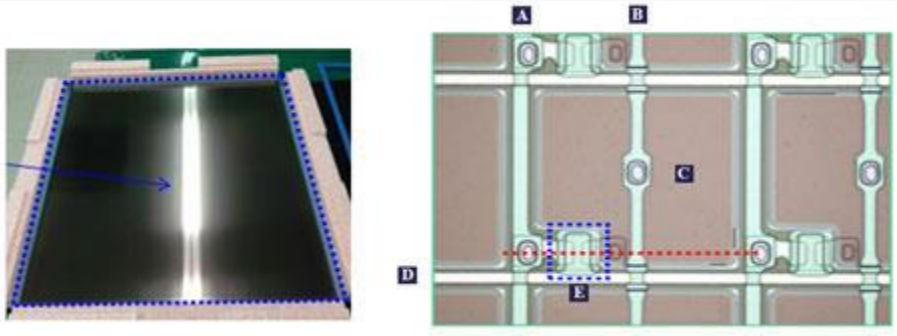
- Other, including parts and accessories

CLASSIFICATION OPINIONS

1. **Thin-film transistor and photodiode (TFT-PD) array panel**, composed of a glass substrate containing millions of pixels, with the dimension of 40 cm in length, 30 cm in width. Each pixel consists of one thin-film transistor and one photodiode. The circuits are formed on the glass substrate by the process of deposition and etching.

The panel receives visible light through a scintillator which converts X-ray into visible light, and converts that visible light into electric signals. It is used in a digital X-ray detector for medical and industrial purposes.
Application of GIRs 1 (Note 2 (b) to Chapter 90) and 6. Adoption : 2019

A Data
B Bias
C PIN Photo diode
D Gate
E TFT



Heading 9023

Instruments, apparatus and models, designed for demonstrational purposes (for example, in education or exhibitions), unsuitable for other uses.

EXPLANATORY NOTES

90.23 - Instruments, apparatus and models, designed for demonstrational purposes (for example, in education or exhibitions), unsuitable for other uses.

This heading covers a wide range of instruments, apparatus and models designed for demonstrational purposes (e.g., in schools, lecture rooms, exhibitions) and unsuitable for other uses.

Subject to this proviso, the heading includes :

(1) Special demonstrational machines or appliances such as the Wimshurst machine (for experiments with electricity), the Atwood machine (for demonstrating the law of gravity), Magdeburg hemispheres (for demonstrating the effects of atmospheric pressure), the's Gravesande ring (for demonstrating thermal expansion), Newton's disc (for demonstrating the colour composition of white light).

(2) Models of human or animal anatomies (whether or not articulated or fitted with electric lighting); models of stereometric bodies, of crystals, etc. Models of this kind are usually made of plastics or of compositions based on plaster.

(3) Training dummies, constituting an inflatable life-size model of the human body with artificial respiratory parts reproducing those of a human being; used for training in the "kiss-of-life" revival method.

(4) Cross-sectional models of ships, locomotives, engines, etc., cut to show their internal operation or the functioning of an important part; panels showing, in relief, for example, the assembly of a radio (for radiotelegraphists' schools), or the oil circulation in an engine, etc., whether or not fitted with an electric lighting system.

(5) Show-cases and exhibit panels, etc., displaying samples of raw materials (textile fibres, woods, etc.), or showing the various stages of manufacture or processing of a product (for instruction in technical schools).

(6) Models, etc., for artillery training, used in training courses held indoors.

(7) Prepared slides for microscopic study.

(8) Models of towns, public monuments, houses, etc. (of plaster, paperboard, wood, etc.).

(9) Small scale demonstrational models (of aircraft, ships, machines, etc.) generally of metal or wood (e.g., for advertising purposes, etc.). It should, however, be noted that models suitable solely for ornamental purposes are classified in their respective headings.

(10) Relief maps (of provinces, towns, mountain ranges, etc.), relief plans of towns, and terrestrial or celestial globes in relief, whether or not printed.

(11) Military tank simulators which are used for the training (including advanced training) of tank drivers. These consist essentially of the following components :

- a driving cabin mounted on a movable platform,
- a viewing system consisting of a scale model of terrain and a television camera mounted on a travelling gantry,
- an instructor's console,
- a computer unit,
- a hydraulic power unit, and
- an electrical supply cabinet.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories of apparatus or appliances of this heading remain classified here.

*

* *

The heading also **excludes** :

(a) Printed plans, diagrams, illustrations, etc., even if designed for use in teaching, advertising, etc. (**Chapter 49**).

(b) Ground flying trainers, of **heading 88.05**.

(c) Articles designed for both recreational and demonstrational purposes (e.g., certain model sets of mechanical parts; mechanical or electrical toy locomotives, boilers, cranes, aircraft, etc.) (**Chapter 95**).

(d) Automata, etc., of **heading 96.18**.

(e) Collectors' pieces of **heading 97.05**.

(f) Antiques (e.g., relief plans and globes) of an age exceeding 100 years (**heading 97.06**).

9023.00

Instruments, apparatus and models, designed for demonstrational purposes (for example, in education or exhibitions), unsuitable for other uses.

Heading 9024

Machines and appliances for testing the hardness, strength, compressibility, elasticity or other mechanical properties of materials (for example, metals, wood, textiles, paper, plastics).

EXLPANATORY NOTES

90.24 - Machines and appliances for testing the hardness, strength, compressibility, elasticity or other mechanical properties of materials (for example, metals, wood, textiles, paper, plastics).

9024.10 - Machines and appliances for testing metals

9024.80 - Other machines and appliances

9024.90 - Parts and accessories

This heading covers a wide range of machines and appliances for testing the hardness, elasticity, tensile strength, compressibility or mechanical properties of various materials (e.g., metals, wood, concrete, textile yarns and fabrics, paper or paperboard, rubber, plastics, leather). It therefore **excludes** :

(a) Instruments or appliances for examining the microscopic structure of materials (e.g., metallographic or other microscopes - **heading 90.11** or **90.12**), or for analysing materials, or measuring properties such as porosity, thermal expansion, etc. (**heading 90.27**).

(b) Instruments or apparatus designed only for ordinary measurement or checking of width, thickness, etc. (e.g., of machined parts, wire, metal goods) (**heading 90.17** or **90.31**).

(c) Instruments for detecting faults, fissures, cracks or other defects in materials (**heading 90.31**).

The machines and appliances of this heading are generally used in industrial or research laboratories for testing manufactured articles (usually carefully selected or standard specimens). They may also be used during manufacturing processes, in constructional work (in workshops, building sites, etc.) or to check goods on delivery in warehouses, etc.

They may range from large mechanically, electrically or hydraulically operated machines of considerable weight (several tons) to small portable or even pocket size instruments. Some "universal" types (e.g., for metal testing) can be used for hardness, tensile, bending, etc., tests by means of separate attachments. Although they usually operate on the "start-stop" principle, some are designed for automatic or semi-automatic operation, (e.g., for testing large output off an assembly line).

Test results may be ascertained either by direct reading (sometimes with the aid of a simple optical device such as a magnifying glass, or even a built-in microscope or profile projector), or by separate microscopic examination of the test-piece (e.g., observation of ball-test marks on metal). In addition, certain machines may have provision for recording the stresses, strains, etc., borne by the test-piece.

(I) MACHINES AND APPLIANCES FOR TESTING METALS

This group covers machines and appliances for :

(A) **Tensile testing** on test-pieces, bars, wire, cables, springs, etc. Tensile tests are used to ascertain the elasticity, breaking stress and many other important properties of a metal. Tensile testing machines are of various types (e.g., vertical or horizontal, endless screw or hydraulic load types); basically, however, they each comprise jaws or clamps for holding the sample under test.

(B) **Hardness tests** on test-pieces, bars, machined parts, etc., the hardness of a metal being measured in terms of resistance of that metal to indentation. These tests include :

(1) The **steel ball indentation test** (hardened steel or metallic carbide ball) or **Brinell test**. The indentation is produced by applying a continuous pressure (not by impact or by repeated blows) to the steel ball, by means of a lever, spring or piston; the diameter of the imprint is then measured with a microscope.

(2) The **diamond pyramid indentation test**. This test may be made by the **Rockwell method** (in which the depth of the indentation is measured with a dial comparator), or by the **Vickers method** (microscope measurement of the area of the indentation). Other forms of these tests are also used (Monotron, Shore, Knoop, etc.), and there are also instruments for testing soft metals by means of a steel indenting tool (e.g., Rockwell method). The above three tests may be carried out by the same machine.

(3) The **rebound test** carried out by the aid of **scleroscopes or sclerographs**. A small hammer (usually tipped with a diamond pyramid) is released from a pre-determined height on to the surface of the piece under test. The harder the metal, the higher will be the rebound of the hammer.

(4) The **pendulum hardness test** in which the oscillations of a pendulum resting on the specimen are observed. The pendulum consists of an inverted U-shaped cast iron body fitted in the middle with a steel ball.

(C) **Bending tests**.

(1) **Impact tests** carried out on bars (whether or not notched). The bar rests on two supports and is subjected to the repeated impacts of a ram until it breaks; its limiting resistance is thus determined.

(2) **Pressure tests** (mainly for bars), **bending tests** (springs).

(D) **Ductility tests** mainly used to test sheet metal. An indenting tool, usually tipped with a steel ball, is gradually pressed into the sheet up to the point of perforation; the first contact is recorded, and the stress and deflection are then measured.

(E) **Folding tests** (sheets, bars and wire), **compression tests** and **shearing tests** (mainly for cast iron).

(F) **Fatigue tests**. Test-pieces are not only submitted to simple stresses, as described above, but are also subjected to compound and varying stresses. These tests are carried out by means of **rotating bending machines** (the specimens rotate at high speed), or **reversal torsional machines** (in which the torsional direction is alternately reversed), **electro-magnetic fatigue-testing machines**, etc.

(II) MACHINES AND APPLIANCES FOR TESTING TEXTILES

The main tests carried out by machines of this group include :

(1) **Extensibility and resistance to rupture tests, elasticity or tensile strength under strain tests, and the like (and combinations of such tests)**. The material under test may be raw fibres or yarns, ropes or cables, ordinary fabrics, webbing, belts, etc.

These tests are made with the aid of **dynamometers** of various types, usually named after their operating principle (e.g., pendulum or balance-lever, dynamometers) or according to the material for which they are most frequently used (e.g., single yarn, twisted yarn or rope, glass fibre, hank or skein, fabric, dynamometers); these tests may also be made by the use of **extensometers**. Some dynamometers are equipped with a ball device for perforation tests on fabrics.

(2) **Tests to detect changes in the dimensions of textile samples**. The expansion or shrinkage of a sample of fabric is measured after it has been stretched in the dry and in the wet states.

(3) **Wear and tear tests**. These are carried out on textile goods liable to be exposed to friction (sheets, cloths, table linen, etc.) and sometimes also on the yarn itself.

These tests are carried out by means of **abrasion-testers, wear-testers**, etc. A strip of cloth stretched at a suitable tension is progressively worn away by a friction instrument (an abrasive disc, a rotating cylinder fitted with metal flanges, a steel milling wheel, etc.). Wear and tear resistance is measured by the number of revolutions required for the friction instrument to cause the fabric to break.

The heading **does not include** instruments used to inspect textile materials (e.g., yarn uniformity testers; strain-testers to determine the tension to which yarn is subjected on warping-frames, on spoolers, etc.; yarn torsion counters and torsiographs to measure the torsion of yarns (**heading 90.31**).

(III) MACHINES AND APPLIANCES FOR TESTING PAPER, PAPERBOARD, LINOLEUM, FLEXIBLE PLASTICS OR FLEXIBLE RUBBER

These tests are mainly concerned with tensile strength (measuring of extensibility, break-load, etc.) or resistance to perforation. They are effected by means of **dynamometers** similar in basic design to those used for textiles.

This group **includes bursting strength testers, fold testers, etc.** (e.g., for paper), **elasticity meters, reboundimeters, tensile testers, abrasion machines, plastimeters** (e.g., for rubber or plastics).

(IV) MACHINES AND APPLIANCES FOR TESTING OTHER MATERIALS

Most of these materials (e.g., wood, concrete, hard plastics) are subjected to tensile, bending, hardness, compression, shearing, abrasion, etc., tests, by means of machines and apparatus similar in principle to those used for metal testing (by ball-imprint, impact, etc.).

The heading also includes a large number of instruments, usually small in size, designed to determine the tensile strength, resistance to bending, compression, etc., of test-pieces moulded from foundry moulding sand. It also covers instruments designed for measuring the surface hardness of finished foundry moulds or mould cores.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories of apparatus or appliances of this heading remain classified here.

9024.10

- Machines and appliances for testing metals

9024.80

- Other machines and appliances

9024.90

- Parts and accessories

Heading 9025

Hydrometers and similar floating instruments, thermometers, pyrometers, barometers, hygrometers and psychrometers, recording or not, and any combination of these instruments.

EXPLANATORY NOTES

90.25 - Hydrometers and similar floating instruments, thermometers, pyrometers, barometers, hygrometers and psychrometers, recording or not, and any combination of these instruments.

- Thermometers and pyrometers, not combined with other instruments :

9025.11 - - Liquid-filled, for direct reading

9025.19 - - Other

9025.80 - Other instruments

9025.90 - Parts and accessories

(A) HYDROMETERS AND SIMILAR FLOATING INSTRUMENTS

These instruments are used for determining, generally by direct reading on a graduated stem, the specific gravity of solids or liquids, or some arbitrary value related to specific gravity (e.g., strength of spirituous liquors). The reading is sometimes converted by a table into other units.

The instruments are usually made of glass (though some may be of metal, e.g., nickel-silver, silver, etc.), and weighted at one end with mercury or fine lead shot. These weights are generally fixed, but instruments for ascertaining the density of liquids of different specific gravities are sometimes designed so that the weights can be varied or additional weights added. Some hydrometers (e.g., those used to determine the strength of the acid in accumulators) are enclosed in a glass syringe. Other types are combined with a thermometer.

Most of these instruments are known according to the use for which they are designed, for example, alcoholometers; saccharometers (used in brewing or in sugar manufacture); salinometers; lactodensimeters or lactometers; acidimeters (for determining the specific gravity of accumulator or other acid); urinometers; etc. Others are named after the inventor (e.g., Baumé, Brix, Balling, Bates, Gay-Lussac, Richter, Tralle, Sikes, Stoppani, etc.). Nicholson's hydrometer is used for solids.

The heading **does not cover :**

(a) Instruments which determine specific gravity by other methods, for example, pyknometers (specific gravity bottles) (**heading 70.17**), specific gravity or hydrostatic balances (**heading 90.16**).

(b) Certain analysis apparatus which are not floating instruments, for example, butyrometers (for determining the fatty content of butter), ureometers (for testing urea content); these are classified in **heading 70.17**.

(B) THERMOMETERS, THERMOGRAPHS AND PYROMETERS

This group includes :

(1) **Glass thermometers, with a liquid-filled glass tube**. These include household thermometers (room, window thermometers, etc.), floating thermometers (bath thermometers, etc.), clinical thermometers, industrial thermometers (for boilers, furnaces, autoclaves, etc.), laboratory thermometers (used in calorimetry, etc.), special meteorological thermometers (e.g., for measuring solar or terrestrial radiations), thermometers used in hydrography (e.g., reversible thermometers used in taking deep-sea soundings). The heading also includes glass thermometers called minimum and maximum thermometers since they are designed to indicate the highest and lowest temperature they have recorded.

(2) **Metallic thermometers** (in particular bi-metallic thermometers which make use of the different coefficients of expansion of two metal strips welded together). They are mainly used in meteorology, for air conditioning and for other scientific or industrial purposes; thermometers for use with motor vehicles, to indicate the temperature of the radiator water, are usually of this type.

(3) **Expansion or pressure thermometers** with metallic systems. In these thermometers the expansible medium (liquids, vapours, gases) develops a pressure and actuates a Bourdon tube

or similar pressure measuring device, which then operates a pointer over an indicator dial. Most of these thermometers are used for industrial purposes.

(4) **Liquid crystal thermometers**. These contain liquid crystals which change their physical properties (e.g., colour) according to variations in temperature.

(5) **Electrical thermometers and pyrometers**, such as :

(i) **Resistance thermometers and pyrometers** operating by changes in the electrical resistance of a metal (e.g., platinum) or of a semiconductor.

(ii) **Thermocouple thermometers and pyrometers** based on the principle that the heating of the junction of two different electric conductors generates an electro-motive force proportional to the temperature. The combinations of metals used are generally : platinum with rhodium-platinum; copper with copper-nickel; iron with copper-nickel; nickel-chromium with nickel-aluminium.

(iii) **Radiation (including optical) pyrometers**. These are of various types, e.g. :

(a) **Pyrometers** in which a concave mirror concentrates the radiations from an incandescent body, e.g., onto the hot junction of a thermocouple placed at the focal point of the mirror.

(b) **Disappearing filament pyrometers**. In these the temperature is measured by varying the brightness of a filament of an incandescent lamp, by means of a rheostat device, until it coincides with that of the image of the source to be controlled.

Electrical thermometers and pyrometers are sometimes combined with automatic regulating devices which control the operation of the furnace, oven, fermentation vats, etc. Such combinations are classified in **heading 90.32**.

(6) **Optical, photometric cube type pyrometers**. A prism provides a field of view in which the centre section is illuminated by a standard incandescent lamp and the surrounding field is illuminated by light from the hot body. A circular glass disc, coated with an emulsion of varying density, is rotated so as to vary the intensity of light from the hot body. The number of degrees of rotation of the disc necessary to match the brightness in the inner and outer parts of the field is a measure of the temperature.

(7) **Optical, disappearing filament type pyrometers**. The intensity of the image reflected from the furnace is equalised with that of the standard lamp by interposing a series of smoked glasses, or by the rotation of a graduated wedge of absorbing glass corresponding to given temperatures.

(8) **Pyrometric telescopes based on rotatory polarisation**. These consist of two Nicol prisms between which is placed a calibrated quartz crystal; the temperature may be calculated from the angle through which one of the Nicol prisms must be turned to obtain a particular colouring.

(9) **Pyrometers based on contraction of a solid substance** (clay, for instance). These consist of an oscillating lever, one arm of which moves before a dial, the other connecting with the rod which serves to estimate the temperature.

The heading also includes **"contact" thermometers** which indicate temperature but also incorporate an auxiliary device which can operate an electric signal light, alarm, relay or switch.

It further includes metallic or vapour pressure thermometers, sometimes called "pyrometers", which enable maximum temperatures of up to 500 to 600 °C to be measured.

Thermographs also fall in this heading. They consist of a thermometer combined with an indicator registering the variations in temperature on a drum; they are operated by a mechanical or electric clock movement, or a synchronous motor.

The heading **excludes** "pyroscopes", calliper-type instruments used for measuring the contraction of a clay, etc., test-piece taken from a ceramic furnace during firing to determine the course of the firing (**heading 90.17** or **90.31**).

(C) BAROMETERS AND BAROGRAPHS

These are instruments for determining the atmospheric pressure; similar instruments (pressure gauges) for measuring the pressure of liquids or gases are **excluded** (**heading 90.26**).

There are two types of barometer in general use, the mercury barometer and the aneroid barometer.

The ordinary **mercury-barometer** consists of a mercury-filled glass tube sealed at the upper end. In one type the lower end stands in a cistern of mercury, while in another type the lower end of the tube is bent into a siphon, the atmospheric pressure then acting on the short open part of the tube. In both cases, the mercury column in the tube is balanced by the weight of the atmosphere, and its rise or fall (indicated on a scale or on a dial with a pointer) is a measure of the atmospheric pressure. Mercury barometers include the Fortin barometer (with adjustable cistern), the siphon barometer (with adjustable scale), the marine barometer (mounted in gimbals).

In the **aneroid barometer** the atmospheric pressure acts on one or more exhausted, corrugated metal capsules, or on a thin-walled, bent metal tube. The deformation of the capsules or of the tube is amplified and transmitted to a pointer indicating the atmospheric pressure on a scale or is converted into an electrical signal.

This heading also includes :

(1) **Barometric altimeters** which indicate not only atmospheric pressure but also altitude; it should, however, be noted that the heading **excludes** altimeters (especially for air navigation) which indicate altitude only (**heading 90.14**).

(2) **Sympiesometers**. In these the mercury is replaced by a liquid such as oil which compresses a gas contained in the tube.

Barographs are instruments for recording atmospheric pressure in a manner similar to that in which the thermographs record temperature (see Part (B) above).

(D) HYGROMETERS AND HYGROGRAPHS

These are used to determine the moisture content of the air or other gases. The main types are :

(1) **Chemical hygrometers**, based on absorption of moisture by chemical substances which are then weighed.

(2) **Condensation or dewpoint hygrometers**, using the "dewpoint" method (i.e., the temperature at which water vapour begins to condense).

(3) **Hair hygrometers**, based on the change in length of one or more hairs or strips of plastics, according to whether they are dry or humid. The hairs or strips of plastics are strung over a frame, weighted with a counterweight, and mounted on a pulley the axle of which is fitted with a needle moving across a dial. In some devices the movement is converted into an electrical signal.

(4) **Hygrometers consisting of a torus-shaped glass tube** partly filled with mercury, and closed at one end by a diaphragm semi-pervious to the water vapour in the atmosphere. The pressure of the water vapour acts on the mercury and thus displaces the tube round a shaft connected to a needle on the dial. In some devices the displacement of the tube is converted into an electrical signal.

(5) **Hygrometers with metallic strips** wound helicoidally and coated with a substance which reacts to humidity. The hygroscopic reaction varies the length of the metallic strips. This movement is transmitted to an axle fixed to the end of the metallic strips and fitted with a needle moving across a dial. In some devices the movement is converted into an electrical signal.

(6) **Electrical hygrometers**. The operation of electrical hygrometers is normally based on the variation of conductivity of special absorbent salts (e.g., lithium chloride) or on the variation of the capacity of an electrical element in relation to humidity. (These instruments are sometimes graduated to show the dewpoint of the element to be measured.)

Fancy hygroscopes consisting essentially of more or less decorative objects (chalets, towers, etc.) with figurines coming in or going out, according to whether the weather is likely to be good or bad, are also classified here. On the other hand, papers impregnated with chemical substances, the colour of which varies according to the moisture content of the atmosphere are **excluded** (**heading 38.22**).

Hygrographs, which also fall in this heading, are similar to hair hygrometers but record variations of relative humidity in a manner similar to that in which thermographs record temperature (see Part (B) above).

This heading **does not cover** instruments which determine the moisture content of solid matter (**heading 90.27**).

(E) PSYCHROMETERS

These are a special type of hygrometer. They determine the humidity content by reference to the difference in the temperatures indicated by (a) a dry thermometer which registers air temperature, and (b) a wet thermometer whose bulb is kept continually moist by a material impregnated with water which absorbs heat on evaporation.

Electrical psychrometers usually employ resistance thermometers or semiconductors in place of the non-electric thermometers of the normal psychrometer.

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Hygrometers and psychrometers are employed for a wide variety of purposes, e.g., in meteorology (in observatories, in the home, etc.), in laboratories, in refrigerating plants, in artificial incubation, in air conditioning (especially in textile mills).

COMBINATIONS OF INSTRUMENTS

This heading also includes **combinations of the instruments referred to above** (e.g., combinations of hydrometers, thermometers, barometers, hygrometers, psychrometers), except when the addition of one or more other devices gives the combination the character of equipment or appliances covered by more specific headings (e.g., **heading 90.15** as meteorological instruments). In particular, the following remain classified in this heading :

(1) **Thermo-hygrographs** and **baro-thermo-hygrographs; actinometers** (instruments consisting simply of two special thermometers combined).

(2) **Pagoscopes**, i.e., instruments giving warning of frost, and therefore used especially in horticulture. These also consist essentially of a combination of two thermometers.

On the other hand, the heading **excludes** radio-sondes for atmospheric soundings (see Explanatory Note to **heading 90.15**).

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), separately presented parts and accessories of apparatus or appliances of this heading remain classified here (e.g., dials, pointers, cases, graduated scales).

9025.1

- Thermometers and pyrometers, not combined with other instruments :

9025.11

-- Liquid-filled, for direct reading

9025.19

-- Other

9025.80

- Other instruments

9025.90

- Parts and accessories

Heading 9026

Instruments and apparatus for measuring or checking the flow, level, pressure or other variables of liquids or gases (for example, flow meters, level gauges, manometers, heat meters), excluding instruments and apparatus of heading 90.14, 90.15, 90.28 or 90.32.

EXPLANATORY NOTES

90.26 - Instruments and apparatus for measuring or checking the flow, level, pressure or other variables of liquids or gases (for example, flowmeters, level gauges, manometers, heat meters), excluding instruments and apparatus of heading 90.14, 90.15, 90.28 or 90.32.

9026.10 - For measuring or checking the flow or level of liquids

9026.20 - For measuring or checking pressure

9026.80 - Other instruments or apparatus

9026.90 - Parts and accessories

Apart from instruments or apparatus more specifically covered by other headings of the Nomenclature, such as :

(a) Pressure-reducing valves and thermostatically controlled valves (**heading 84.81**);

(b) Anemometers (wind gauges) and hydrological level gauges (**heading 90.15**);

(c) Thermometers, pyrometers, barometers, hygrometers and psychrometers (**heading 90.25**);

(d) Instruments and apparatus for physical or chemical analysis, etc. (**heading 90.27**),

this heading covers instruments and apparatus for measuring or checking the flow, level, pressure, kinetic energy or other process variables of liquids or gases.

The instruments and apparatus of this heading may be fitted with recording, signalling or optical scale-reading devices or transmitters with an electrical, pneumatic or hydraulic output.

Measuring or checking apparatus generally incorporates an element sensitive to variations in the quantity to be measured (e.g., Bourdon tube, diaphragm, bellows, semiconductors) moving a needle or a pointer. In some devices the variations are converted into electrical signals.

Measuring or checking instruments or apparatus of this heading combined with taps, valves, etc., are to be classified as indicated in the Explanatory Note to heading 84.81.

(I) APPARATUS FOR MEASURING OR CHECKING THE FLOW OR RATE OF FLOW OF LIQUIDS OR GASES

(A) **Flowmeters**. These indicate the rate of flow (in volume or weight per unit of time) and are used for measurement of flow both through open channels (rivers, waterways, etc.) and through closed conduits (piping, etc.).

Some flowmeters use the principle of the fluid meters of heading 90.28 (turbine-type, piston-type, etc.), but the majority are based on the principle of differential pressure. These include :

(1) **Differential pressure** (fixed aperture) **flowmeters**. These comprise essentially :

(i) a primary device (e.g., Pitot or Venturi tube, simple diaphragm, orifice plates, shaped nozzle) to set up a differential pressure, and

(ii) a differential pressure gauge (float, diaphragm, differential pressure, oscillating ring balance or flow transmitters, etc., type).

(2) **Variable area** (variable aperture) **flowmeters**. These usually consist of a graduated cone-shaped tube containing a heavy float which is carried along by the current until the flow of the liquid between the float and the wall reaches equilibrium. For high pressure liquids, use is made either of magnetic flowmeters (the position of an iron float in a non-magnetic tube being shown externally by a magnet), or of valve flowmeters (an iris diaphragm fitted inside the tube being connected in parallel with a small flowmeter).

(3) **Flowmeters** which operate by using magnetic fields, ultrasound or heat.

This heading **excludes** :

(a) Hydrometric paddle-wheels for measuring the rate of flow in rivers, canals, etc., which fall in **heading 90.15** as hydrological instruments.

(b) Apparatus which merely indicate the total amount of liquid delivered over a period, which are classified as supply meters in **heading 90.28**.

(B) **Anemometers** of the special types used for recording the rate of flow of air currents in mines, tunnels, chimneys, furnaces and conduits in general, and consisting essentially of a bladed fan and a calibrated dial. In some devices the measured values are converted into electrical signals.

(II) INSTRUMENTS AND APPARATUS FOR MEASURING OR CHECKING THE LEVEL OF LIQUIDS OR GASES

Level indicators for liquids and **indicators for the content of gasometers**.

Level indicators for liquids include :

(1) **Float-type**. These may give a direct reading on a graduated column mounted on the float, or the effect may be transmitted to a dial needle by means of a cable and drum or be converted into an electrical signal.

(2) **Pneumatic and hydrostatic type**. These are used to measure the level in pressure tanks, by means of a differential pressure gauge.

(3) **Two-colour light type, for boilers**. These are based on the difference in the refractive indices of water and steam. They consist of a set of lamps, coloured screens, an optical system and a level which indicates in different colours the respective heights of the water and the steam.

(4) **Electrical-type**, based, for example, on the variations of resistance, capacitance, ultrasound, etc.

This heading covers not only level indicators for closed reservoirs or tanks, but also those for open basins and canals (hydroelectric works, irrigation systems, etc.).

To ascertain the content of a gasometer, the level of the “bell” is measured, either directly or from a dial needle to which the bell is connected by means of a cable and drum.

Instruments for measuring or checking the level of solid materials are **excluded** (**heading 90.22** or **90.31**, as the case may be).

(III) INSTRUMENTS AND APPARATUS FOR MEASURING OR CHECKING THE PRESSURE OF LIQUIDS OR GASES

Pressure gauges (e.g., manometers), apparatus for measuring the pressure of a liquid or gas. These differ from barometers in that the latter measure atmospheric pressure while pressure gauges indicate the pressure of a liquid or gas in a closed space. The main types of pressure gauges are as follows :

(1) **Liquid-type pressure gauges** (mercury, water or other liquids, or two non-miscible liquids). The liquid is contained in a glass or metal tube; these gauges may be of the single column type, U-tube type, inclined tube or multitube type, or be in the form of an oscillating ring balance.

(2) **Metallic pressure gauges**. Like aneroid barometers, these may have a single or multiple diaphragm, a capsule, Bourdon tube or spiral metal tube or some other pressure sensitive element which directly moves a pointer or varies an electrical signal.

(3) **Piston-type pressure gauges**. In these, the pressure is applied either directly or via a diaphragm on to a piston which is weighted or held by a spring.

(4) **Electrical pressure gauges** based on variations of an electrical phenomenon (e.g., resistance, capacitance) or using ultrasound.

Vacuum gauges for measuring very low pressures, including ionisation gauges using thermionic vacuum tubes (triodes). In these, positive ions produced by collision of the electrons with the molecules of the residual gas are attracted towards a negative plate. Thermionic vacuum tubes (triodes) presented separately are **excluded** (**heading 85.40**).

The heading also covers the **maximum and minimum type pressure gauges. Differential pressure gauges**, used to measure differences in pressure, include the following types : two-liquid, float, oscillating ring balance, diaphragm, capsule, ball (without liquid), etc.

(IV) HEAT METERS

Heat meters measure the quantities of heat consumed in an installation (e.g., a hot water type heating system). They consist essentially either of a liquid supply meter, two thermometers placed respectively at the intake and outlet of the conduit, and a counting and totalising mechanism. This group also covers thermocouple heat meters.

Small heat meters of the types mounted on radiators in blocks of flats so that central heating costs can be fairly divided resemble thermometers and contain a liquid which evaporates under the effect of heat.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), separately presented parts and accessories of apparatus or appliances of this heading remain classified here. Examples include separate graphical recording devices (including those in which the indications supplied by several measuring or checking instruments are recorded), whether or not fitted with devices for signalling, pre-selection or control.

9026.10

- For measuring or checking the flow or level of liquids

9026.20

- For measuring or checking pressure

CLASSIFICATION OPINIONS

1. "Emergency Kit" for motor vehicles, set put up for retail sale, with the following components:
-1carryingbag,madeoftextilematerials;
-1setofcablesforcarbattery(boostercables);
-1tiedownbelt(safety)60cmlong,madeoftextilematerials;
-1adhesivetapemadeoftextilematerials;
-1tiregauge;
-1utilityknife;
-1headlamp;
-3batteriesforheadlamp;
-1triangularwarningsignmadeofplastics;
-1blanket,madeoftextilematerials;
-5cableties(plasticclosures);
-1pairofnitrilegloves;
-1emergencywaterproofgarmentmadeofplastics.
Application of GIRs 1, 3 (c) and 6.
Adoption : 2021



9026.80

- Other instruments or apparatus

9026.90

- Parts and accessories

Heading 9027

Instruments and apparatus for physical or chemical analysis (for example, polarimeters, refractometers, spectrometers, gas or smoke analysis apparatus); instruments and apparatus for measuring or checking viscosity, porosity, expansion, surface tension or the like; instruments and apparatus for measuring or checking quantities of heat, sound or light (including exposure meters); microtomes.

EXPLANATORY NOTES

90.27 - Instruments and apparatus for physical or chemical analysis (for example, polarimeters, refractometers, spectrometers, gas or smoke analysis apparatus); instruments and apparatus for measuring or checking viscosity, porosity, expansion, surface tension or the like; instruments and apparatus for measuring or checking quantities of heat, sound or light (including exposure meters); microtomes.

9027.10 - Gas or smoke analysis apparatus

9027.20 - Chromatographs and electrophoresis instruments

9027.30 - Spectrometers, spectrophotometers and spectrographs using optical radiations (UV, visible, IR)

9027.50 - Other instruments and apparatus using optical radiations (UV, visible, IR)

- Other instruments and apparatus :

9027.81 - - Mass spectrometers

9027.89 - - Other

9027.90 - Microtomes; parts and accessories

This heading includes :

(1) **Polarimeters**. Instruments for measuring the angle through which the plane of polarisation of a ray of light is rotated in passing through an optically active substance. They consist essentially of a source of light, an optical device comprising polarising and analysing prisms, a tube holder in which the substance to be analysed is placed, an observation eyepiece and a measuring scale.

In addition to the essential optical elements of a conventional polarimeter, **electronic polarimeters** are also fitted with a photoelectric cell.

(2) **Half-shadow polarimeters** for analysing plane or elliptically polarised light.

(3) **Saccharimeters**. These are special polarimeters designed for determining the strength of sugar solutions.

(4) **Refractometers**. These are instruments for determining the refractive index of liquids or solids (one of the most important constants in determining the purity of substances). They consist

essentially of a system of prisms, observing and reading eyepieces, and a device for controlling the temperature (since this greatly affects the refractive index). They are widely used, particularly in food industries (for testing oils, butter and other fatty substances, analysing jam, fruit juices, etc.), in the glass industry, in oil refineries and in biology (for measuring the protein content of blood plasma or discharges, etc.).

Most refractometers are mounted on a base or stand; others are of the hand type, while yet another type is intended for fixing on the side of manufacturing vats.

(5) **Spectrometers**. These instruments are used to measure the wave-lengths of emission and absorption spectra. They consist essentially of an adjustable slit collimator (through which the beam of light to be analysed passes), one or more adjustable prisms, a telescope and a prism table. Some spectrometers (particularly those used for infra-red or ultra-violet rays) are fitted with prisms or with diffraction gratings.

This group includes : **spectroscopes** for the observation of spectra; **spectrographs** for recording the spectrum on a photographic plate or film (**spectrograms**); **monochromators**, instruments for isolating a particular line in a line spectrum or for isolating certain parts of a continuous spectrum.

But the heading **excludes** spectroheliographs and spectrohelioscopes, used for solar observation (**heading 90.05**); spectrum projectors, for examining an enlarged spectrogram projected on to a screen (**heading 90.08**); micrometric microscopes and spectrocomparators incorporating microscopes (for comparative examination of spectrograms by optical observation) (**heading 90.11**) and spectrum analysers for measuring or checking electrical quantities (**heading 90.30**).

(6) **Mass spectrographs** and similar apparatus for analysing the isotopic constitution, etc., of materials. But the heading **excludes** calutrons for isotopic separation (**heading 84.01**).

(7) **Colorimeters**. The term “colorimeter” is applied to two distinct classes of instruments. One class is used to determine the colour of a substance (liquid or solid) by matching its colour against that produced by three primary colours (red, green and blue) mixed in variable but measurable proportions. The other class of colorimeters is used in chemical or biochemical analysis to determine the concentration of a substance present in a solution by a comparison of the colour of the substance (or of the colour of the substance after treatment with a reagent) with that of coloured standard plates or of a standard liquid. In one type of colorimeter of the latter class, the solution under test and a standard solution are contained in two glass tubes which are viewed by means of two prisms through an eyepiece. Certain of these instruments are based on the use of a photoelectric cell. In some instruments of this type a paper tape is used with a reagent changing its colour after reaction with a gas. These instruments use two photoelectric cells measuring the colour before and after reaction with the gas.

This group also covers other optical analysis apparatus such as **nephelometers** and **turbidimeters** (for determining the cloudiness of solutions), **absorptiometers**, **fluorimeters** (for determining fluorescence, widely used for analyses of vitamin, alkaloid contents, etc.), **blancometers** and **opacimeters** (specially used for measuring the degree of whiteness, opacity or brilliance of paper pulp, paper, etc.).

(8) **Gas or smoke analysis apparatus**. These are used to analyse combustible gases or combustion by-products (burnt gases) in coke ovens, gas producers, blast furnaces, etc., in particular, for determining their content of carbon dioxide, carbon monoxide, oxygen, hydrogen, nitrogen or

hydrocarbons. Electrical gas or smoke analysis apparatus are mainly for determining and measuring the content of the following gases : carbon dioxide, carbon monoxide and hydrogen, oxygen, hydrogen, sulphur dioxide, ammonia.

Some of these instruments or apparatus determine volumetrically the gases absorbed by appropriate chemical substances, or burnt. These include :

(i) **Orsat's apparatus** consisting mainly of an aspirating bottle, one or more absorption bulbs and a measuring burette.

(ii) **Combustion or explosion apparatus**. This is equipped, in addition, with a combustion or explosion pipette (platinum capillary tube, platinum or palladium wire tube, with induction sparking, etc.).

These various types of apparatus may also be used in combination.

Other models work on the basis of density, or by fractional condensation and distillation (cracking), or on the following principles :

(i) Heat conductivity of a gas.

(ii) Heating effect of combustible gases on an electrode, (e.g., carbon monoxide and hydrogen in flue gases).

(iii) Selective absorption of ultra-violet, visible, infra-red or microwave radiations by the gas.

(iv) Difference in the magnetic permeability of gases.

(v) Chemiluminescent reactions of the gas with a suitable auxiliary gas component.

(vi) Flame ionisation of hydrocarbons in a hydrogen flame.

(vii) Difference in the conductivity of a suitable liquid reagent before and after reaction with the gas.

(viii) Electrochemical reaction in cells with solid (especially zirconium oxide for oxygen analysis) or liquid electrolytes.

It should be noted that the heading includes gas or smoke analysis apparatus for use in industrial processes (i.e., directly connected to furnaces, gas generators, etc.). But apparatus consisting merely of laboratory glassware falls in **heading 70.17**.

(9) **Electronic smoke detectors**, used in furnaces, ovens, etc., for example, in which a beam of light (or infra-red) rays is directed on to a photoelectric cell. According to the density of the smoke, the passage of this beam through the smoke causes variations in the current in the photoelectric cell circuit, thus operating a graduated indicator or a recording system and, in certain cases, a regulating valve. These apparatus may be fitted with an alarm device.

Electronic smoke detectors equipped solely with an alarm fall in **heading 85.31**.

(10) **Fire damp detectors and other detectors** (e.g., for carbon dioxide). These include portable apparatus for gas detection in mines or tunnels, for detecting leaks in mains, etc.

(11) **Apparatus for dust analysis in gases**. These operate by passing a given quantity of gas through a filter disc, and weighing the filter before and after the test. This category includes **Tyndallometers** used for measuring the amount of dust in the air and for testing dust masks, filters, etc. They consist of a dust chamber covered with black glass, a light source, a photometric head with a prismatic measuring device and a graduated circular scale for measuring the angles of rotation.

(12) **Oxygen meters** for the determination of dissolved oxygen in liquids by use of a polarometric cell or by using the chemical reaction of thallium with dissolved oxygen (measurement of the change in electrolytic conductivity).

(13) **Polarographic analysers** for the determination of the components of liquids, e.g., traces of dissolved metals in water, by measuring and evaluating the current/resistance relationship of electrodes immersed in the solution.

(14) **Wet-chemical analysers** for the determination of inorganic or organic components of liquids, e.g., traces of metals, phosphates, nitrates, chlorides or integral parameters such as “Chemical Oxygen Demand” (COD) and “Total Organic Carbons” (TOC). The analyser consists of a sample preparation device, an analysing unit with, e.g., ion-sensitive electrodes, photometers or polarographs and, in automatic analysers, a control unit.

(15) **Viscometers and the like**, used to determine viscosity (i.e., the internal friction of a liquid).

They may be based on :

(i) The principle of the capillary tube, that is the measurement of the time required by the liquid to flow through the tube under constant pressure (e.g., Ostwald, Engler, etc., viscometers).

(ii) The effect of friction between a solid and a liquid.

or (iii) The time taken by a ball to fall through the liquid.

(16) **Polariscopes (strain viewers)**. These measure internal strains in glass (e.g., strains resulting from toughening, annealing, soldering, etc., which might cause the glass to break easily). They consist essentially of a chamber containing an electric lamp, a light diffusion device, a polariser and a polarising telescope. Stresses in the glass are shown as bright iridescences.

(17) **Expansion meters**. These measure the expansion or contraction on change of temperature of steel, metal alloys, coke, etc. Most of these instruments are of the recording type (mechanical recording on a graph or photographic recording).

(18) **Apparatus for the determination of porosity or permeability** (to water, air or other gases, etc.) known as **porosimeters or permeameters** (**not** to be confused with permeameters for measuring magnetic permeability of substances). They are used for paper, textile fibres, fabrics, plastics, leather, sand, etc.

(19) **Instruments for measuring the surface or interfacial tension of liquids (e.g., torsion balances)**. The surface or interfacial tension of liquids is usually determined by one of the three following factors : the weight of a drop falling from a given capillary tube (or the number of drops having a known volume) (drop-weight method); the height of free rise of a liquid in a capillary tube of known diameter (capillary rise method); or the force required to detach a ring from the surface of a liquid.

(20) **Apparatus for measuring osmotic pressure (osmometers)**, i.e., the pressure which occurs when two miscible liquids are separated by a membrane which is partially but unequally permeable to the two liquids.

(21) **Apparatus for testing mineral oils and their derivatives** (e.g., tar, bitumen, asphalt). These include apparatus for determining the flash point, setting point, flow point, drop point, etc., of mineral oils, melting point of paraffin wax, water content, dirt content, sulphur content, consistency of greases and tars, cloud point, cold point, etc.

(22) **pH meters and rH (redoxpotential) meters**. pH meters are used to measure the factor expressing the acidity or alkalinity of a solution or mixture (pure water being the neutral standard). rH meters are used to measure the oxidising or reducing power of a solution. These instruments operate on a number of different principles; the most common type employs the electrometric system, in which electrodes are used to set up a potential difference which is proportional to the pH or rH of the solution. In addition to measuring, these instruments may also be used for automatic control.

(23) **Electrophoresis instruments**. These are based on the change in concentration occurring when a direct current is passed through a solution. The electrically charged particles migrate at different speeds according to the nature of the product.

These instruments usually incorporate a photometric device consisting of a photoelectric cell and a milliammeter graduated directly in units of optical density. They are used for analysing various solutions (proteins, amino-acids, etc.), for examining substances such as plasma, hormones, enzymes, viruses, etc., and for studying polymerisation phenomena.

(24) **Chromatographs** (such as gas-, liquid-, ion- or thin-layer chromatographs) for the determination of gas or liquid components. The gas or liquid to be analysed is passed through columns or thin layers of absorbent material and then measured by means of a detector. The characteristics of the gases or liquids under analysis are indicated by the time taken for them to pass through the columns or thin layers of absorbent material, while the quantity of the different components to be analysed is indicated by the strength of the output signal from the detector.

(25) **Electronic titration instruments** using measuring electrodes to titrate water, silver salts, halogens, etc.

(26) **Analytical instruments** –sometimes called "moisture meters for solids" - **based on the dielectric constant, electrical conductivity, absorption of electromagnetic energy or infrared radiation of substances**.

(27) **Conductivity meters** to determine the electrolytic conductivity or the concentration of salts, acids or bases dissolved in a liquid.

(28) **Photoelectric cell densitometers and microdensitometers** used to measure the density of spectrographic photographs, and for analysing any phenomenon which is recorded on a photographic emulsion.

(29) **Photometers**. Instruments for measuring the intensity of light. The light to be measured and the standard source of light are placed so that they illuminate a given surface with equal intensity. If instead of comparing two light intensities, comparison is made of their respective spectra, the instrument then used is known as a **spectrophotometer**.

Photometers are widely used for various optical processes and analyses (for determining, for example, degree of concentration, degree of brilliance or transparency of solid substances; degree of exposure of photographic plates or films (densitometers); depth of colour of transparent or opaque solid substances or solutions).

Certain photometers used in photography or cinematography are known as **exposure meters**, and are used for measuring exposure times or for determining lens apertures.

(30) **Luxmeters** (used for determining the intensity, in "lux" units, of a source of light).

(31) **Calorimeters**. These measure the amounts of heat absorbed or given off by a solid, a liquid or a gas. The main categories are :

(A) **Ice calorimeters (Bunsen's)** based on variations in volume produced by melting ice. They consist of a test-tube surrounded by ice, dipped into a tank of water, and of a graduated tube containing mercury.

(B) **Heating calorimeters (Berthelot)** based on the principle of the transfer of quantities of heat. They consist basically of a calorimetric jar filled with water inside a vat also containing water; they are equipped with stirrers and thermometers. Two current types of calorimeter are based on this same principle, i.e. :

(i) **Calorimeters for the determination of the specific heat of gases or of liquid fuels**. In these appliances, water is circulated through a compartment where a quantity of gas or liquid is burnt. The difference in the temperature of the water at the time of entry and leaving is measured.

(ii) **Bomb calorimeters**. These are used for determining the heats of combustion of materials. Basically they consist of a steel vessel (bomb), containing a known amount of the solid or fluid to be tested and also oxygen under pressure. By means of a suitable device the specimen is ignited in the oxygen and the amount of heat generated is determined by placing the bomb in a water calorimeter.

This heading also includes **calorimeters for industrial use**; these are mounted on generators producing gas with a given calorific power. However, if they are connected to regulating apparatus in order to maintain the mixed gases at the required level of calorific power, they are **excluded** (generally **heading 90.32**).

(32) **Cryoscopes and ebullioscopes other than** those having the character of laboratory glassware (**heading 70.17**).

(33) **Instruments and apparatus used in clinical laboratories for *in vitro* diagnostic testing.**

*

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This heading also includes **microtomes**, instruments used in microscope work to cut very thin sections of a known thickness from substances to be examined. Microtomes may be of various types, e.g., hand type (a kind of straight razor), revolving type, sliding carriage type (horizontal or inclined plane).

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), the heading also covers parts and accessories identifiable as being solely or principally for use with the above-mentioned instruments and apparatus.

*

* *

The heading also **excludes** :

(a) Laboratory equipment of refractory materials (retorts, jars, crucibles, cups, baths and the like) (**heading 69.03**), and similar articles of other ceramic materials (**heading 69.09**).

(b) Laboratory glassware (**heading 70.17**). (For further details, see below.)

(c) Microscopes (**heading 90.11** or **90.12**).

(d) Precision balances (**heading 90.16**).

(e) X-ray, etc., apparatus (**heading 90.22**).

(f) Demonstrational apparatus of **heading 90.23**.

(g) Machines and appliances for carrying out tests on certain materials (**heading 90.24**).

(h) Hydrometers, thermometers, hygrometers and similar instruments of **heading 90.25**, whether or not for use in laboratories.

(ij) The apparatus of **heading 90.26**.

*

* *

Classification of goods which are potentially within the scope both of this heading and of heading 70.17 (laboratory glassware).

In these cases, classification is governed by the following considerations :

(1) If an article has the **essential character of glassware** (whether or not graduated or calibrated, and whether or not with subsidiary stoppers, connections, etc., of rubber, etc.), it is **not to be classified in this heading** even if it is normally known as a particular instrument or apparatus.

(2) In general, instruments normally cease to have the essential character of glassware when they consist partly of glass but are **mainly** of other materials, or if they consist of glass parts **incorporated or permanently fixed** in frames, mounts, cases or the like.

(3) The combination of glass parts with measuring **instruments** (e.g., pressure gauges, thermometers) may, in practice, provide grounds for considering such instruments as proper to this heading.

Accordingly, the following instruments in the form of simple calibrated glassware fall in **heading 70.17** :

Butyrometers, lactobutyrometers and similar instruments for testing dairy products; albuminometers and ureometers; eudiometers; volumenometers; nitrometers, Kipps or Kjeldahl apparatus and the like; calcimeters; cryoscopes and ebullioscopes for determining molecular weights, etc.

*

* *

This heading also **excludes** machines or apparatus (whether or not electric) of the type classified in **Section XVI**, whether or not, in view of their low output, small size and general structure, they are obviously intended for use in laboratories (e.g., for preparing or treating specimens). The heading therefore **excludes** ovens, autoclaves, drying or steaming ovens or cabinets; desiccators; crushers and mixers; centrifuges; stills, presses; filters and filter presses; stirrers; etc.

Similarly, heating apparatus (Bunsen burners, steam-heating baths, etc.), tools, laboratory furniture (e.g., laboratory benches, microscope benches, fume cupboards) and brushes are classified in their own appropriate headings (**Section XV**, **Chapter 94** or **96**).

9027.10

- Gas or smoke analysis apparatus

9027.20

- Chromatographs and electrophoresis instruments

CLASSIFICATION OPINIONS

1. **On-line Dissolved Gas Analysis (DGA) apparatus,** used for monitoring dissolved gases in transformer oil, in the form of a self-contained metal square box, incorporating the following components:

   (i) an extraction system for oil sampling and gas extraction;
   (ii) a gas chromatograph (GC) system for separation and measurement of extracted gases; and
   (iii) other components, including two programmable relays, supported alarms and external sensor inputs.

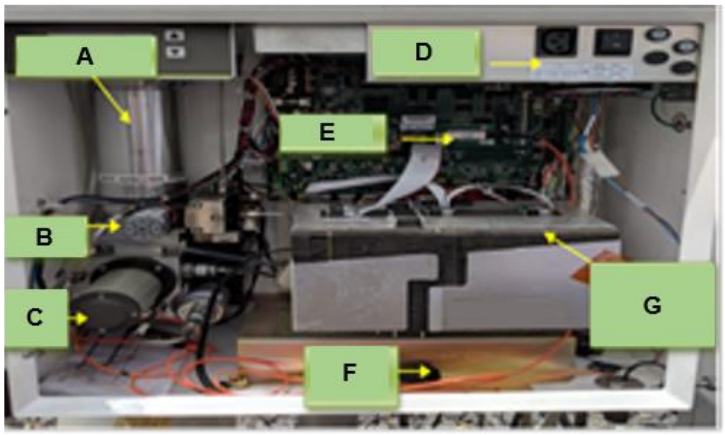
It is presented with proprietary software for gas analysis, data visualization and transformer monitor management.

The apparatus provides continuous sampling of oil from the transformer and periodic gas analysis. It extracts the dissolved gases from the oil, injects the gas aliquots into the gas chromatograph system once the equilibrium state between gas and oil is reached, and subsequently separates and measures eight fault gases (O_2, CO, CO_2, H_2, CH_4, C_2H_6, C_2H_4 and C_2H_2) individually.

The individual gas concentration data is transferred to a separate computer (not supplied) where the proprietary software is installed. The software analyzes the data on the dissolved gases to diagnose the specific fault which would result in this fault gas profile. The software allows for the setting up of the alarm confirmation feature of the apparatus's firmware.

Application of GIRs 1 (Note 3 to Section XVI and Note 3 to Chapter 90) and 6. *See also Opinion 9027.20/2. Adoption : 2021*





1.Extractor membrane
2.Gas pump
3.Oil pump
4.Power supply
5.Motherboard
6.Enclosure heater
7.Gas separator Columns (Chromatograph)

2. **On-line Dissolved Gas Analysis (DGA) apparatus,** used for monitoring dissolved gases in transformer oil, in the form of a self-contained metal square box, incorporating the following components:

(i) an extraction system for oil sampling and gas extraction;
(ii) a gas chromatograph (GC) system for separation and measurement of extracted gases; and
(iii) other components, including two programmable relays, supported alarms and external sensor inputs.

It is presented with proprietary software for gas analysis, data visualization and transformer monitor management.

The apparatus provides continuous sampling of oil from the transformer and periodic gas analysis. It extracts the dissolved gases from the oil, injects the gas aliquots into the gas chromatograph system once the equilibrium state between gas and oil is reached, and subsequently separates and measures three fault gases (CH_4, C_2H_4 and C_2H_2) individually.

The individual gas concentration data is transferred to a separate computer (not supplied) where the proprietary software is installed. The software analyzes the data on the dissolved gases to diagnose the specific fault which would result in this fault gas profile. The software allows for the setting up of the alarm confirmation feature of the apparatus's firmware.

Application of GIRs 1 (Note 3 to Section XVI and Note 3 to Chapter 90) and 6.
See also Opinion 9027.20/1
Adoption : 2021

9027.30

- Spectrometers, spectrophotometers and spectrographs using optical radiations (UV, visible, IR)

CLASSIFICATION OPINIONS

1. Atomic absorption spectrometer, consisting of an analysis device which, under the control of an external automatic data processing machine, measures the spectroscopy of various substances by means of atomic absorption. The analysis device uses optical radiations of the wavelength range 185 - 900 nm (UV, visible). This device is presented together with an automatic data processing machine and a CD-ROM (special software) which are used for controlling the analysis device and processing the data obtained from the analysis.
The analysis device must be connected to the automatic data processing machine, since all its operations are performed in conformity with the instructions given by the automatic data processing machine, e.g., measurement mode, sampling mode, etc. The results from the analysis are communicated to the automatic data processing machine, which converts them into a spectrograph and intelligible data for further use (e.g., for quantitative analysis).
Application of Note 4 to Section XVI and Note 3 to Chapter 90.
See also Opinion 9027.30/2.
Adoption : 1998

2. Atomic absorption spectrometer, consisting of an analysis device which, in the form of a stand-alone, keyboard-controlled unit with built-in LCD display, measures the spectroscopy of various substances by means of atomic absorption. The analysis device uses optical radiation of the wavelength range 185 - 900 nm (UV, visible).
The analysis device is presented together with an automatic data processing machine (in the form of a system) and a CD-ROM (special software) which are used for upgrading the functions of the analysis device. Being capable of carrying out the analysis by itself, the analysis device is merely connected to the automatic data processing machine in order to have the controlling of its operation and the processing of its results upgraded from a stand-alone, keyboard-controlled unit to an automatic data processing machine controlled flame or furnace system for automated multielement analysis. The automatic data processing machine and the software are classified together in subheading 8471.49.
Application of GIRs 1 (Note 1 (m) of Section XVI and Note 6 (E) of Chapter 84) and 6.
See also Opinion 9027.30/1
Adoption : 1998

9027.50

- Other instruments and apparatus using optical radiations (UV, visible, IR)
9027.8

- Other instruments and apparatus :
9027.81

-- Mass spectrometers
9027.89

-- Other
CLASSIFICATION OPINIONS

1. **Fully automated, real- time Polymerase Chain Reaction (PCR)-based molecular diagnostic system.** The fully integrated system enables clinical laboratories to perform a broad range of applications, including oncology, infectious diseases and genetic testing. The processing steps consist of (i) liquefaction, (ii) cell lysis, (iii) DNA/RNA extraction, and (iv) data analysis and reporting. **Application of GIRs 1 and 6.** *Adoption : 2018*



2. **Quantitative automated hematology analyser and leukocyte differential counter**, for *in vitro* diagnostic (IVD) use in clinical laboratories. The apparatus uses the following two independent measurement methods :

- The impedance method for determining the WBC (White Blood Cell or leukocyte), RBC (Red Blood Cell or erythrocyte), and PLT (Platelet) Data; and

- The colorimetric method for determining the HGB (Hemoglobin Concentration).

Application of GIRs 1 and 6.
Adoption : 2018



9027.90

- Microtomes; parts and accessories

CLASSIFICATION OPINIONS

1. Tubes for accelerating and/or focusing positive ions, identifiable as parts of mass spectrometers or of mass spectrographs.
Adoption : 1960

Heading 9028

Gas, liquid or electricity supply or production meters, including calibrating meters therefor.

EXPLANATORY NOTES

90.28 - Gas, liquid or electricity supply or production meters, including calibrating meters therefor.

9028.10 - Gas meters

9028.20 - Liquid meters

9028.30 - Electricity meters

9028.90 - Parts and accessories

These meters are generally fitted with a device driven at a speed proportional to the rate of fluid flow or to the electrical quantity being measured. They are often fitted in a bypass or shunt off the main or connected to measuring transformers, so that only part of the flow passes through them, but are calibrated so as to indicate the total quantity passing through the service pipes or through the main.

Gas, liquid or electricity supply or production meters fall in this heading whether or not fitted with a clockwork recording device, or with a simple mechanical or electrical device for bringing controlling, signalling, etc., appliances into action.

(I) GAS OR LIQUID SUPPLY OR PRODUCTION METERS

These meters are used to measure in volumetric units the amount of fluid passing through a pipe. Flowmeters, which measure rate of flow are **excluded** (**heading 90.26**).

This heading includes household supply meters, plant production or supply meters, and standard meters (for checking the accuracy of ordinary meters). In addition to simple meters, the heading also includes special meters such as maximum, prepayment, price-calculating, etc., meters.

Supply or production meters consist essentially of the measuring device (turbine, piston, diaphragm, etc.), the mechanism for regulating the admission of fluid (generally slide valves), the transmission (endless screw, camshaft, gears or other systems), and a recorder or an indicator (pointer or drum type) or both.

(A) **Gas supply or production meters**.

(1) **Wet meters**.

The measuring device generally consists of a drum or wheel partitioned into compartments; this revolves in a cylindrical casing rather more than half filled with a liquid (water, oil, etc.). The drum is rotated by the gas which on entering the meter, fills the submerged compartments and thus raises them above the level of the water. The revolutions of the drum are indicated on a counting mechanism.

Another type of meter (nutating bell meter), consists of a bell in which the gas passes in and out of a succession of chambers; the bell, which is centrally guided, is thus made to nutate around an inclined axis which engages a cranked arm attached to the driving spindle of the counting mechanism.

(2) **Dry meters**.

These are of several types. The measuring device may consist of pistons, diaphragms or of a fan wheel, driven by the pressure of the gas, and connected to a counter mechanism. The usual meter consists of a box divided in two compartments by a partition. Each compartment is itself divided by a central diaphragm; the gas passes successively in and out of these four compartments. The alternating motion of the diaphragm operates the counting mechanism.

(B) **Liquid supply or production meters** (cold or hot water, mineral oil, alcohol, beer, wine, milk, etc.), but **not** including pumps for liquids (even if fitted with measuring devices) of **heading 84.13**.

These meters include :

(1) **Impeller or fan wheel meters**.

These are also called **inferential meters** since the volume of liquid is inferred from its speed. The measuring device consists of a fan wheel or impeller which revolves at a speed proportional to the flow of the liquid. These revolutions operate a counting mechanism.

(2) **Diaphragm meters.**

These are similar to the dry gas meters described above. A cast iron cylinder is divided into two compartments by a flexible diaphragm which extends or retracts when the compartments are alternately filled or emptied. This motion operates the counter mechanism.

(3) **Reciprocating piston meters.**

These meters may consist of one or more pistons which perform a reciprocating movement inside the cylinders. As in a steam engine, a system of slide valves alternately directs the liquid under measure to the top and bottom sides of the piston and opens or closes the plug cocks. The motion of the pistons is geared to the counter mechanism.

(4) **Disc-piston meters.**

In these meters the piston is replaced by a revolving disc which divides a spherical chamber into two equal compartments alternately filled and emptied. The resulting oscillating motion of the disc is geared to the counter mechanism.

(5) **Rotary piston meters**.

One type of these meters consists of a cylindrical working chamber fitted with a radial partition which projects partially across the chamber. The measuring device is a cylindrical piston, the wall of which is split, and which fits over the partition. The filling and emptying of the compartment imparts an oscillating (semi-rotary) motion to the cylinder and this motion is geared to the counter mechanism.

In another type of meter there is no partition in the working chamber, and a true rotary motion of an elliptical piston is obtained. In some cases, the meter consists of a nutating cone in a partitioned spherical chamber.

The meters referred to in items (2) to (5) above are known as *positive displacement* type.

(II) ELECTRICITY SUPPLY OR PRODUCTION METERS

These meters measure the amount of electricity consumed (in ampere-hours or multiples thereof) (quantity meters), or the amount of energy consumed (in watt-hours or multiples thereof) (energy meters). When the voltage is constant, quantity meters may be calibrated in watt-hours (or in multiples of watt-hours). Some meters are devised for use with direct current, others for alternating current.

The heading **excludes** apparatus such as voltmeters, ammeters, wattmeters, etc., which simply measure electrical quantities and are not designed for registering the total amount of electricity or energy consumed (**heading 90.30**).

This heading includes the following main types of electricity supply meters :

(A) **Motor meters**.

These meters consist essentially of one or more inductors, a revolving element (armature) whose speed of revolution is proportional to the amount of electricity or energy consumed, a counting mechanism and a pointer or drum indicator (or a combination of both).

Motor meters are usually fitted with an eddy current brake, a metal brake-disc in which eddy currents are generated as it revolves between the poles of one or more permanent magnets.

(B) **Static meters**.

These meters consist essentially of electronic static sub-assemblies, such as multipliers or quantifiers equipped with an indicating device. They produce an electrical current or resistance directly proportional to the amount of electrical energy consumed. The indicating device may be mechanical (fitted with a pointer or drum indicator) or electronic.

These include :

(1) **Prepayment meters**.

(2) **Multiple-rate meters** (calculating the electrical energy supplied at two or more different rates).

(3) **Maximum meters** (indicating the maximum value of the average load during a given period).

(4) **Peak meters** (indicating the consumption above a certain peak value).

(5) **Excess meters** (similar to peak meters but also indicating the total energy used).

(6) **Impulsing meters** (fitted with a pulse transmitter).

(7) **Reactive meters**.

(8) **Demonstration meters**.

(9) **Direct current meters** (volt-hour (Vh) meters, ampere-hour (Ah) meters, watt-hour (Wh) meters).

(10) **Meters with pulse input** for connection to impulsing meters, fitted with a consumption register and a totalling device or a maximum device (indicating or recording) or an excess device, etc.

(11) **Standard meters** for checking and calibrating other meters.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), separately presented parts and accessories of meters of this heading remain classified here.

9028.10

- Gas meters

9028.20

- Liquid meters

9028.30

- Electricity meters

9028.90

- Parts and accessories

CLASSIFICATION OPINIONS

1. Electricity meter box of plastic (dimensions (L x W x H, in cm): 16 x 38 x 13), presented empty, designed to install a smart electricity meter for measuring the amount of electricity consumed and one or more switches for connecting and cutting electricity (meter and switches are not presented). It has two cable glands at the bottom for the entry and exit of electrical cables, and fittings at the back for hanging and fixing it on the wall.

The box has a transparent plastic door with hinges and holes to seal the box. There are two small doors on the transparent door: one for a user to easily cut electric circuits in case of emergency, and the other for a technician to test the meter. The function of the box is to connect the electricity meter and the switches in one place, protecting them from dust and ensuring resistance from chemicals.

Application of GIRs 1 (Note 2 (b) to Chapter 90) and 6. *Adoption : 2021*





Heading 9029

Revolution counters, production counters, taximeters, mileometers, pedometers and the like; speed indicators and tachometers, other than those of heading 90.14 or 90.15; stroboscopes.

EXPLANATORY NOTES

90.29 - Revolution counters, production counters, taximeters, mileometers, pedometers and the like; speed indicators and tachometers, other than those of heading 90.14 or 90.15; stroboscopes.

9029.10 - Revolution counters, production counters, taximeters, mileometers, pedometers and the like

9029.20 - Speed indicators and tachometers; stroboscopes

9029.90 - Parts and accessories

This heading includes :

(A) Counters indicating a total number of units of any kind (revolutions, items, length, etc.), or an amount to be paid. But the heading **excludes** totalling devices of a kind falling in **heading 84.73**, the gas, liquid or electricity supply or production meters of **heading 90.28**, and opisometers or planimeters of **heading 90.17** or **90.31**.

(B) Apparatus indicating a speed of revolution or a linear speed in relation to a time factor (tachometers and speed indicators), **other than** those of **heading 90.14** or **90.15**.

(C) Stroboscopes of all kinds.

Such apparatus and instruments remain classified here whether or not they incorporate a clockwork recording device, and whether or not they are fitted with simple mechanical or electric devices for bringing a signalling apparatus, machine controls, brakes, etc., into action.

(A) COUNTING DEVICES

(1) **Revolution counters**.

These instruments count the number of revolutions of a mechanical part (e.g., machine shaft). They consist mainly of a driving spindle geared to pointer or drum indicators. They usually have a device for re-setting the counter to zero. The counters may be coupled to the revolving part either directly (in some cases the part drives the gearing itself) or by remote control. The driving spindle may be operated by a rotary, alternating or pulsating movement of the turning part (e.g., encoders).

It should, however, be noted that the heading **excludes** yarn grading winding reels, torsiometers and similar testing or checking apparatus incorporating revolution counters (**heading 90.31**).

(2) **Production counters**.

These are similar in construction to revolution counters. They are used, in particular, for measuring lengths (e.g., on spinning or twisting machines); for counting the movements of a machine (an automatic balance, a pump, the picks of a spinning machine, etc.); or for counting a number of articles (printed sheets delivered by a rotary press, articles carried by a conveyor belt, bank notes, etc.). In practice, the appliances used for these purposes are generally revolution counters which have been adapted to indicate the length or number of units in terms of the revolutions of the driving spindle.

Electronic production counters. The articles to be counted interrupt a beam falling on a photoelectric cell. A recording apparatus then computes the number of articles which have passed through the beam.

This group also covers multiple counters (e.g., those used to check the output of several operators working on the same machine).

This group also includes the electro-magnetic counters used in automatic telephone exchanges to count the number of telephone calls made by a subscriber; they usually incorporate an electro-magnet which moves the recording mechanism (cyclometer-type rollers, etc.) one position each time a pulse of electric current is passed through its winding.

(3) **Counters for indicating the working hours of machines, motors, etc., (time or hour meters)**.

In practice, these are revolution counters calibrated in working hours.

(4) **Entry counters**.

These counters are operated by turnstiles or other appliances placed at the entrances of museums, parks, sports grounds, etc., where they record the number of visitors or spectators.

(5) **Billiards meters**.

These are mechanical counters (roller-type and the like), usually hand-operated, for recording the score.

The heading **excludes** meters which employ a clock movement to indicate the time in play or the amount payable based on that time (**heading 91.06**). Billiard markers, ball or slide type, fall in **heading 95.04**.

(6) **Instruments and apparatus for measuring short time intervals** by counting, and which, not having a movement of the watch or clock type (including synchronous movements), **do not** fall in Chapter 91. The heading also covers **electronic impulse counters (scalers)** (e.g., passenger counters on motor coaches, trains, etc.).

(7) **Taximeters**.

These usually have a clock movement. They indicate the fare payable in relation to time **and** to the distance covered.

(8) **Mileometers**.

These are revolution counters for vehicles, and are usually graduated in linear units (miles, kilometres, etc.). Most mileometers are combined with speed indicators.

(9) **Pedometers**.

These instruments have a watch type mechanism and are used for an approximate measurement of distances. They contain a pendulum which, at each step, advances the train of wheels by one unit. The distance covered is calculated from the number of steps taken and their length.

(10) **Hand-held counters**.

These counters usually read no more than four numbers in fixed categories. The user depresses a button in the category being counted to activate the display.

(B) SPEED INDICATORS AND TACHOMETERS

These instruments differ from the revolution counters and production counters of Part (A) above in that they indicate the number of revolutions, speed, output, etc., **per unit of time** (e.g., revolutions per minute, miles per hour, kilometres per hour, metres per minute). They are usually mounted on vehicles (cars, motorcycles, bicycles, locomotives, etc.) or machines (motors, turbines, paper-making machines, printing machinery, textile machinery, etc.).

The speed indicators and tachometers classified here normally function on one of the following principles :

(1) **Chronometric system**.

The measuring mechanism is combined with a clock or watch movement. Sometimes the time is measured by means of a separate chronograph; in this case, the two instruments are classified in their appropriate headings.

(2) **Centrifugal system**.

A vertical governor arm, held by a spring, rotates with the driving spindle. A pair of weights carried by the governor arm are thrown outwards by centrifugal force, so that the distance the governor arm is displaced is proportional to the speed. This displacement is transmitted to the instrument pointer.

(3) **Vibration system**.

This type is used for high speed machines such as steam turbines, pumps, compressors, electric motors, etc. The mechanical resonance of vibrations of the frame or bearings of the machine cause graduated reeds to oscillate at a rate corresponding to the number of revolutions of the machine.

(4) **Magnetic (induction) system**.

A system of permanent magnets rotating with the driving spindle generates eddy-currents in a disc of copper or aluminium placed in the magnetic field. This current is proportional to the rotating speed of the magnets. The disc is thus “dragged” or pulled round, but its rotation is retarded by a restraining spring. The disc is connected to a pointer indicating the speed.

(5) **Electrical systems**.

These are either fitted with a photoelectric cell or operated by an impulse generator mounted on the machine.

Speed indicators and tachometers of this heading may be fixed or portable, simple or multi-function (e.g., maximum or minimum), differential (in which case they give the difference between two speeds as a percentage), combined with an adding counter or a time meter or graphical recording device, etc. The heading also covers certain instruments which simultaneously record speed, mileage, time in motion and at a standstill, etc.

(C) STROBOSCOPES

Stroboscopes enable machines in operation to be observed as though they were moving slowly or were stationary; they can also be used to measure the speed of rotating or reciprocating movements. In the latter case, they are known more particularly as **stroboscopic tachometers**. Stroboscopes operate on the principle of producing apparent immobility or reduced speed in the mechanism to be observed, by means of successive glimpses (flashes) at fixed intervals. The mechanism under observation may be permanently illuminated for examination through an optical instrument (a disc with one or more radial slots or "windows") which interrupts the line of sight; or the mechanism may be placed in the dark and illuminated periodically for very short periods (flashes). The speed of the rotating or reciprocating mechanism under observation can be ascertained by adapting the speed of the disc or the frequency of the flashes until the impression of immobility is obtained.

Stroboscopes based on the principle of **permanent illumination** consist essentially of a clockwork driven with one or more windows, a speed regulator, an eyepiece and a graduated drum (usually graduated in revolutions per minute).

Stroboscopes functioning on the principle of **periodic illumination** differ appreciably according to the device producing the light flashes. The most simple types consist of an ordinary lamp, a motor with a speed regulator controlling the frequency of the flashes, and a graduated dial. The flashes may also be produced by a gas discharge lamp. These gas discharge stroboscopes are much more complex in structure and can be used for taking photographs or making films; they are sometimes mounted on castors or rollers. The flashes required for the observation of a rotating or reciprocating mechanism may be controlled by the mechanism itself. Synchronisation is achieved by means of a spring-type interrupter, a photoelectric cell, an electro-magnetic relay, etc.

Except when permanently incorporated in stroboscopes, the photographic or cinematographic cameras fall in their appropriate heading.

Stroboscopes are used, in particular, for observing or measuring the speed of motors, transmission gear, textile machinery (parts such as spindles, winders, cards, shuttles), paper-making machines, printing machinery or machine-tools. They are also used in medicine for examination of the vibration of the vocal chords.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), separately presented parts and accessories of apparatus or appliances of this heading remain classified here.

9029.10

- Revolution counters, production counters, taximeters, mileometers, pedometers and the like

9029.20

- Speed indicators and tachometers; stroboscopes

CLASSIFICATION OPINIONS

1. Flash apparatus for stroboscopic checking of ignition timing of internal combustion engines (ignition timing lamp), comprising :

(i) a relay to adjust automatically for 6 or 12 volt battery operation;
(ii) a transformer to step-up to the 450 volts required to operate the flash tube;
(iii) a synchronous vibrator;
(iv) capacitors to store electrical energy;

when connected to the electrical circuit supplying one sparking plug of the engine under test, produces flashes synchronised with the sparking of that plug.
Adoption : 1968

9029.90

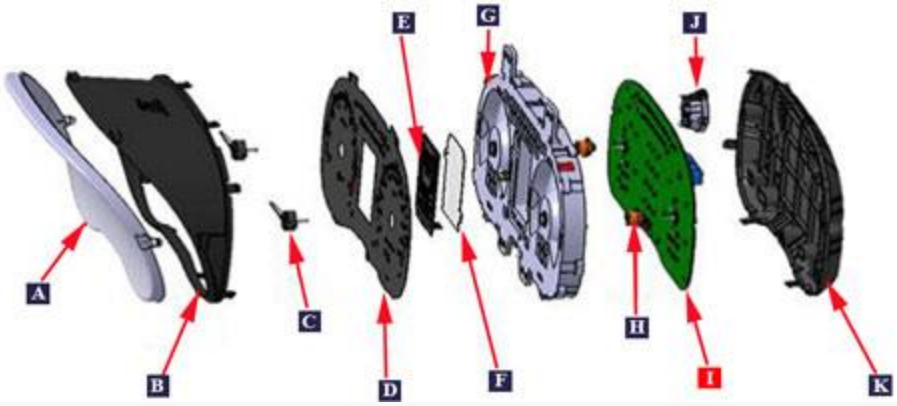
- Parts and accessories

CLASSIFICATION OPINIONS

1. Main board (PCB) for vehicle instrument panel, including approximately 440 active elements and passive elements.The product will be combined with other components after import, such as a window plate, liquid crystal displays (LCD), speaker, indicating pointers and various plastic structural components, to form a complete instrument panel.
In use, the final instrument panel can display the speed, revolutions per minute (RPM), and mileage of a vehicle (through data that the separate Electronic Control Unit (ECU) receives from the hall sensor mounted on the vehicle wheel) and information on the status of the vehicle received from sensors, such as the coolant temperature, remaining fuel amount and door open warning.
Application of GIRs 1 (Note 2 to Section XVII, Note 2 (b) to Chapter 90) and 6.
Adoption : 2019



A Temp gauge
B Tacho meter
C LCD display
D Speed meter
E Fuel gauge
F Indicators



A Acryl
B Window plate
C Pointer
D Dial
E LCD
F Color lens
G Case
H Prism
I PCB assy
J Speaker
K Lower case

Heading 9030

Oscilloscopes, spectrum analysers and other instruments and apparatus for measuring or checking electrical quantities, excluding meters of heading 90.28; instruments and apparatus for measuring or detecting alpha, beta, gamma, X-ray, cosmic or other ionising radiations.

EXPLANATORY NOTES

90.30 - Oscilloscopes, spectrum analysers and other instruments and apparatus for measuring or checking electrical quantities, excluding meters of heading 90.28; instruments and apparatus for measuring or detecting alpha, beta, gamma, X-ray, cosmic or other ionising radiations (+).

9030.10 - Instruments and apparatus for measuring or detecting ionising radiations

9030.20 - Oscilloscopes and oscillographs

- Other instruments and apparatus, for measuring or checking voltage, current, resistance or power (other than those for measuring or checking semiconductor wafers or devices) :

9030.31 - - Multimeters without a recording device

9030.32 - - Multimeters with a recording device

9030.33 - - Other, without a recording device

9030.39 - - Other, with a recording device

9030.40 - Other instruments and apparatus, specially designed for telecommunications (for example, cross-talk meters, gain measuring instruments, distortion factor meters, psophometers)

- Other instruments and apparatus :

9030.82 - - For measuring or checking semiconductor wafers or devices (including integrated circuits)

9030.84 - - Other, with a recording device

9030.89 - - Other

9030.90 - Parts and accessories

(A) INSTRUMENTS AND APPARATUS FOR MEASURING OR DETECTING ALPHA, BETA, GAMMA, X-RAY, COSMIC OR OTHER IONISING RADIATIONS

These instruments and apparatus are used in scientific research, for industrial purposes (metallurgy, petroleum prospecting, etc.), or for biological or medical purposes (in conjunction with radioactive tracers). They include :

(1) **Detection instruments incorporating ionisation chambers**. A potential difference is set up between two electrodes contained in the ionisation chamber. The ions formed when a radiation enters the chamber are attracted to the electrodes, and the resulting changes in the potential difference may be amplified and measured.

(2) **Geiger counters**. A large potential difference is maintained between the electrodes of the counter; the ions produced by an incoming radiation are greatly accelerated, and in turn ionise the gas contained in the tube. This sets up impulses which may be counted.

The ionisation chamber and Geiger counter apparatus of this heading normally consist of several units such as a chamber or counter, an amplifier, a voltage supply unit for the chamber or counter, and a counting circuit or indicating instrument. All these units are often incorporated in the same case. Sometimes all the units except the chamber or counter are in the same case, and apparatus of this type (which requires a chamber or counter before it is complete) remains classified in this heading (as an essentially complete instrument). When the individual units are presented separately they are classified in accordance with the provisions of the General Explanatory Note to this Chapter.

Certain ionisation chambers which are used to measure total quantities of radiation over an appreciable time (e.g., 24 hours) do not require any auxiliary amplifiers, etc., but incorporate a very light moving pointer which can be read under a microscope and then shows the total amount of radiation which has passed through the chamber. These chambers (which often resemble fountain pens) are complete measuring instruments in themselves and are classified in this heading.

The heading also covers **scintillation counters**. These consist of a device (photomultiplier) which is made up essentially of a photoelectric cell and an electron multiplier. They operate on the principle that radiation may be detected or measured by its effect in exciting the fluorescence of certain crystals (zinc sulphide, thallium activated sodium iodide, anthracene, plastics impregnated with

tetraphenyl-butadiene, etc.). The crystals are placed between the source of radiation and one electrode of the counter.

This group also includes :

(1) **Dosimeters and similar apparatus used in radiology** for measuring and checking the intensity and penetrating power of X-rays.

(2) **Apparatus for measuring cosmic or similar radiations**.

(3) **"Thermopile" neutron detectors and measuring or detecting instruments** incorporatingneutron detector tubes (boron, boron trifluoride or hydrogen types, or using radioactive fissionable elements).

(4) **Radiation measuring or detecting instruments** incorporating liquid or solid scintillators.

The heading **excludes** :

(a) Apparatus incorporating a scintillation counter whose data are converted into analogue signals for the purpose of making medical diagnoses (e.g., gamma camera, scintillation scanner) (**heading 90.18**).

(b) Measuring or checking apparatus designed to incorporate a radioactive source (in particular, artificial isotopes), for example, for measuring thickness of materials (sheets, linings or the like), for monitoring the contents of packages, for measuring low speed air currents (ionisation anemometers), etc. (**heading 90.22**).

(B) OSCILLOSCOPES, SPECTRUM ANALYSERS AND OTHER INSTRUMENTS AND APPARATUS FOR MEASURING OR CHECKING ELECTRICAL QUANTITIES

Oscilloscopes and oscillographs are used respectively for observing or recording rapid variations of an electrical quantity (voltage, current, etc.). The instruments may be divided into three main categories :

(a) **Duddell oscillographs**, in which a coil, usually consisting of a loop of taut wire with mirrors attached, moves in the field of an electro-magnet. The periodic phenomenon under study can be observed directly on a sheet of frosted glass, or recorded on a photographic tape.

(b) **Soft iron and graver type oscillographs**, with a coil acting on a strip of soft iron placed in a constant field. A lightweight rod, pointed at one end, is fixed to the strip and traces the phenomenon (e.g., by cutting a coated cellulose acetate tape).

(c) **Cathode-ray oscilloscopes and oscillographs**; these operate by recording how a cathode-ray beam is deflected by electrostatic or electro-magnetic forces. These instruments, which may be in one or more parts, consist essentially of the cathode-ray tube, feeding devices and transformers, amplifiers, a sweeping or scanning system and other auxiliary devices and, sometimes, an electronic switch. Oscilloscopes with a memory, used to examine isolated rapid transient phenomena, are equipped with either a cathode-ray memory tube or a numeric memory associated with a cathode-ray tube. In the first type, the image of the signal is captured and

maintained on the cathode-ray tube. In the second type, the signal is recorded in the memory and can be retrieved at will to be viewed on the screen.

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Spectrum analysers are instruments which identify the different frequency components of an electrical input signal. They are mainly used to analyse electrical quantities. They can also analyse ionising radiations, sound waves or other non-electrical quantities when used in conjunction with radiation detectors or other devices which can detect non-electrical quantities and convert them into electrical signals.

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The heading covers transient phenomena recorders which are apparatus designed to capture a signal and to record it with a view to transmitting it later, in an appropriate form, onto a display apparatus (television monitor, for example). “Logic analysers”, which are apparatus used to examine electrical circuits consisting for the most part of semiconductor devices, are also classified here.

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Instruments and apparatus for measuring or checking electrical quantities may be indicating or recording types.

They may be subdivided, according to their mode of operation, into a number of groups, such as :

(1) **Moving-coil instruments**, in which the current to be measured passes through a coil free to move in the magnetic field provided by a permanent magnet. The pointer is secured to the moving coil.

(2) **Moving-iron instruments**, in which the pointer is deflected by a solenoid acting upon a piece of soft iron fixed to the pointer shaft.

(3) **Electrodynamic instruments**, in which the current to be measured passes through fixed and moving coils, the moving coils operating in the magnetic field of the fixed coils. The pointer is secured to the moving coils.

(4) **Induction instruments**, consisting of a pointer shaft on which is mounted a flat disc or cylinder which operates in the air gap of an electro-magnet having one or more coils.

(5) **Thermocouple instruments**, in which the current to be measured is passed through a heater applied to the hot junction of a bi-metallic thermocouple whose electromotive force is then measured.

(6) **Electronically operated instruments** based on semiconductor technology with a pointer or an opto-electronic display for analogue or digital readout.

Apart from the above-mentioned types of instruments or apparatus which generally effect direct measurements, the heading also includes those which supply the operator with certain data from which the quantity to be measured can be calculated (comparative method). This group includes, in particular, **measuring bridges** and **potentiometers**. These are usually mounted in boxes or cases containing one or more galvanometers, standard resistors, standard capacitors, standard inductors, standard cells, transformers, converters, switches, etc. Measuring bridges are often named after their inventor (Wheatstone, Thomson, Anderson, Maxwell, Sauty, Schering, Kohlrausch, Wien, etc.); others have names indicating the grouping system of the units of comparison (decade pattern bridges, double bridges, T-type bridges, etc.), or the special purpose of the bridge (impedance, resistance, capacitance or connection bridges, universal bridges, etc.).

The following are, however, **excluded** (**Chapter 85**) when presented separately : transformers, standard resistors, standard capacitors, standard inductors, standard cells, etc.; also earphones (headsets) (used instead of the visual null indicator in some types of measuring bridge).

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The main types of electrical measurements are :

(I) **Measurement of electric currents**. This is carried out, in particular, by means of galvanometers or amperemeters (ammeters).

(II) **Voltage measurement**, by voltmeters, potentiometers, electrometers, etc. The electrometers used for measuring very high voltages are electrostatic; they differ from the usual type of voltmeter in that they are fitted with spheres or plates held on insulating pillars.

(III) **Measurement of resistance and conductivity**, by means of ohmmeters or measuring bridges, in particular.

(IV) **Measurement of power** by means of wattmeters.

(V) **Measurement of capacitance and inductance**, effected by means of measuring bridges, and expressed in farads or henrys.

(VI) **Measurement of frequencies**, by means of frequency meters graduated in hertz (cycles per second).

(VII) **Measurement of wavelengths or radio frequencies** by wavemeters, or slotted line or slotted waveguideinstruments.

(VIII) **Measurement of phase angles or power factors**, carried out with phase meters, calibrated in power factors (cos phi).

(IX) **Measurement of the ratios of two electrical quantities** by ratiometers.

(X) **Measurement of magnetic fields or magnetic fluxes**, effected with galvanometers or fluxmeters.

(XI) **Measurement of the electrical or magnetic properties of materials**, carried out with hysteresis testers, permeameters or similar instruments.

(XII) **Testing of synchronism**, by means of synchroscopes, instruments for indicating the phase relation and difference in frequency between two periodic phenomena. Such instruments can be recognised by the fact that their dials bear the indications “Fast” and “Slow” (with corresponding arrows).

(XIII) **Measurement and recording of rapid variations of electrical quantities** by means of the oscilloscopes or oscillographs described above.

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Some electrical measuring instruments can be used for many purposes, for example, electrical or electronic instruments known as “universal testers” (e.g., multimeters) which serve for the rapid measurement of voltages (direct or alternating), currents (direct or alternating), resistances and capacitances.

The heading also includes a wide range of electrical or electronic instruments used in radio-communications or telecommunications. In addition to the voltmeters, potentiometers, measuring bridges, ammeters, wattmeters, phase meters and frequency meters already mentioned, this range includes :

(i) **Impedance testers and bridges**, for determining the impedance in a circuit, and also for measuring capacitances or inductances.

(ii) **Inductance bridges and similar instruments**, for measuring ring inductances on the Wheatstone bridge principle.

(iii) **Nepermeters and decibel meters**. These are used for measuring the attenuation over long distance telephone circuits. Instruments and apparatus for measuring quantities of sound fall in **heading 90.27**.

(iv) **Fading indicators**. Unlike nepermeters (which give measurements based on a compensatory system), these give a direct indication of the fading.

(v) **Cross-talk meters**, used on telephone circuits for measuring various quantities.

(vi) **Transmission level indicators**.

(vii) **Noise level meters**, for use on high frequency lines.

(viii) **Gain measuring instruments**, for measuring the gain through repeaters relaying long distance telephone circuits.

(ix) **Instruments for measuring interference**, e.g., noise voltage in long distance telephone installations or interference from neighbouring high tension circuits.

(x) **Psophometers**, instruments for calculating line-noise, i.e., the electromotive force of a source of current which would produce the same interference if substituted for the voltages induced in the telephone circuit.

(xi) **Peak indicators**, for recording short voltage peaks such as occur in transmission systems (e.g., long distance telephone cables, radio transmission circuits, shortwave links).

(xii) **Echo meters**, used in establishing line balance by direct readings of echo expressed in nepers or decibels.

(xiii) **Distortion factor meters**, for measuring the harmonic distortion introduced into complex transmissions.

Some of the above instruments, in particular those used for electro-acoustic measurements, are calibrated in nepers or decibels.

This heading also covers other instruments and apparatus which perform operations of a kind described in the heading, including **valve testing or measuring instruments, in particular those for testing radio valves**. These valve testing or measuring instruments are sometimes designed so as to produce the characteristic curve of the valve on the screen of an oscilloscope.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), separately presented parts and accessories of instruments or appliances of this heading remain classified here. Examples of these are : **coincidence units**, electronic, for use with Geiger-Müller counters or proportional counters, **solid scintillators** in the form of crystals or of elements of plastics, mounted or metal-sheathed, designed solely for fitting to detection instruments, **neutron detector tubes** using boron, boron trifluoride, hydrogen or fissionable elements.

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Subheading Explanatory Note.

Subheading 9030.82

This subheading also covers instruments and apparatus for measuring or checking integrated circuits.

9030.10

- Instruments and apparatus for measuring or detecting ionising radiations

9030.20

- Oscilloscopes and oscillographs

9030.3

- Other instruments and apparatus, for measuring or checking voltage, current, resistance or power (other than those for measuring or checking semiconductor wafers or devices) :

9030.31

-- Multimeters without a recording device

9030.32

-- Multimeters with a recording device

9030.33

-- Other, without a recording device

9030.39

-- Other, with a recording device

9030.40

- Other instruments and apparatus, specially designed for telecommunications (for example, cross-talk meters, gain measuring instruments, distortion factor meters, psophometers)

CLASSIFICATION OPINIONS

1. **Network analyzer** that analyzes the operational state of networks that employ multiple protocols (Ethernet, ATM (asynchronous transfer module), IPv6 (Internet Protocol version 6), VoIP (Voice-over-internet protocol), HSDPA (High-Speed Downlink Packet Access), UMTS (Universal Mobile Telecommunications System), CDMA (Code division multiple access), etc.), simulates traffic and fault conditions in existing networks to analyze effects during the design stage, and detects fault condition. It can provide an analysis of every packet on a network, add time stamp data to the packets, filter out packets that are not of interest, break down the packets that are of interest by checking every bit, and then provide the user information about the packet or sequence of packets, such as packet jitter, delay, dropped or lost packets, and bit or data errors.
   The analyzer includes an acquisition memory (512 MB) and a hot-swapping line interface module (LIM). The analyzer can be connected to an automatic data processing machine. **Application of GIRs 1 and 6.**

   Adoption : 2011



2. **Network analyzer** that analyzes the operational state of networks that employ multiple protocols (Ethernet, ATM (asynchronous transfer module), IPv6 (Internet Protocol version 6), VoIP (Voice-over-internet protocol), HSDPA (High-Speed Downlink Packet Access), UMTS (Universal Mobile Telecommunications System), CDMA (Code division multiple access), etc.), simulates traffic and fault conditions in existing networks to analyze effects during the design stage, and detects fault condition. It can provide an analysis of every packet on a network, add time stamp data to the packets, filter out packets that are not of interest, break down the packets that are of interest by checking every bit, and then provide the user information about the packet or sequence of packets, such as packet jitter, delay, dropped or lost packets, and bit or data errors.
   The analyzer includes an acquisition memory (512 MB) and a hot-swapping line interface module (LIM). The analyzer can be connected to an automatic data processing machine.

Application of GIRs 1 and 6.
Adoption : 2011



9030.8

- Other instruments and apparatus :
9030.82

-- For measuring or checking semiconductor wafers or devices (including integrated circuits)
9030.84

-- Other, with a recording device
9030.89

-- Other
9030.90

- Parts and accessories
Heading 9031

Measuring or checking instruments, appliances and machines, not specified or included elsewhere in this Chapter; profile projectors.

EXPLANATORY NOTES

90.31 - Measuring or checking instruments, appliances and machines, not specified or included elsewhere in this Chapter; profile projectors (+).

9031.10 - Machines for balancing mechanical parts

9031.20 - Test benches

- Other optical instruments and appliances :

9031.41 - - For inspecting semiconductor wafers or devices (including integrated circuits) or for inspecting photomasks or reticles used in manufacturing semiconductor devices (including integrated circuits)

9031.49 - - Other

9031.80 - Other instruments, appliances and machines

9031.90 - Parts and accessories

In addition to **profile projectors**, this heading covers **measuring or checking instruments, appliances and machines, whether or not optical**. It should, however, be noted that this group **does not include** any instruments, apparatus, etc., falling in headings 90.01 to 90.12 or 90.15 to 90.30; in particular, the following are therefore **excluded** :

(a) Astronomical instruments of **heading 90.05**.

(b) Microscopes (**heading 90.11** or **90.12**).

(c) Surveying, etc., instruments and appliances of **heading 90.15**.

(d) Instruments for measuring length, for use in the hand (**heading 90.17**).

(e) Medical, surgical, etc., instruments and appliances of **heading 90.18**.

(f) Machines or appliances for testing the mechanical properties of materials (**heading 90.24**).

(g) Flowmeters, etc., of **heading 90.26**.

(h) Instruments and apparatus for measuring and checking electrical quantities and instruments and apparatus for measuring or detecting ionising radiations of **heading 90.30**.

(ij) Automatic regulating or controlling instruments and apparatus (**heading 90.32**).

(I) MEASURING OR CHECKING INSTRUMENTS, APPLIANCES AND MACHINES

(A)

These include :

(1) **Machines for balancing mechanical parts (dynamic, static or with an electronic balancing device)** e.g., armatures, rotors, crank shafts, connecting rods, propeller shafts, wheels, flywheels.

In dynamic machines, the parts are rotated on two bearing blocks or between centres, the out-of-balance being measured mechanically (tracing of diagrams on a recording plate, spring balance principle, etc.).

Static balancing machines operate on the tilting principle, the out-of-balance being measured on scales or dials. They differ from dynamic machines in that the part to be balanced does not rotate.

Out-of-balances are compensated either by counterweights or removal of material.

On machines fitted with an electronic balancing device, the vibrations due to unbalance are detected by a special sensitive element and are then amplified.

This heading also covers balancing machines fitted with a machine-tool (drilling-machine, for example) and used exclusively for rectifying out-of-balances.

(2) **Test benches** for engines and motors, electrical generators, pumps, speed indicators or tachometers, etc., consisting of a frame and a measuring or calibrating instrument.

(3) **Laboratory appliances** of a kind used **for testing fuels** and in particular for measuring the octane index of petroleum or the cetane index of diesel engine oils. This apparatus usually consists of an internal combustion engine, a dynamo, an ignition generator, heating resistors, measuring instruments (thermometers, pressure gauges, voltmeters, ammeters, etc.).

(4) **Apparatus for testing and regulating vehicle motors**, for checking all parts of the ignition system (coils, sparking plugs, condensers, batteries, etc.), for ascertaining the best carburettor setting (by analysing exhaust gases), or for measuring the compression in the cylinders.

(5) **Planimeters**, for measuring plane areas (e.g., on plans, diagrams, skins or hides). A tracing point combined with a measuring device follows the outline of the area to be measured.

Integrators, harmonic analysers and other instruments are based on the planimetric principle and capable of measuring other factors (e.g., volume, moments of inertia).

(6) **Head contour measurers**, used by hatters, which operate by perforating a sheet of paper.

(7) Dial indicating **comparators**, micrometric devices, electronic, opto-electronic and pneumatic sensors, whether or not automatic, as well as all devices or instruments for measuring length, angles or other geometrical quantities using such sensors. The heading also includes recording comparators, and comparators fitted with a mechanical device which conveys mass produced parts to the comparator and eliminates defective parts.

However, this heading **does not include** the dial type comparators for use in the hand described in Item (4) of Part (D) of the Explanatory Note to heading 90.17 (see exclusion (d) above).

(8) **Column-type gauges** for checking precision set squares, for checking heights or for other checks during manufacturing processes.

(9) **Sine bars and adjustable table sine bars** for checking angles.

(10) **Bubble levels**, used in numerous trades, including **micrometric adjustable levels** (bubble level with built-in micrometer), **block levels** (metal frame with two levels) used in engineering, and **liquid levels** based on the communicating vessels principle.

It should be noted that the heading **excludes** levels specialised for surveying purposes (**heading 90.15**).

(11) **Clinometers** (pointer or graticule types, clinometer-rules, clinometer-protractors) to check a level as compared with a horizontal plane, or to measure surface inclination.

However, the instruments, also called clinometers, used in surveying to gauge the height of land, are **excluded** (**heading 90.15**).

(12) **Plumb-lines**.

(13) **Spherometers** to measure the curvature of spherical surfaces (lenses, mirrors, spectacle lenses, etc.). These consist essentially of a base with three pins (at the angles of an equilateral triangle), a divided rule and a micrometric screw with feeler. Other types (opticians' lens measurers) may be fitted with a dial to indicate the curvature directly.

(14) **Checking standards**.

(15) **Multidimensional measuring equipment**, including **Co-ordinate Measuring Machines** (CMMs) used to perform dimensional checks, either manually or mechanically, on various components or parts of machines.

(16) **Opticians' centring machines** for determining and marking the axis and centre of a lens.

(17) **Micrometric standard measuring machines**, based on the micrometer principle. These consist of a fixed tailstock (with a contact indicator) and an adjustable headstock with micrometer screw.

(18) **Apparatus for measuring or detecting vibrations, expansion, shock or jarring**, used on machines, bridges, dams, etc.

(19) **Apparatus for checking textile materials**, for example, **yarn grading winding reels (warp reels)**, for obtaining a determined length of yarn or slivers, (with or without tension regulator, counter and bell); **torsiometers and torsiographs** for determining torsion of yarn; **tensiometers** for measuring tension of yarn on textile machines (warping, spool winding, spinning, etc.); **instruments for checking the regularity of yarn** by winding on a drum or board, usually comprising a device for checking the interval between windings.

(20) **Surface-finish testing instruments** and machines for gauging the condition of surface.

In mechanical or pneumatic types the gauging is done by means of a hard contact point or air jets.

In electrical types a sapphire or diamond pick-up moves across the surface to be tested and converts any irregularities of that surface into an electric potential. The vertical movements of the pick-up are converted into the electric potential by means of a piezo-electric crystal or, indirectly, by being made to vary the value of a capacitor or inductor. The electric potential is then amplified and measured. Comparison of the measurement with the readings obtained by use of selected surface roughness standards (small metal plates supplied for that purpose) give a measure of the state of the surface being tested.

(21) **Gear testing machines** using, for example, a lever amplifying system, for testing profile forms, pitch diameters, tooth spacing and rolling contact, etc. (on spur and bevel gears), lead, etc. (on helical and worm gears).

(22) **Instruments for measuring the contracting of a clay, etc., test piece** taken from a ceramic furnace during firing to determine the course of the firing (pyroscopes). These instruments are often similar to callipers but are calibrated in arbitrary units.

(23) **Instruments for measuring irregular surfaces** (such as skins and hides) by the photoelectric process. (The differences in the current from a photoelectric cell depend on how much of a uniformly lit glass sheet is covered by the opaque surface under measure.)

(24) **Instruments for measuring the diameter of yarns** by the photoelectric process as described in Item (23) above.

(25) **Instruments for continuous measurement and checking of the thickness** of metal sheets or strip in rolling mills, etc.

(26) **Ultrasonic thickness measuring instruments** which enable thickness to be ascertained by observations made from one side of the material only.

(27) **Instruments for detecting faults, fissures, cracks or other defects in materials** (bars, tubes, profiles, machined articles, such as screws, needles, etc.). These operate either by observing the cathode-ray screen diagram resulting from magnetic variations, or by direct reading of variations in magnetic permeability as indicated on a graduated scale or by the use of ultrasonic waves. The latter group includes **ultrasonic instruments for checking soldered or welded joints**, which operate on the principle that any lack of continuity in the medium through which the ultrasonic waves pass deflects the beam. Defects may be measured by either observing the attenuation of the beam or by echo methods. The observation may be made on a cathode-ray tube screen.

(28) **Special instruments for checking watches or watch parts**. These include :

(i) **Instruments for checking hairsprings**.

(ii) **Amplitude meters** for checking the amplitude of the oscillations of the balance wheel. A light beam, which is interrupted by the movement of the balance wheel, is projected on to a photoelectric cell which thus gives a measure of the amplitude.

(iii) **Oscillometers** for testing and checking complete watch movements. The watch movement is placed on a microphone, and each tick of the watch produces a potential which is amplified and applied to two electrodes. One of the electrodes is fitted with points which thus perforate a record on a paper strip.

(iv) **Instruments for the final check of the watch**. These operate on the same principle as oscillometers (recording the ticking of the watch placed on a microphone) but may also be fitted with a cathode-ray oscilloscope.

(29) **Special electrical instruments for measuring stress and strain**. They are based, for example, on the following principles :

(i) Variations in the resistance of a wire when subjected to stress (strain gauges). However, electrical resistors known as “strain gauges” fall in **heading 85.33**.

(ii) Variations of capacity between specially constructed electrodes.

(iii) Electric potentials produced by quartz or similar crystals when subjected to pressure.

This group also includes **dynamometers**, used to measure the compression or tractive force of hydraulic presses, rolling mills, material testing machines, etc., and also for load tests (aircraft). They usually consist of a metal body (cylinder, ring, etc.) to which stress is applied, and of a measuring apparatus, graduated in units of weight, which records any change in the shape of the metal body.

However, dynamometers for testing the properties of materials are **excluded** (**heading 90.24**).

(30) **Load cells** which convert changes in applied force (including weight) into proportional changes in voltage. These changes in voltage are generally detected by instruments for measuring, controlling, weighing, etc., and are expressed in the desired units.

(31) **Electronic chronographs and chronoscopes** for measuring the duration of an electric contact. These consist of a capacitor which is charged through a high resistance whilst the contact is closed; the measurement is made on a valve voltmeter calibrated in time units.

(B)

This heading also covers **optical** type measuring and checking appliances and instruments, such as :

(1) **Optical or graduated scale comparators**, for checking the dimensions of a part being manufactured against a standard piece; the movement of the feeler is magnified by an optical device (revolving mirror principle).

(2) **Comparator benches** for checking elongation, lengths, surfaces, etc. These incorporate table and frame, sliding carriage and two mounted micrometric microscopes.

(3) **Measuring benches** for large parts, thread gauges, gear cutters, threaded shafts for lathes, cross members, etc. These incorporate frame and table, viewing microscope, two micrometric microscopes and projection apparatus.

(4) **Interferometers**, for checking plane surfaces. These are based on the principle of light interference, and comprise a standard optical flat and lenses with micrometric cross wires for measuring the interference bands. But the heading **excludes** standard optical flats (**heading 90.01**), and interferometers for measuring refractive indices (**heading 90.27**).

(5) **Optical surface testers**, for gauging the condition of surfaces by means of a combination of a prism and a lens.

(6) **Apparatus equipped with rapid impulse differential feeler and optical viewer**, for photographically recording and measuring profiles and conditions of surfaces.

(7) **Alignment telescopes**, for checking straightness of benches or machine slides and measuring metallic constructions. They are operated by collimation or auto-collimation and comprise a telescope and a collimator or mirror.

(8) **Optical rules**, for measuring deviations from the plane; they incorporate a hollow rule with a prism and lens at each end, and an eyepiece micrometer incorporating a feeler.

(9) **Micrometric reading apparatus** for checking movement of tables of machine-tools; they incorporate a micrometric device for reading off millimetre graduations on individual scales.

(10) **Optical goniometers or angle gauges**, for checking sharpening angles of teeth or blades (front rake) during sharpening. They incorporate either an optical device with lens and mirrors and a dial for reading off the angle of incidence, or a shutter system forming a mirror and an adjustable eyepiece.

(11) **Focimeters**, for taking measurements of spectacle lenses.

The apparatus and instruments mentioned above remain classified in this heading whether or not they are suitable for mounting on machines.

It should, however, be noted that **heading 84.66** covers fittings for adjusting the work or tools on machine-tools or water-jet cutting machines,including “optical” fittings (e.g., “optical” dividing heads and “optical” circular tables) incorporating optical devices to assist in reading scales, in carrying out adjustments, etc.

(II) PROFILE PROJECTORS

Profile projectors, used for checking the shape and dimensions of a wide variety of objects (pieces cut to shape, gears and pinions for small-sized mechanisms, screws, screw-taps, chasers, etc.), or for examining surfaces. In the majority of these projectors, light from a lamp is concentrated into a beam by a condenser before being directed on to the specimen, which is placed on a stage. The specimen is silhouetted in the beam which, after being reflected several times, is finally projected, by a set of prisms, on to a screen which is generally built in to the projector. Some of these projectors are fitted with an intermediate stage on which a standard part is placed.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), the heading also covers parts and accessories identifiable as being suitable for use solely or principally with the machines, apparatus and instruments described above, e.g., planimeter arms, stands and checking tables for dial comparators.

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Subheading Explanatory Notes.

Subheading 9031.41

This subheading also covers optical instruments and appliances for inspecting integrated circuits andoptical instruments and appliances for inspecting photomasks or reticles used in manufacturing integrated circuits.

Subheading 9031.49

This subheading covers not only instruments and appliances which provide a direct aid or enhancement to human vision, but also other instruments and apparatus which function through the use of optical elements or processes.

9031.10

- Machines for balancing mechanical parts

9031.20

- Test benches

9031.4

- Other optical instruments and appliances :

9031.41

-- For inspecting semiconductor wafers or devices (including integrated circuits) or for inspecting photomasks or reticles used in manufacturing semiconductor devices (including integrated circuits)

9031.49

-- Other

9031.80

- Other instruments, appliances and machines

9031.90

- Parts and accessories

Heading 9032

Automatic regulating or controlling instruments and apparatus.

EXPLANATORY NOTES

90.32 - Automatic regulating or controlling instruments and apparatus.

9032.10 - Thermostats

9032.20 - Manostats

- Other instruments and apparatus :

9032.81 - - Hydraulic or pneumatic

9032.89 - - Other

9032.90 - Parts and accessories

In accordance with Note 7 to this Chapter, this heading covers :

(A) Instruments and apparatus for automatically controlling the flow, level, pressure or other variables of liquids or gases, or for automatically controlling temperature, whether or not their operation depends on an electrical phenomenon which varies according to the factor to be automatically controlled, which are designed to bring this factor to, and maintain it at, a desired value, stabilised against disturbances, by constantly or periodically measuring its actual value; and

(B) Automatic regulators of electrical quantities, and instruments or apparatus for automatically controlling non-electrical quantities, the operation of which depends on an electrical phenomenon varying according to the factor to be controlled, which are designed to bring this factor to, and maintain it at, a desired value, stabilised against disturbances, by constantly or periodically measuring its actual value.

(I) INSTRUMENTS AND APPARATUS FOR AUTOMATICALLY CONTROLLING THE FLOW, LEVEL, PRESSURE OR OTHER VARIABLES OF LIQUIDS OR GASES, OR FOR AUTOMATICALLY CONTROLLING TEMPERATURE

Automatic control apparatus for liquids or gases and apparatus for automatically controlling temperature form part of complete automatic control systems and consist essentially of the following devices :

(A) **A device for measuring** the variable to be controlled (pressure or level in a tank, temperature in a room, etc.); in some cases, a simple device which is sensitive to changes in the variable (metal or bi-metal rod, chamber or bellows containing an expanding liquid, float, etc.) may be used instead of a measuring device.

(B) **A control device** which compares the measured value with the desired value and actuates the device described in (C) below accordingly.

(C) **A starting, stopping or operating device**.

Apparatus for automatically controlling liquids or gases or temperature, within the meaning of Note 7 (a) to this Chapter, consists of these three devices forming a single entity or in accordance with Note 3 to this Chapter, a functional unit.

Some instruments and apparatus do not incorporate devices which compare the measured value with the desired value. They are directly activated by means of a switch, e.g., when the predetermined value is reached.

Instruments and apparatus for automatically controlling the flow, level, pressure and other variables of liquids or gases or for automatically controlling temperature are connected to an appliance which carries out the orders (pump, compressor, valve, furnace burner, etc.) which restores the variable (e.g., liquid measured in a tank or temperature measured in a room) to the prescribed value, or which, in the case of a safety system, for instance, stops the operation of the machine or apparatus controlled. This appliance, generally remote controlled by a mechanical, hydraulic, pneumatic or electric control, is to be classified in its own appropriate heading (pump or compressor : **heading 84.13** or **84.14**; valve : **heading 84.81**, etc.). If the automatic control apparatus is combined with the appliance which carries out the orders, the classification of the whole is to be determined under either Interpretative Rule 1 or Interpretative Rule 3 (b) (see Part (III) of the General Explanatory Note to Section XVI and the Explanatory Note to heading 84.81).

This group includes :

(A) **Pressure controllers** or **regulators**, also called **manostats**. These consist essentially of a pressure sensitive device, a controlling device which compares (e.g., by means of an adjustable spring) the pressure to be controlled with the prescribed pressure, and an electric contact or a small valve operating a servo-circuit.

This apparatus may be used, for instance, to control a motor pump or compressor which supplies a pressure tank, or to operate pneumatic valve positioners, or with a valve to regulate the flow, pressure, etc., of liquids or gases.

These pressure regulators differ from the pressure reducing valves of **heading 84.81** (sometimes also called “pressure regulators”).

(B) **Level regulators or controllers** for the automatic control of a level.

In the **float-type level controller**, the float acts on a diaphragm or a magnetic or other device which operates an electric switch; this in turn switches on or off a pump, a valve, etc.

In the **electrode system** the liquid is connected to earth and forms part of the circuit. One pole of the transformer is also earthed. When the surface of the liquid comes into contact with the electrode, the circuit is closed and a relay comes into operation.

(C) **Humidity regulators**, sometimes also called **humidistats**, are instruments for automatically controlling humidity in steaming cabinets, furnaces, workshops, warehouses, etc.

The operation depends on variations in the length of a bundle of hair or some other element sensitive to humidity and they generally operate a signalling device or control an apparatus which can modify the degree of humidity found (steam input valve, humidifier or de-humidifier, fan, etc.).

(D) **Thermostats** are used for automatically controlling temperature. The main components of a thermostat are :

(1) An element sensitive to changes in temperature whose action may depend on :

(a) The change in shape of a bi-metal strip (straight, U or spiral-shaped, etc.);

(b) The vapour pressure of a liquid;

(c) The expansion of a liquid or of a metal rod;

(d) An electrical resistor or a thermocouple.

In bi-metal strip thermostats, the strip is fixed inside a plunger tube or in a case. In metal rod thermostats, the rod fits in a plunger tube. In vapour pressure or liquid types, the sensitive element may consist of a folded diaphragm enclosing a fluid, or of a system incorporating a diaphragm, a capillary tube and a bulb or elbow.

(2) A drum, disc or other device for pre-setting the desired temperature.

(3) A triggering or operating device which consists mainly, depending on the type of transmission used (mechanical, servo-fluid, electrical), of a lever assembly, springs, etc., a valve, or an electrical switch. This device operates a signal or an appliance (generally remote) such as a steam or hot water intake valve, boiler burner, air conditioning unit, fan, etc., which regulates the temperature.

Thermostats are used, in particular, for controlling temperature in houses or other buildings, in ovens, cookers, boilers, water heaters, cold storage installations, chimneys or flues, steaming apparatus or cabinets, and other industrial or laboratory equipment.

(E) **Temperature regulators** for setting and maintaining pre-set temperatures on electrical heating appliances (cookers, grills, percolators, etc.) consist essentially of a bi-metal strip which, when deflected by the heat from a shunt resistor on the power circuit, operates a switch to make and break the power circuit, the "On" and "Off" periods (and consequently the temperature of the heating elements) being determined by the position of a manual control dial; the "Full" position renders the bi-metal assembly inoperative and thus, particularly in the initial stages of heating, permits continuous operation of the heating element.

This heading **excludes** :

(a) "Thermostatic" or "thermostat" steamers, cabinets, etc., in which the temperature is kept constant by means of a thermostat, which are to be classified in their respective headings.

(b) Thermostatically controlled valves (**heading 84.81**).

(F) **Oven-draught regulators** are used, for example, in central heating or air conditioning plants, to control automatically the air intake by reference to the temperature, pressure, etc.

(II) AUTOMATIC REGULATORS OF ELECTRICAL QUANTITIES,AND INSTRUMENTS OR APPARATUS FOR AUTOMATICALLY CONTROLLING NON-ELECTRICAL QUANTITIES THE OPERATION OF WHICH DEPENDS ON AN ELECTRICAL PHENOMENON VARYING ACCORDING

TO THE FACTOR TO BE CONTROLLED

The automatic regulators of this heading are intended for use in complete automatic control systems which are designed to bring a quantity, electrical or non-electrical, to, and maintain it at, a desired value, stabilised against any disturbances, by constantly or periodically measuring its actual value. They consist essentially of the following devices :

(A) **A measuring device** (sensing device, converter, resistance probe, thermocouple, etc.) which determines the actual value of the variable to be controlled and converts it into a proportional electrical signal.

(B) **An electrical control device** which compares the measured value with the desired value and gives a signal (generally in the form of a modulated current).

(C) **A starting, stopping or operating device** (generally contacts, switches or circuit breakers, reversing switches or, sometimes, relay switches) which supplies current to an actuator in accordance with the signal received from the control device.

An automatic regulator within the meaning of Note 7 (b) to this Chapter consists of the devices described in (A), (B) and (C) above, whether assembled together as a single entity or in accordance with Note 3 to this Chapter, a functional unit.

If they do not conform to the definitions outlined above, these devices are to be classified as follows :

(1) Electrical measuring devices generally fall in **heading 90.25, 90.26** or **90.30**.

(2) Electrical control devices are to be classified in this heading as incomplete automatically controlling instruments or apparatus.

(3) Starting, stopping or operating devices are generally to be classified in **heading 85.36** (switches, relays, etc.).

Automatic regulators are connected to an electrical, pneumatic or hydraulic actuator, which brings the controlled variable back to the desired value. This actuator may be the clamps which adjust the gap between the electrodes of an arc furnace, the motorised valve which controls the intake of water or steam in a boiler, a furnace, a pulping machine, etc.

The actuators are to be classified in their own appropriate headings (adjustable clamp : **heading 84.25**; motorised or solenoid valve : **heading 84.81**; electro-magnetic positioner : **heading 85.05**; etc.). If the automatic regulator is combined with the actuator, the classification of the whole is to be determined under either Interpretative Rule 1 or Interpretative Rule 3 (b) (see Part (III) of the General Explanatory Note to Section XVI and the Explanatory Note to heading 84.81).

Electronic regulators function on a strictly electrical principle, and not electro-mechanically. Their characteristic features are semiconductors (transistors) or integrated circuits.

These regulators are used not only for electrical quantities, such as voltage, amperage, frequency and power, but also for other quantities such as revolutions per minute, torque, traction force, level, pressure, flow or temperature.

This heading also **excludes** :

(a) Cut-outs combined, in a single housing, with a voltage regulator or a current regulator, for use in conjunction with internal combustion piston engines (**heading 85.11**).

(b) “Programmable controllers” of **heading 85.37**.

PARTS AND ACCESSORIES

Subject to the provisions of Notes 1 and 2 to this Chapter (see the General Explanatory Note), parts and accessories of apparatus or appliances of this heading remain classified here.

9032.10

- Thermostats

9032.20

- Manostats

9032.8

- Other instruments and apparatus :

9032.81

-- Hydraulic or pneumatic

9032.89

-- Other

CLASSIFICATION OPINIONS

1. System for controlling and monitoring paper during manufacture consisting generally of the following components :

(i) a scanner with a traversing sensor head, which incorporates one or more sensors and a microprocessor, the function of the sensors being to measure the product and monitor the manufacturing process;
(ii) a process support station incorporating a microprocessor, and forming a junction between the scanners and the rest of the system;
(iii) a central computer unit of heading 84.71, as control device which compares the measured values with the desired value and transmits electrical signals to the action devices in order to regulate the technical specifications of paper (e.g., thickness, moisture);
(iv) an operator station incorporating a microprocessor with video display and keyboard;
(v) a printer/plotter also incorporating a microprocessor.

Application of Note 3 to Chapter 90.

Adoption : 1982

1. System for controlling and monitoring paper during manufacture consisting generally of the following components :

(i) a scanner with a traversing sensor head, which incorporates one or more sensors and a microprocessor, the function of the sensors being to measure the product and monitor the manufacturing process;
(ii) a process support station incorporating a microprocessor, and forming a junction between the scanners and the rest of the system;
(iii) a central computer unit of heading 84.71, as control device which compares the measured values with the desired value and transmits electrical signals to the action devices in order to regulate the technical specifications of paper (e.g., thickness, moisture);
(iv) an operator station incorporating a microprocessor with video display and keyboard;
(v) a printer/plotter also incorporating a microprocessor.

Application of Note 3 to Chapter 90.

Adoption : 1982

2. Electronic frequency inverter whose primary function is to ensure the electronic speed, torque or position control of three-phase asynchronous electric motors. It is designed to be installed in electrical enclosures and used for various applications. It comes in the form of a shell, the size of which depends on its power, and has :

- a card for real-time measurement of speed, position or the torque of the drive shaft ;
- a control card ;
- a power circuit (or power unit) ;
- a dialogue interface ;
- a control/command terminal block ;
- a communication port ;
- a power terminal block ;
- an optional slot for a memory card.

Application of GIRs 1 and 6. *See also Opinion 8504.40/3.*

Adoption : 2022

9032.90

- Parts and accessories

Heading 9033

Parts and accessories (not specified or included elsewhere in this Chapter) for machines, appliances, instruments or apparatus of Chapter 90.

EXPLANATORY NOTES

90.33 - Parts and accessories (not specified or included elsewhere in this Chapter) for machines, appliances, instruments or apparatus of Chapter 90.

This heading covers all parts and accessories for machines, appliances, instruments or apparatus of this Chapter, **other than** :

(1) Those mentioned in Chapter Note 1, e.g. :

(a) Optical elements of glass, not optically worked (**Chapter 70**).

(b) Articles of a kind used in machines, appliances, instruments or apparatus, of vulcanised rubber other than hard rubber (e.g., rubber gaskets, washers and the like) (**heading 40.16**), of leather or of composition leather (e.g., leather diaphragms for gas meters) (**heading 42.05**) or of textile material (**heading 59.11**).

(c) Parts of general use, as defined in Note 2 to Section XV, of base metal (**Section XV**) or similar goods of plastics (**Chapter 39**).

(2) Those covered by Chapter Note 2 (a), which constitute in **themselves** machines, appliances, instruments or apparatus of any particular heading of **Chapter 90** or of **Chapter 84**, **85** or **91** (**other than** the residual headings 84.87, 85.48 or 90.33). It therefore follows that separately presented articles of this type must be classified in their respective headings. Examples of such goods include :

(a) Vacuum pumps (**heading 84.14**), taps or valves (**heading 84.81**), gears (**heading 84.83**).

(b) Electrical motors (**heading 85.01**), transformers (**heading 85.04**), permanent magnets and electro-magnets (**heading 85.05**), primary cells (**heading 85.06**), audio-frequency electric amplifiers (**heading 85.18**), capacitors of **heading 85.32**, resistors (**heading 85.33**), relays (**heading 85.36**), tubes or valves (**heading 85.40**), photocells of **heading 85.41**, high or intermediate frequency amplifiers (**heading 85.43**).

(c) Optical elements of **heading 90.01** or **90.02**.

(d) Photographic cameras (**heading 90.06**), thermometers and hygrometers (**heading 90.25**).

(e) Clock or watch movements (**heading 91.08** or **91.09**).

(3) Those identifiable as suitable for use solely or principally with a particular kind of machine, appliance, instrument or apparatus, or with a number of machines, appliances, instruments or apparatus of the same heading of this Chapter; these are classifiable, by application of Chapter Note 2 (b), in the same heading as the relevant machines, appliances, instruments or apparatus.

9033.00

Parts and accessories (not specified or included elsewhere in this Chapter) for machines, appliances, instruments or apparatus of Chapter 90.

CLASSIIFCATION OPINIONS

1. Ball bearing control cables :

Not identifiable as suitable for use solely or principally with a particular machine, apparatus or vehicle :

Equally suitable for use on several instruments or apparatus of Ch. 90.

See also Opinions Sect. XVI/1, 8487.90/2. and Sect. XVII/1.

Adoption : 1962

Chapter 91

Clocks and watches and parts thereof

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Clock or watch glasses or weights (classified according to their constituent material);

(b) Watch chains (heading 71.13 or 71.17, as the case may be);

(c) Parts of general use defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39) or of precious metal or metal clad with precious metal (generally heading 71.15); clock or watch springs are, however, to be classified as clock or watch parts (heading 91.14);

(d) Bearing balls (heading 73.26 or 84.82, as the case may be);

(e) Articles of heading 84.12 constructed to work without an escapement;

(f) Ball bearings (heading 84.82); or

(g) Articles of Chapter 85, not yet assembled together or with other components into watch or clock movements or into articles suitable for use solely or principally as parts of such movements (Chapter 85).

2.- Heading 91.01 covers only watches with case wholly of precious metal or of metal clad with precious metal, or of the same materials combined with natural or cultured pearls, or precious or semi-precious stones (natural, synthetic or reconstructed) of headings 71.01 to 71.04. Watches with case of base metal inlaid with precious metal fall in heading 91.02.

3.- For the purposes of this Chapter, the expression “watch movements” means devices regulated by a balance-wheel and hairspring, quartz crystal or any other system capable of determining intervals of time, with a display or a system to which a mechanical display can be incorporated. Such watch movements shall not exceed 12 mm in thickness and 50 mm in width, length or diameter.

4.- Except as provided in Note 1, movements and other parts suitable for use both in clocks or watches and in other articles (for example, precision instruments) are to be classified in this Chapter.

EXPLANATORY NOTES

Chapter 91

Clocks and watches and parts thereof

Notes.

1.- This Chapter does not cover :

(a) Clock or watch glasses or weights (classified according to their constituent material);

(b) Watch chains (heading 71.13 or 71.17, as the case may be);

(c) Parts of general use defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39) or of precious metal or metal clad with precious metal (generally heading 71.15); clock or watch springs are, however, to be classified as clock or watch parts (heading 91.14);

(d) Bearing balls (heading 73.26 or 84.82, as the case may be);

(e) Articles of heading 84.12 constructed to work without an escapement;

(f) Ball bearings (heading 84.82); or

(g) Articles of Chapter 85, not yet assembled together or with other components into watch or clock movements or into articles suitable for use solely or principally as parts of such movements (Chapter 85).

2.- Heading 91.01 covers only watches with case wholly of precious metal or of metal clad with precious metal, or of the same materials combined with natural or cultured pearls, or precious or semi-precious stones (natural, synthetic or reconstructed) of headings 71.01 to 71.04. Watches with case of base metal inlaid with precious metal fall in heading 91.02.

3.- For the purposes of this Chapter, the expression “watch movements” means devices regulated by a balance-wheel and hairspring, quartz crystal or any other system capable of determining intervals of time, with a display or a system to which a mechanical display can be incorporated. Such watch movements shall not exceed 12 mm in thickness and 50 mm in width, length or diameter.

4.- Except as provided in Note 1, movements and other parts suitable for use both in clocks or watches and in other articles (for example, precision instruments) are to be classified in this Chapter.

GENERAL

This Chapter covers certain apparatus designed mainly for measuring time or for effecting some operation in relation to time. It includes timepieces suitable for carrying on the person (watches and stop-watches), other timepieces (ordinary clocks, clocks with watch movements, alarm clocks, marine chronometers, clocks for motor vehicles, etc.), and also time recording apparatus, time interval measuring instruments and time switches; in general, it also covers parts of these articles.

The articles of this Chapter may be of any material (including precious metals) and they may be decorated or trimmed with natural or cultured pearls, or natural, synthetic or reconstructed precious or semi-precious stones (see the Explanatory Notes to headings 91.11 and 91.12).

The classification of clocks and watches combined with some other object (an article of furniture, a lamp, inkstand, paperweight, writing-pad, tobacco jar, cigarette or cigar lighter, handbag, powder compact, cigarette case, propelling-pencil, walking-stick, etc.) is governed by the Rules for the Interpretation of the Nomenclature. The mere inclusion of internal lighting does not remove clocks or watches from this Chapter.

In addition to the exclusions specified in the Explanatory Note to each heading, this Chapter **excludes**, *inter alia* :

(a) Sundials and hour-glasses (classified according to their constituent material).

(b) Musical automatons (mechanical singing birds and the like) and musical boxes without time dials (**heading 92.08**).

(c) Toy clocks and watches and Christmas tree accessories in the form of clocks or watches, such as those without clock or watch movements (**heading 95.03** or **95.05**).

(d) Automata and other animated displays of a kind used for shop window dressing (**heading 96.18**).

(e) Works of art, collectors' pieces, and antiques (**Chapter 97**).

A clock or watch is composed of two main parts : the **movement** and the **container** for the movement (case, cabinet, etc.).

Mechanical watch or clock movements consist of the following parts :

(1) The **body or frame** usually consists of the plate and the bridges. The plate, to which the bridges are fixed by screws and pins, is the basic support of the movement. Some bodies or frames incorporate, apart from the bridges and the plate proper, one or more additional plates (called, for example, dial plate, lower plate cover) intended to hold in place certain parts of the movement (motion work, alarm mechanism, etc.).

(2) The **device which drives the movement**, usually consisting of weights or springs; the source of energy may also be electricity, or changes in temperature or atmospheric pressure.

(3) The **train**, i.e., the succession of toothed wheels which connects the driving device to the escapement and enables time to be measured.

(4) The **motion work**, i.e., the series of parts which links the motion of the minute hand to that of the hour hand. In movements with a dial plate, the motion work is generally located between the dial plate and the plate.

(5) The **escapement**; this provides the pendulum or balance and hairspring with the necessary energy and ensures that the motion of the train is controlled.

The most usual types of escapement are the anchor or lever, the pin-pallet, the cylinder and the detent.

(6) The **regulating device**; this regulates the motion produced by the driving mechanism. It consists of a pendulum, a balance-wheel and hairspring combination, a tuning fork, a piezo-electric quartz crystal or any other system capable of determining intervals of time.

(7) The **winding and hand setting mechanism** (operated by a push piece, a draw piece, or a rocking bar, etc.).

The assembled movement, together with the dial and hands, is fitted in the container or case.

The balance-wheel, the escapement parts and the train parts are finely pivoted. In the cheaper types of clocks and watches, they are pivoted directly in the metal of the plate and bridges, but in better instruments the bearings are jewelled to resist wear.

Clocks and watches may be equipped with a striking work, an alarm mechanism or a set of chimes. Each of these devices requires a special movement.

Mechanical clocks and watches may be wound by hand, by electricity or automatically.

*

* *

The apparatus of this Chapter may be electrical (including electronic), e.g. :

(A) **Clocks using a dry battery or an accumulator with a low running reserve** (of the order of a few minutes). These clocks have a conventional balance-wheel and hairspring combination or a pendulum, the spring being periodically rewound by an electro-magnet.

(B) **Clocks connected to the mains, with a high running reserve** (several hours). These are also equipped with a normal balance-wheel and hairspring combination or pendulum, the spring or weight being rewound periodically by an electric motor (synchronous, induction, etc.).

(C) **Pendulum clocks driven from a dry battery, an accumulator or the mains**; the pendulum is kept swinging by means of an electro-magnetic device.

(D) **Clocks and watches powered by a dry battery or an accumulator**, with a **regulating device** (tuning fork, piezo-electric quartz crystal, etc.) which is kept oscillating by an **electronic circuit**.

(E) **Synchronous motor clocks**. These are connected to a controlled frequency current and therefore consist solely of the motor and the train, without a controlling device.

Electric clock systems are dealt with more specifically in the Explanatory Note to heading 91.05.

Some electric clocks are equipped with devices for setting them to the correct time by remote control.

*

* *

For the purposes of Note 3 to this Chapter, which defines watch movements, the following methods of measurement apply :

(a) **Measurement of thickness**

The thickness of a movement is the distance from the outer plane of the dial support (or the visible surface of the display if the latter is incorporated in the movement) to the furthest opposite outer plane, without taking account of any screws, nuts or other fixed parts projecting beyond that plane.

(b) **Measurement of width, length or diameter**

As appropriate, the width, length or diameter (which are determined by their axis of symmetry) is to be measured without taking the winding spindle or crown into consideration.

Heading 9101

Wrist-watches, pocket-watches and other watches, including stop-watches, with case of precious metal or of metal clad with precious metal.

EXPLANATORY NOTES

91.01 - Wrist-watches, pocket-watches and other watches, including stop-watches, with case of precious metal or of metal clad with precious metal.

- Wrist-watches, electrically operated, whether or not incorporating a stop-watch facility :

9101.11 - - With mechanical display only

9101.19 - - Other

- Other wrist-watches, whether or not incorporating a stop-watch facility :

9101.21 - - With automatic winding

9101.29 - - Other

- Other :

9101.91 - - Electrically operated

9101.99 - - Other

The Explanatory Note to heading 91.02 applies, *mutatis mutandis*, to this heading.

In accordance with Note 2 to this Chapter, watches of this heading must have cases wholly of precious metal or of metal clad with precious metal. They may be set with gem stones or with natural or cultured pearls and may be fitted with a cover or have a bracelet of precious metal (gem set or not).

In accordance with Note 7 to Chapter 71, the expression “metal clad with precious metal” means material made with a base of metal upon one or more surfaces of which there is affixed, by soldering, brazing, welding, hot-rolling or similar mechanical means, a covering of precious metal.

However, watches with case of precious metal or of metal clad with precious metal, having a steel back, fall in **heading 91.02**, as do watches with case of base metal inlaid with precious metal.

9101.1

- Wrist-watches, electrically operated, whether or not incorporating a stop-watch facility :

9101.11

-- With mechanical display only

9101.19

-- Other

9101.2

- Other wrist-watches, whether or not incorporating a stop-watch facility :

9101.21

-- With automatic winding

9101.29

-- Other

9101.9

- Other :

9101.91

-- Electrically operated

9101.99

-- Other

Heading 9102

Wrist-watches, pocket-watches and other watches, including stop-watches, other than those of heading 91.01.

EXPLANATORY NOTES

91.02 - Wrist-watches, pocket-watches and other watches, including stop-watches, other than those of heading 91.01.

- Wrist-watches, electrically operated, whether or not incorporating a stop-watch facility :

9102.11 - - With mechanical display only

9102.12 - - With opto-electronic display only

9102.19 - - Other

- Other wrist-watches, whether or not incorporating a stop-watch facility :

9102.21 - - With automatic winding

9102.29 - - Other

- Other :

9102.91 - - Electrically operated

9102.99 - - Other

This heading covers mechanical and electrical (mostly electronic) timekeeping instruments with case and movement, of a kind intended to be worn or carried and designed to function in all positions, which indicate the time or measure intervals of time, regardless of the thickness of the movement. These include wrist-watches, pocket-watches, fob-watches, watches for carrying in handbags, watches mounted in brooches, rings, etc.

However, timepieces incorporating a stand, however simple, should not be regarded as watches.

The heading covers not only watches with simple movements but also those with complex systems (i.e., incorporating extra elements in addition to those for simply indicating hours, minutes and seconds), for example, chronograph watches, alarm watches, repeaters and striking watches, automatic watches, calendar watches and watches indicating the working reserve.

The heading includes fancy or special-feature watches, such as watertight, shock-proof or antimagnetic watches; eight-day watches; self-winding watches; watches with luminous dials and hands; watches with centre-seconds hands or special dials; handless watches; sports watches (e.g., watches for skin divers, with built-in depth indicator); Braille watches.

Chronometer watches are high precision watches which have been tested in different positions and at variable temperatures. This group also includes **deck watches, but not** marine chronometers and the like (**heading 91.05**).

Chronograph watches not only show the time of day but can also be used to measure comparatively short periods of time. Those with hands have two special hands in addition to the usual three hands (for hours, minutes and seconds), i.e., a centre-seconds hand, which makes one complete revolution per minute and can be started, stopped and brought back to zero by means of a pendant or knob, and a hand which records how many minutes the centre-seconds hand has been in operation. Certain chronograph watches have a further seconds hand.

The heading also covers **stop-watches**. Those with hands differ from the chronograph watches described above in that they do not have the usual hour, minute and seconds hands, but only the centre-seconds hand (with or without a further seconds hand) and theminute recording hand. However, electronic stop watches frequently have a subsidiary facility to indicate the time of day.

Chronograph watches and stop-watches may mark fifths, tenths, hundredths and thousandths of a second. They are sometimes equipped with special devices so that the speed of a runner, a motor vehicle, sound, etc., the pulse rate, the output of a machine, etc., can be determined without calculation. Certain of these may also have devices for recording the time.

Wrist-straps presented with their watches (whether or not attached) are classified in this heading.

The heading **excludes** the following when separately presented : watch cases and parts of watch cases (**heading 91.11**), watch movements (**heading 91.08** or **91.10**), watch straps, watch bands and watch bracelets (**heading 91.13**) and parts of movements (generally **heading 91.10** or **91.14**).

The heading further **excludes** :

(a) Pedometers (**heading 90.29**).

(b) Clocks with watch movements (**heading 91.03**).

(c) Instrument panel clocks and clocks of a similar type, for vehicles, aircraft, spacecraft or vessels (**heading 91.04**).

9102.1

- Wrist-watches, electrically operated, whether or not incorporating a stop-watch facility :
9102.11

-- With mechanical display only
9102.12

-- With opto-electronic display only
9102.19

-- Other
9102.2

- Other wrist-watches, whether or not incorporating a stop-watch facility :
9102.21

-- With automatic winding
9102.29

-- Other
9102.9

- Other :
9102.91

-- Electrically operated
9102.99

-- Other
Heading 9103

Clocks with watch movements, excluding clocks of heading 91.04.
EXPLANATORY NOTES

91.03 - Clocks with watch movements, excluding clocks of heading 91.04.

9103.10 - Electrically operated

9103.90 - Other

This heading covers clocks (including alarm clocks but **excluding** clocks of **heading 91.04**) **provided** they are equipped with watch movements, and are essentially constructed for indicating the time of day. Under Chapter Note 3, the expression “watch movements” in this heading means devices regulated by a balance-wheel and hairspring, quartz crystal or any other system capable of determining intervals of time, with a display or a system to which a mechanical display can be incorporated. Such watch movements shall not exceed 12 mm in thickness and 50 mm in width, length or diameter.

It should however be noted that the heading **excludes** :

(a) Instrument panel clocks and clocks of a similar type, for vehicles, aircraft, spacecraft or vessels; these are classified in **heading 91.04** regardless of the type or thickness of the movement.

(b) Clocks (including alarm clocks) which do not satisfy the conditions specified in the first paragraph, for example, pendulum clocks, clocks with any other regulating system capable of determining intervals of time and exceeding 12 mm in thickness or exceeding 50 mm in width, length or diameter and clocks with movements without a regulating system (e.g., driven by synchronous motor). These fall in **heading 91.05**.

Alarm clocks are equipped with a striking mechanism (usually with the clock case acting as gong) which is set off at a given time of day fixed in advance by means of a special hand. The striking mechanism is sometimes replaced by a musical device.

Providedthey have watch movements, the heading covers, *inter alia* :

(i) Household or office clocks (including alarm clocks) on feet, on stands, etc.

(ii) Travelling clocks with cases.

(iii) Calendar clocks.

(iv) Eight-day clocks.

(v) Clocks which strike the hours.

(vi) Clocks with luminous dials and hands.

The heading **excludes** the following when separately presented : movements (**heading 91.08** or **91.10**), clock cases (**heading 91.12**) and parts of movements (generally **heading 91.10** or **91.14**).

9103.10

- Electrically operated

9103.90

- Other

Heading 9104

Instrument panel clocks and clocks of a similar type for vehicles, aircraft, spacecraft or vessels.

EXPLANATORY NOTES

91.04 - Instrument panel clocks and clocks of a similar type for vehicles, aircraft, spacecraft or vessels.

This heading covers all clocks, complete with case and movement, specially constructed for mounting in the instrument panels, steering wheels, rear-view mirrors, etc., of vehicles (motor vehicles, motor bicycles, etc.), aircraft, spacecraft or vessels, regardless of the type and thickness of the movement. They are usually electric (mostly electronic) clocks, self-winding clocks, or mechanical eight-day clocks.

The heading also covers **vehicle chronographs**, which, in addition to the usual hands, have a chronograph hand, a minute recording hand and a running-time recorder.

The heading **excludes** the following when presented separately : movements (**headings 91.08 to 91.10**), clock cases (**heading 91.12**) and parts of movements (generally **heading 91.10** or **91.14**).

9104.00

Instrument panel clocks and clocks of a similar type for vehicles, aircraft, spacecraft or vessels.

Heading 9105

Other clocks.

EXPLANATORY NOTES

91.05 - Other clocks.

- Alarm clocks :

9105.11 - - Electrically operated

9105.19 - - Other

- Wall clocks :

9105.21 - - Electrically operated

9105.29 - - Other

- Other :

9105.91 - - Electrically operated

9105.99 - - Other

This heading covers timekeepers, **not** classified elsewhere in the Chapter, essentially constructed for indicating the time of day; they must, therefore, have **movements other than watch movements**. Clocks and alarm clocks with watch movements (as defined by Chapter Note 3) are **excluded** (**heading 91.03**).

The clocks classified here may be weight, spring, electrically or electronically operated; they are generally regulated by a pendulum, a balance-wheel and hairspring, a tuning fork or a piezo-electric quartz crystal. They are often equipped with a striking mechanism (hours, half-hours, or quarters) acting on a bell or gong, or a multi-gong chiming mechanism.

Subject to the above conditions, the heading includes :

Public clocks; clocks for shops, the home, etc.; period clocks; special regional forms of fancy clocks (Neuchâtel clocks, Paris clocks, cuckoo-clocks, Westminster chiming clocks, etc.); “marionette” clocks; coin-operated clocks; astronomical or observatory clocks; self-winding clocks (wound, for example, by variations of temperature or atmospheric pressure); alarm clocks; centre-seconds clocks; electronic clocks; piezo-electric quartz crystal clocks.

The heading also includes **clocks for electric clock systems** as used in towns, factories, telephone exchanges, stations, airports, banks, hotels, schools, hospitals, etc. These systems consist of a precision-regulated master clock and the secondary clocks which it drives by remote control. The **master clock** has usually a mechanical or electrical movement and a contact device for transmitting the driving impulses to the secondary clocks. The **secondary clocks**, indicating the hours and minutes, receive their driving impulses at the end of each minute or half-minute. They have an electro-magnet with a rotating or oscillating armature which actuates the train and the motion work; each impulse from the master clock advances the minute hand by one minute or half-minute. The train may also be driven by an electrically wound spring or directly by an electric motor. Seconds-indicating secondary clocks are provided with centre-seconds hands in addition to the hour and minute hands. In this case, the master clock must have a special device emitting impulses each second, besides the minutes contact. It should, however, be noted that the heading **excludes** secondary clocks with only minute and seconds hands or with seconds hands alone (for regulating watches, etc.); these fall in **heading 91.06**.

Secondary clocks may be used indoors or outdoors, may have two or more dials, and may be designed for placing on a flat surface such as a table.

Master clocks sometimes control other electric appliances, such as time-registers, watchmen's tell-tales, switching appliances, recorders, signals (bells, sirens, lamps), beacons or ground-lights.

The heading also includes groups of mains-driven synchronous clocks, and pneumatic installations operated by compressed air, used for relaying and synchronising time.

The heading also covers **marine or similar chronometers**, i.e., high precision stationary timepieces, mainly designed for keeping time on ships though some are also used for scientific purposes. These instruments are generally larger than chronometer watches and are fitted in boxes; they may or may not be mounted in gymbals. They usually run either two or eight days at one winding, and generally have a detent escapement, a fusee, a device for converting the force of the mainspring into constant pressure, and a working reserve indicator.

The heading **excludes** the following when presented separately : clock cases (**heading 91.12**), movements (**heading 91.09** or **91.10**) and parts of movements (generally **heading 91.10** or **91.14**).

The heading further **excludes** :

(a) Deck watches (**heading 91.01** or **91.02**).

(b) Instrument panel clocks and clocks of a similar type, for vehicles, aircraft, spacecraft or vessels (**heading 91.04**).

9105.1

- Alarm clocks :

9105.11

-- Electrically operated

9105.19

-- Other

9105.2

- Wall clocks :

9105.21

-- Electrically operated

9105.29

-- Other

9105.9

- Other :

9105.91

-- Electrically operated

9105.99

-- Other

Heading 9106

Time of day recording apparatus and apparatus for measuring, recording or otherwise indicating intervals of time, with clock or watch movement or with synchronous motor (for example, time-registers, time-recorders).

EXPLANATORY NOTES

91.06 - Time of day recording apparatus and apparatus for measuring, recording or otherwise indicating intervals of time, with clock or watch movement or with synchronous motor (for example, time-registers, time-recorders).

9106.10 - Time-registers; time-recorders

9106.90 - Other

Provided they are operated by a movement of the watch or clock type (including secondary or synchronous motor clock movements) or by a synchronous motor with or without reduction gear, this heading covers :

(i) A wide range of apparatus for recording the time of day at which some action or operation is effected;

and (ii) Apparatus, **not** elsewhere specified, for measuring, recording or otherwise indicating intervals of time.

Such apparatus may have dials indicating hours, minutes or seconds. However, certain instruments of this heading, such as time-registers, watchmen's tell-tales and pigeon-timers, are sometimes constructed without dials.

The heading includes :

(1) **Time-registers** for recording the arrival and departure of employees in factories, workshops, etc. These consist of a case containing a clock, a date marker actuated by the clock movement, a hammer and an inking ribbon. The employee inserts his card in the machine and operates the hammer either mechanically or electrically, thus stamping the card with the exact date, hour and minute. The number of hours he has been present can then be calculated from the card. Mechanical eight-day clocks and electric clocks are most commonly used. They may be independent, connected to a master clock or themselves serve as master clocks. In the last case,

they sometimes set off a striking mechanism or a siren (see the Explanatory Note to heading 91.05).

(2) **Time-recorders** similar to the time-registers described in (1) above but marking also the month, the year, a serial number or other indications; some of these instruments are also equipped with a device for totalling up working hours (e.g., per day or per week). These instruments are also used for stamping mail or accounting documents, dating costing slips, etc.

(3) **Watchmen's tell-tales**, usually portable. These have a clock movement actuating a paper dial or a dating appliance. By means of a special key, the watchman records his periodical visits (hour, minute, number of post) at the control points by perforating or stamping the revolving dial, or by printing with an inking tape on a paper strip.

(4) **Pigeon-timers** for recording the arrival of homing pigeons at the end of a race. These are portable cases containing a clock, a drum for the rings and a device which marks the day, hour, minute and second of arrival either by printing on a tape, or by perforating a disc or paper band.

(5) **Master frequency control instruments** used with systems of synchronous motor clocks, time switches, etc. These instruments have a dial indicating the standard time, the time of the synchronous motor clock and the time difference between the two. They consist essentially of a mechanism for indicating the time differences, a secondary clock movement, controlled by a master clock and indicating the standard time, a synchronous motor clock movement and various contact, signalling or regulating devices.

(6) **Timers** for measuring the duration of short-lived phenomena limited by opening and closing electric contacts. These timers are used for checking electricity supply meters, for measuring the speed of human reactions, etc. Their principal parts are a synchronous motor, an electro-magnetic coupling and a meter with a dial indicating seconds and hundredths of seconds; the whole is contained in a case. When the instrument is in operation, the synchronous motor runs continuously and is coupled to the meter for the duration of the phenomenon.

Electric or electronic timers without a movement of the clock type or a synchronous motor are **excluded** (**heading 90.31**).

(7) **Table or stadium timers for sporting events**, indicating time of arrival or playing time in minutes and seconds.

Stadium clocks with clock dials are, however, **excluded** (**heading 91.05**).

(8) **Stop-clocks and other timers used for measuring the duration of some processes**. These have a seconds dial, a dial for totalling minutes, and a lever for starting and stopping.

(9) **Timers for registering the duration of telephone conversations**; these operate like stop-clocks and may have a striking mechanism.

(10) **Time-recorders for sporting events**, with synchronous motor movement, usually controlled by a quartz crystal oscillator. These can record time correctly to one hundredth of a second, and also the order of arrival or departure; they may operate either photographically, or by printing on or perforating a paper tape moving at constant speed.

Items of auxiliary sporting timekeeping apparatus (stands and holders for timers, starting gates, photoelectric cell devices, acoustical, electric or radio telegraphic transmission instruments, etc.) are classified in their own appropriate headings.

(11) **Process timers** for short periods of time. These ring a bell after a given number of minutes (usually up to 60); they are equipped with an alarm movement and a dial normally bearing the figures 0-10, 0-30 or 0-60. They are used in all fields where the duration of a process must be controlled.

However, time switches, which differ from process timers in that instead of actuating a striking system at a given time, they "make" or "break" an electric circuit, are **excluded** (**heading 91.07**).

(12) **Secondary clocks** (operated by a master clock) with only minute and seconds hands or with seconds hands alone (for regulating watches, etc.).

(13) **Billiards meters** which employ a clock movement to indicate the time in play or the amount payable based on that time.

(14) **Time clocks for chess-players**, consisting of two clock or watch movements with dials indicating time in hours and minutes, and two buttons or levers by which the movements can be started and stopped.

The heading **excludes** the following when presented separately : cases for the apparatus described above (classified either in **heading 91.12** or in their respective headings, see the Explanatory Note to heading 91.12), watch or clock movements (**headings 91.08** to **91.10**), and parts of such movements (generally **heading 91.10** or **91.14**).

The heading also **excludes** :

(a) Instruments and apparatus of **Chapter 90**, whether or not having a movement of the watch or clock type, but not equipped with a time dial, such as recording tide gauges and seismographs (**heading 90.15**), barographs and thermographs (**heading 90.25**), manometers (**heading 90.26**), gas, liquid or electricity supply or production meters (**heading 90.28**), revolution counters, production counters, speed indicators, tachometers, taximeters, pedometers and instruments and apparatus for measuring short time intervals by counting (**heading 90.29**), opisometers (**heading 90.31**).

(b) Chronometer watches, chronograph watches and stop-watches (**heading 91.01** or **91.02**).

(c) Metronomes (**heading 92.09**).

9106.10

- Time-registers; time-recorders

9106.90

- Other

Heading 9107

Time switches with clock or watch movement or with synchronous motor.

EXPLANATORY NOTES

91.07 - Time switches with clock or watch movement or with synchronous motor.

This heading covers devices which do **not** have the character of clocks of heading 91.05, but are mainly designed to make or break electric circuits automatically at given times, usually at times determined according to a previously established daily or weekly programme. To be included in this heading these devices **must have** a movement of the watch or clock type (including secondary or synchronous motor clock movements) or a synchronous motor with or without reduction gear.

Time switches are used for the control of lighting circuits (for public places, shop windows, staircases, illuminated signs, etc.), heating circuits (water heaters, etc.), cooling installations, pumps, two-rate electricity supply meters, etc. They consist essentially of a mechanical or electric movement of the watch or clock type or a synchronous motor, usually a dial with or without hands, a time-regulating device (levers and pins), together with systems of driving relays, switches and commutators. The whole is enclosed in a case with terminals. The dial is usually marked in hours and sometimes also in days and months; levers or pins around its periphery actuate the contact devices at the desired times.

Time switches may be set in action by thermostats, pressure regulators, water level regulators, etc.

The heading also includes **switches for making and breaking the circuit supplying electrical apparatus** (television receivers, irons, washing machines, billiard table lights, etc.), switching on when coins are inserted and switching off through the action of a synchronous motor, the interval being determined by the number of coins inserted.

The heading **excludes** the following when presented separately : cases for the devices described above (classified either in **heading 91.12** or in their respective headings, see the Explanatory Note to heading 91.12), watch or clock movements (**headings 91.08 to 91.10**) and parts of such movements (generally **heading 91.10** or **91.14**).

9107.00

Time switches with clock or watch movement or with synchronous motor.

Heading 9108

Watch movements, complete and assembled.

EXPLANATORY NOTES

91.08 - Watch movements, complete and assembled.

- Electrically operated :

9108.11 - - With mechanical display only or with a device to which a mechanical display can be incorporated

9108.12 - - With opto-electronic display only

9108.19 - - Other

9108.20 - With automatic winding

9108.90 - Other

This heading applies to assembled watch movements without cases, that is to say, complete and ready for use. These movements may be of five principal types :

(1) mechanical movements;

(2) electronic movements of the balance-spring type;

(3) electronic movements with a flexural resonator (tuning fork);

(4) quartz movements with an analogue time display (hands);

(5) quartz movements with an electronic digital time display (light-emitting diodes (LED) or liquid crystal display (LCD)).

Mechanical or electronic movements with an analogue time display may be presented without dial or hands. In electronic (*solid state*) movements with a digital time display, the display cell forms an integral part of the movement; without it the movement cannot function and hence cannot be regarded as complete and assembled within the meaning of this heading.

Under Chapter Note 3, the expression “watch movements” in this heading means devices regulated by a balance-wheel and hairspring, quartz crystal or any other system capable of determining intervals of time, with a display or a system to which a mechanical display can be incorporated. Such watch movements shall not exceed 12 mm in thickness and 50 mm in width, length or diameter. These movements are therefore mainly intended for the watches and clocks of headings 91.01 to 91.03, but they remain classified here even if for incorporation in other articles of this Chapter or even in instruments or apparatus of other Chapters (measuring or precision instruments, pedometers, explosive devices, etc.).

The heading **excludes** movements not conforming to the above conditions (**heading 91.09** or **91.10**), and spring-operated motors of **heading 84.12**.

The movements of this heading may be unpolished, polished, nickel-plated, rhodium-plated, silvered, gilded, varnished, etc.

Battery or accumulator powered watch movements are classified in this heading, whether or not the battery or accumulator is present.

91.08 - Watch movements, complete and assembled.

- Electrically operated :

9108.11 - - With mechanical display only or with a device to which a mechanical display can be incorporated

9108.12 - - With opto-electronic display only

9108.19 - - Other

9108.20 - With automatic winding

9108.90 - Other

This heading applies to assembled watch movements without cases, that is to say, complete and ready for use. These movements may be of five principal types :

(1) mechanical movements;

(2) electronic movements of the balance-spring type;

(3) electronic movements with a flexural resonator (tuning fork);

(4) quartz movements with an analogue time display (hands);

(5) quartz movements with an electronic digital time display (light-emitting diodes (LED) or liquid crystal display (LCD)).

Mechanical or electronic movements with an analogue time display may be presented without dial or hands. In electronic (*solid state*) movements with a digital time display, the display cell forms an integral part of the movement; without it the movement cannot function and hence cannot be regarded as complete and assembled within the meaning of this heading.

Under Chapter Note 3, the expression “watch movements” in this heading means devices regulated by a balance-wheel and hairspring, quartz crystal or any other system capable of determining intervals of time, with a display or a system to which a mechanical display can be incorporated. Such watch movements shall not exceed 12 mm in thickness and 50 mm in width, length or diameter. These movements are therefore mainly intended for the watches and clocks of headings 91.01 to 91.03, but they remain classified here even if for incorporation in other articles of this Chapter or even in instruments or apparatus of other Chapters (measuring or precision instruments, pedometers, explosive devices, etc.).

The heading **excludes** movements not conforming to the above conditions (**heading 91.09** or **91.10**), and spring-operated motors of **heading 84.12**.

The movements of this heading may be unpolished, polished, nickel-plated, rhodium-plated, silvered, gilded, varnished, etc.

Battery or accumulator powered watch movements are classified in this heading, whether or not the battery or accumulator is present.

9108.1

- Electrically operated :

9108.11

-- With mechanical display only or with a device to which a mechanical display can be incorporated

9108.12

-- With opto-electronic display only

9108.19

-- Other

9108.20

- With automatic winding

9108.90

- Other

Heading 9109

Clock movements, complete and assembled.

EXPLANATORY NOTES

91.09 - Clock movements, complete and assembled.

9109.10 - Electrically operated

9109.90 - Other

This heading covers all assembled movements of the clock type, that is to say, complete and ready for use; those having an analogue time display device (hands) may be with or without dial or hands.

The movements of this heading are mainly intended for the goods of headings 91.04 to 91.07, but they remain classified here even if meant for incorporation in instruments or apparatus of other Chapters (measuring or precision instruments, meters, explosive devices, etc.).

The heading **excludes** :

(a) Spring-operated or weight-operated motors, etc., not fitted, nor adapted to be fitted, with escapements, of **heading 84.12** (e.g., those for operating musical boxes).

(b) Watch movements as defined in Chapter Note 3 (see the Explanatory Note to **heading 91.08**).

The heading therefore covers, *inter alia*, movements regulated by a balance-wheel and hairspring or by any other regulating system capable of determining intervals of time, and exceeding 12 mm in thickness or 50 mm in width, length or diameter; pendulum movements; electrical clock movements, with or without regulators (secondary clock movements, synchronous clock movements, etc.).

To be classified here, synchronous and secondary clock movements **must** incorporate, in addition to the synchronous motor or the electro-magnet, a clock train, i.e., a train containing parts such as the first, second, third and fourth wheel, the minute wheel and hour wheel. Separately presented electro-magnets and synchronous motors are classified in their own appropriate headings, whether or not they are equipped with reduction gears regulating the speed of the shaft.

These clock movements may be unpolished, polished, nickel-plated, rhodium-plated, silvered, gilded, varnished, etc.

9109.10

- Electrically operated

9109.90

- Other

Heading 9110

Complete watch or clock movements, unassembled or partly assembled (movement sets);

incomplete watch or clock movements, assembled; rough watch or clock movements.

EXPLANATORY NOTES

91.10 - Complete watch or clock movements, unassembled or partly assembled (movement sets); incomplete watch or clock movements, assembled; rough watch or clock movements.

- Of watches :

9110.11 - - Complete movements, unassembled or partly assembled (movement sets)

9110.12 - - Incomplete movements, assembled

9110.19 - - Rough movements

9110.90 - Other

Movement set (chablon) means a **complete set** of the components of a watch or clock movement, unassembled or partly assembled (marketed in this form). In the case of mechanical display movements, the dial and hands may or may not be included.

Incomplete mechanical watch or clock movement means a movement which is mounted but lacks certain parts other than the dial, hands or winding spindle (e.g., the escapement or the barrel bridge).

Incomplete fully electronic watch or clock movement means a movement which is mounted but lacks certain parts other than the battery (e.g., the display, part of the electronic circuit or components thereof).

Incomplete electronic watch or clock movement with mechanical display means a movement which is mounted but lacks certain parts other than the dial, hands, setting spindle or battery (e.g., the electronic circuit or components thereof, the motor).

Rough watch or clock movement means the unassembled parts of a watch or clock movement consisting of the plate (and any additional plates), bridges, train, motion work, winding and setting mechanism, and additional mechanisms such as automatic winding device, calendar mechanisms, chronograph, alarm, etc., but without escapement, balance-wheel and hairspring or other regulating device, mainspring, dial or hands. These may be presented with or without a barrel.

9110.1

- Of watches :

9110.11

-- Complete movements, unassembled or partly assembled (movement sets)

9110.12

-- Incomplete movements, assembled

9110.19

-- Rough movements

9110.90

- Other

Heading 9111

Watch cases and parts thereof.

EXPLANATORY NOTES

91.11 - Watch cases and parts thereof.

9111.10 - Cases of precious metal or of metal clad with precious metal

9111.20 - Cases of base metal, whether or not gold- or silver-plated

9111.80 - Other cases

9111.90 - Parts

This heading covers :

(A) **Cases for the watches of heading 91.01 or 91.02** (pocket-watches, wrist-watches, chronograph watches, etc.), with or without glasses, presented without movements.

(B) **Parts of these cases**, including :

(1) **The case body**, i.e., the framework of the case. It may have **hinges** for the bottom, and in pocket-watches the case bodies have also hinges for the dome and the bezel.

(2) **The pendant**, welded to the case body, with the **watch bow** (for pocket-watches) and the **bushings**.

(3) **The dome**, the inner cover protecting the movement (does not exist in ordinary watches).

(4) **The bezel**, the part which holds the glass. The edge for holding the glass in place is more especially referred to as the **groove**.

(5) **The bottom**, which closes the watch on the opposite side from the glass. Ordinary watches have only one, while hunters have a second similar piece (the **cover**) which protects the glass.

Cases for wrist-watches have no pendant or watch bow proper, but have **lugs** for attaching the wrist-straps. These lugs consist of several parts, including the **bar** which may be fixed or spring-operated. Some ladies' wrist-watches have no lugs but are provided with **claws** for attaching a cord.

Wrist-watch cases often consist of only two parts, the case body and the bottom being combined. Sometimes, the bottom and the bezel each bear one part of the dome, or the bezel and the case body are in one piece. In more highly finished types, the movement is first enclosed in a **protective dome**.

Watch cases and parts thereof may be of any material. They are mainly made of base metal (steel, nickel, etc., polished, chromium-plated, silvered or gilded), or of precious metal, or of metal clad with precious metal, or sometimes of plastics, ivory, agate, mother-of-pearl or tortoise-shell. They may be

ornamented (engine-turned, engraved, chased, trimmed with natural or cultured pearls, natural, synthetic or reconstructed precious or semi-precious stones, etc.).

The heading **excludes** :

(a) Simple protective covers for watches, nor watch glasses; these are classified in their own appropriate headings.

(b) Parts of general use as defined in Note 2 to Section XV (which include springs for watch cases), of base metal (**Section XV**) and similar goods of plastics (**Chapter 39**).

(c) Clock cases and cases of a similar type for other goods of this Chapter, and parts thereof (**heading 91.12**).

9111.10

- Cases of precious metal or of metal clad with precious metal

9111.20

- Cases of base metal, whether or not gold- or silver-plated

9111.80

- Other cases

9111.90

- Parts

Heading 9112

Clock cases and cases of a similar type for other goods of this Chapter, and parts thereof.

EXPLANATORY NOTES

91.12 - Clock cases and cases of a similar type for other goods of this Chapter, and parts thereof.

9112.20 - Cases

9112.90 - Parts

This heading covers clock cases, and, **provided** they are of a type similar to clock cases, cases for other goods of this Chapter; **subject** to this reserve, the heading therefore includes cases for alarm clocks, marine chronometers, motor vehicle clocks, time-registers, time-recorders or time-stamps, time interval meters (minute timers, seconds timers, etc.) or for other clocks of this Chapter. Such cases remain in the heading whether with or without glasses, and whether or not finished. But the heading **excludes** cases of a type not similar to normal clock cases but rather of the type used for scientific apparatus, electricity supply meters, etc. (cases for timers, time-recorders or time switches are sometimes of this kind); such cases are classified in their own appropriate headings.

The cases classified here are made in widely different forms; they are usually of metal (including precious metal), wood, plastics, leather, tortoise-shell, mother of pearl, marble, alabaster, ceramic materials, onyx, agate or ivory. They may be ornamented, trimmed with natural or cultured pearls or natural, synthetic or reconstructed precious or semi-precious stones, or combined with motifs, sculptures, statuettes, figures of animals, etc.

The heading also includes parts of clock cases, such as bezels, frames, pedestals, stands and feet.

The heading **excludes** :

(a) Protective covers, usually of glass, presented separately (**heading 70.20**).

(b) Parts of general use as defined in Note 2 to Section XV (which include springs for clock cases), of base metal (**Section XV**) and similar goods of plastics which are classified in **Chapter 39**.

(c) Watch cases (**heading 91.11**).

9112.20

- Cases

9112.90

- Parts

Heading 9113

Watch straps, watch bands and watch bracelets, and parts thereof.

EXPLANATORY NOTES

91.13 - Watch straps, watch bands and watch bracelets, and parts thereof.

9113.10 - Of precious metal or of metal clad with precious metal

9113.20 - Of base metal, whether or not gold- or silver-plated

9113.90 - Other

This heading covers all kinds of watch straps, watch bands and watch bracelets, i.e., all devices for fastening watches to the wrist.

Watch straps, watch bands and watch bracelets may be of any material, for example, base metal, precious metal, leather, plastics or textile material. They may also be clearly decorative in character without this affecting their classification.

The heading also includes parts of watch straps, watch bands and watch bracelets, identifiable as such, of any material.

The heading **excludes** :

(a) Other attaching devices (neck chains, pendant bands, watch chains, rings, brooches, etc.) which are classifiable in their appropriate headings.

(b) Buckles and buckle-clasps of precious metal or of metal clad with precious metal (**heading 71.15**) or of base metal (**heading 83.08**).

(c) Watch straps, watch bands and watch bracelets presented with their watches but not attached thereto (**heading 91.01** or **91.02**).

9113.10

- Of precious metal or of metal clad with precious metal

9113.20

- Of base metal, whether or not gold- or silver-plated

9113.90

- Other

Heading 9114

Other clock or watch parts.

EXPLANATORY NOTES

91.14 - Other clock or watch parts.

9114.30 - Dials

9114.40 - Plates and bridges

9114.90 - Other

This heading covers all clock or watch parts **other than** :

(a) Parts excluded by Chapter Note 1 :

(1) Weights, clock or watch glasses, watch chains, ball bearings and bearing balls (e.g., for self-winding watches).

(2) Parts of general use as defined in Note 2 to Section XV, e.g., screws (bridge, crown, dial, ratchet, click, end-stone cap or index disc, yoke, setting lever, etc.), taper pins, clock chains, figures for dials, of base metal (**Section XV**) or similar goods of plastics (**Chapter 39**) or of precious metal or of metal clad with precious metal (generally **heading 71.15**).

These parts are classified in their own appropriate headings. However, clock and watch springs (mainsprings, hairsprings, etc.) remain in this heading.

(b) Parts specifically included in other headings of this Chapter (e.g., the complete and assembled movements of **heading 91.08** or **91.09**, the movement sets, incomplete watch or clock movements, assembled or rough watch or clock movements of **heading 91.10**, the cases of **heading 91.11** or **91.12** and the watch straps, watch bands and watch bracelets of **heading 91.13**).

Except as provided in paragraph (a) or (b) above, parts suitable for use both in clocks or watches and in other articles, for example, in toys, meters or measuring or precision instruments (springs, trains, jewels, hands, etc.) fall in this heading (see Chapter Note 4). However, the heading **does not cover** parts which are not clearly clock or watch parts (e.g., printing or totalling devices for time-registers, and certain other parts used in articles of heading 91.06 or 91.07).

The heading includes identifiable blanks of clock or watch parts, but it **excludes** metal pieces not yet recognisable as clock or watch parts (e.g., plates, bridges, etc., direct from the lathe or roughly cut to shape, without drilling, hollowing, etc.). These are classified according to their constituent material.

The clock or watch parts of this heading may be unpolished, polished, nickel-plated, rhodium-plated, silvered, gilded, varnished, etc., or jewelled.

Subject to the above provisions, the principal clock or watch parts classified here are :

(A) PARTS OF WATCH MOVEMENTS

(regardless of complexity of system)

These include :

(1) **Frame** : plate (and any additional plates), bridges (of the barrel, centre wheel, third wheel, fourth wheel, balance-wheel (cock), escapement, setting wheel, etc.).

(2) **Driving mechanism** : mainspring, barrel, barrel cover, barrel arbor and ratchet, click, click spring.

(3) **Train** : centre wheel and pinion, third wheel and pinion, fourth wheel and pinion.

(4) **Motion work** : cannon pinion, minute wheel pinion and minute wheel, hour wheel.

(5) **Escapement** (anchor or lever, pin pallet, cylinder, detent, etc.) : escape wheel and pinions, lever, pallet staff, rollers, pallet stones, impulse pin, cylinder.

(6) **Regulating device** : balance, balance staff, hairspring (flat, Bréguet, cylindrical), tuning-fork, stud, collet, regulator, index stud, end-stone cap or index disc, regulator spring, lower cap jewel end-piece, including special parts for shock-proof devices.

(7) **Winding and setting mechanism** : crown, winding stem and pinion, clutch wheel, setting wheels, crown ratchet wheel, crown wheel core, yoke (rocking bar), setting lever, setting lever spring and yoke springs.

(8) **Parts of electronic movements** : circuits for watches comprising, for example, an insulating base carrying printed connections and other discrete components formed otherwise than by printing (for example, coils, capacitors, resistors, diodes and transistors), possibly together with an integrated circuit.

(9) **Platform escapements** consist of the plate, bridges, escapement, balance-wheel and hairspring, and the regulator of a clock or watch movement, with or without train. They remain classified here whether assembled with the escapement regulated, or unassembled.

Assembled platform escapements may be intended for incorporation in a whole range of appliances using clock or watch movements (time-registers, time switches, etc.), and sometimes also in small clocks or alarm clocks.

(B) PARTS OF CLOCK OR ALARM CLOCK MOVEMENTS

Many of the parts of these movements are similar in principle to parts of watch movements but are larger.

Parts peculiar to clock movements include weight drums, pendulums, including compensated pendulums (mercury, invar stem, etc.), crutches, verges, verge wheels, recoil escapements, dead-beat (or Graham) escapements, etc., independent winding keys. Parts of alarm clock movements include fixed winding keys and knobs for setting.

(C) STRIKING WORK PARTS

(1) **Striking work of alarm clocks :** stop or detent, notched collar, release wheel, escape wheel, index staff, pallet, striking hammer, etc.

(2) **Clock striking work** (locking plate type, rack type, etc.) : drum or barrel and barrel wheel, locking plate, great wheel, pin wheel, third wheel, warning wheel, fly, detents, levers or fly springs, repeater rack, snail, hammer, lifting piece, arbor, fly wheel, gathering pallet, rack, ball, gong, chimes.

(D) JEWELS

This category includes **only** worked stones (jewels), i.e., those which have been turned, cut, polished, drilled, hollowed, etc., or mounted (in a setting or a screw). Unworked or roughly sawn jewels are **excluded** (**Chapter 71**). Watchmakers' jewels are usually extremely small, their diameter and thickness rarely exceeding 2 mm and 0.5 mm, respectively.

The principal stones used in clock- or watch-making are natural or synthetic rubies, sapphires and garnets, and occasionally diamonds. In cheap articles, glass is sometimes used, or the jewels are replaced by metal caps.

Clock or watch jewels bear the names of parts which they support, e.g., centre wheel jewels, third wheel jewels, fourth wheel jewels, escape wheel jewels, pallet staff jewels and balance-wheel jewels. The bearing of a cylindrical pivot consists of a drilled jewel or of a drilled jewel and a solid jewel (end-stone). There are also bearings consisting of conical cavity jewels.

In addition to round jewels used as bearings, clocks and watches with a lever escapement usually also contain three special jewels : two pallet stones (bevelled jewels attached to each end of the pallet) and an impulse pin (a jewel, usually of semi-round or triangular section, intended for the roller).

The jewelling process may be carried out by hand setting, by using a mounted jewel, or, more usually, by pressing.

(E) DIALS

Dials generally bear divisions or figures indicating the hours, minutes and seconds. They may be flat or curved. They are usually of silvered, gilded, painted, oxidised or otherwise coated brass, of enamelled copper, of gold or silver, or sometimes of paper, glass, plastics or pottery. The figures and inscriptions are produced by various methods (transfer, painting, stamping, etc.). Dials may have luminous figures or symbols.

Dials are fixed to the plate (or to an additional plate, called "dial plate") by screws, pins or an outer ring of metal.

(F) HANDS

These indicate hours, minutes and seconds. The heading also covers special hands for chronograph watches and hands for alarm clocks, etc. Watch or clock hands may be flat or curved, and may be made of steel, brass or copper, generally polished, oxidised, nickel-plated, chromium-plated, silvered, gilded or lacquered; they are sometimes of gold and even of bone. Luminous hands have “windows” filled with a compound based on radioactive salts (radio-thorium, meso-thorium, etc.). There are innumerable types of hands, designed to suit the type of dial.

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9114.30

- Dials

9114.40

- Plates and bridges

9114.90

- Other

Chapter 92

Musical instruments; parts and accessories of such articles

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(b) Microphones, amplifiers, loud-speakers, head-phones, switches, stroboscopes or other accessory instruments, apparatus or equipment of Chapter 85 or 90, for use with but not incorporated in or housed in the same cabinet as instruments of this Chapter;

(c) Toy instruments or apparatus (heading 95.03);

(d) Brushes for cleaning musical instruments (heading 96.03), or monopods, bipods, tripods and similar articles (heading 96.20); or

(e) Collectors' pieces or antiques (heading 97.05 or 97.06).

2.- Bows and sticks and similar devices used in playing the musical instruments of heading 92.02 or 92.06 presented with such instruments in numbers normal thereto and clearly intended for use therewith, are to be classified in the same heading as the relative instruments.

Cards, discs and rolls of heading 92.09 presented with an instrument are to be treated as separate articles and not as forming a part of such instrument.

EXPLANATORY NOTES

Chapter 92

Musical instruments; parts and accessories of such articles

Notes.

1.- This Chapter does not cover :

(a) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(b) Microphones, amplifiers, loud-speakers, head-phones, switches, stroboscopes or other accessory instruments, apparatus or equipment of Chapter 85 or 90, for use with but not incorporated in or housed in the same cabinet as instruments of this Chapter;

(c) Toy instruments or apparatus (heading 95.03);

(d) Brushes for cleaning musical instruments (heading 96.03), or monopods, bipods, tripods and similar articles (heading 96.20); or

(e) Collectors' pieces or antiques (heading 97.05 or 97.06).

2.- Bows and sticks and similar devices used in playing the musical instruments of heading 92.02 or 92.06 presented with such instruments in numbers normal thereto and clearly intended for use therewith, are to be classified in the same heading as the relative instruments.

Cards, discs and rolls of heading 92.09 presented with an instrument are to be treated as separate articles and not as forming a part of such instrument.

GENERAL

This Chapter covers :

(A) Musical instruments (headings 92.01 to 92.08).

(B) Parts and accessories of these instruments (heading 92.09).

Some musical instruments (pianos, guitars, etc.) may have an electrical sound pick-up and amplifying device; they nevertheless remain classified in their respective headings in this Chapter, **provided** that, without the electrical equipment, they can still be used like the similar conventional-type instruments. The electrical equipment itself, **unless** forming an integral part of the instrument or housed in the same cabinet as the instrument, is however in all cases **excluded** (**heading 85.18**).

Electrical or electronic instruments (other than the automatic pianos of heading 92.01) which are not suitable for playing without the electrical or electronic equipment fall in heading 92.07 (see the corresponding Explanatory Note). The latter heading therefore covers, for example, electrostatic, electronic or similar guitars, organs, pianos, accordions, carillons.

The instruments and apparatus of this Chapter may be of any material, including precious metal or metal clad with precious metal, and may incorporate precious or semi-precious stones (natural, synthetic or reconstructed).

In accordance with Note 2 to this Chapter, bows and plectra used in playing the string musical instruments of heading 92.02, and sticks (including soft-headed sticks) and mallets for percussion musical instruments of heading 92.06, when presented with those instruments in numbers normal thereto and clearly intended for use therewith, are to be classified with the relative instruments and **not** in heading 92.09. However, cards, discs and rolls of heading 92.09 presented with an instrument are to be treated as separate articles and not as forming a part of such instrument.

In addition to the exclusions specifically mentioned in the Explanatory Notes below, this Chapter also **excludes** :

(a) Electronic musical modules (**heading 85.43**).

(b) Musical instruments which can be clearly recognised as toys because of the character of the material used, their rougher finish, the lack of musical qualities or by any other characteristics

(**Chapter 95**). Examples include certain mouth organs, violins, accordions, trumpets, drums, musical boxes.

(c) Collectors' pieces (**heading 97.05**) (e.g., instruments having an historical or ethnographical interest), or antiques of an age exceeding 100 years (**heading 97.06**).

Heading 9201

Pianos, including automatic pianos; harpsichords and other keyboard stringed instruments.

EXPLANATORY NOTES

92.01 - Pianos, including automatic pianos; harpsichords and other keyboard stringed instruments (+).

9201.10 - Upright pianos

9201.20 - Grand pianos

9201.90 - Other

This heading covers :

(1) **Pianos**, with a keyboard and strings struck by hammers, whether or not fitted with an electrical sound pick-up and amplifying device, i.e. :

(a) **Upright pianos**, which have a sound-board on which the strings are mounted vertically, and when overstrung, with the bass strings crossing the remainder;

(b) **Grand pianos** (concert and baby grands), which have strings mounted horizontally in an elongated casing.

This group includes **automatic pianos**, whether or not incorporating a keyboard, which are played, e.g., by means of perforated rolls of paper or paperboard; they may be mechanically, pneumatically or electrically operated.

However, "electronic pianos" and electronic musical instruments which may be fitted to pianos in order to produce the sound effects of other instruments while the piano is being played fall in **heading 92.07** (see the General Explanatory Note to this Chapter).

(2) **Harpsichords and other keyboard stringed instruments such as spinets and clavichords**.

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Subheading Explanatory Note.

Subheadings 9201.10 and 9201.20

These subheadings also include **automatic pianos**.

9201.10

- Upright pianos

9201.20

- Grand pianos

9201.90

- Other

Heading 9202

Other string musical instruments (for example, guitars, violins, harps).

EXPLANATORY NOTES

92.02 - Other string musical instruments (for example, guitars, violins, harps).

9202.10 - Played with a bow

9202.90 - Other

This heading covers :

(A) **Instruments played with a bow**

The chief examples of such instruments are **violins, viols** and **violas** (the latter being slightly larger than ordinary violins), **violoncellos** and **bass-viols** and **double basses**.

(B) **Other string musical instruments**

This group includes :

(1) **Plucked string instruments**, in which sound vibrations are obtained by momentarily displacing the string out of alignment, either with the fingers or with a small pointed piece (plectrum) of wood, ivory, tortoise-shell, plastics, etc. Examples include :

(a) **Mandolines** (Neapolitan mandolines with a deeply cambered back, flat mandolines, mandolas, etc.).

(b) **Guitars**.

(c) **German lutes** (a kind of mandoline).

(d) **Banjos** (a long-necked instrument having a circular flat-backed body with a flat belly formed by a drumskin).

(e) **Ukuleles** (small guitars with a thick neck).

(f) **Zithers** (**or cithers**). These have a flat sound-box of approximately trapezoidal shape, and a large number of strings usually of metal.

(g) **Balalaikas**.

(h) **Harps**. These are stringed instruments plucked with the fingers; they have a triangular frame and strings of graduated lengths.

(2) **Other instruments**, such as :

(a) **Aeolian harps**. These are used in gardens, etc. They consist of a number of strings mounted on a sounding box; when placed in a current of wind they produce natural harmonics.

(b) **Czimbalos**. These have a frame on which steel strings are mounted. They are played by striking with softheaded hammers, and are used in gipsy orchestras.

In some instruments, particularly guitars, the sound may be electronically amplified without excluding them from this heading; however, electronic instruments such as guitars without sound-boxes fall in **heading 92.07** (see the General Explanatory Note to this Chapter).

9202.10

- Played with a bow

9202.90

- Other

Heading 9205

Wind musical instruments (for example, keyboard pipe organs, accordions, clarinets, trumpets, bagpipes), other than fairground organs and mechanical street organs.

EXPLANATORY NOTES

92.05 - Wind musical instruments (for example, keyboard pipe organs, accordions, clarinets, trumpets, bagpipes), other than fairground organs and mechanical street organs.

9205.10 - Brass-wind instruments

9205.90 - Other

This heading covers wind musical instruments **not** specified in **heading 92.08** (fairground organs, mechanical street organs, sound signalling instruments, etc.) though these could, in certain respects, also be considered wind instruments.

The heading includes :

(A) **Brass-wind instruments**.

The term “brass-wind” refers to the tone quality of instruments used in a particular section of an orchestra, rather than to the constituent material of the instruments. This group includes instruments, generally of metal (brass, nickel-silver, silver, etc.) in the form of a tapered tube terminating in a bell; they may be coiled to various degrees. They are fitted with a hollowed-out mouthpiece, sounded with the lips and usually valve operated. They include cornets, trumpets (simple trumpets, orchestral trumpets, etc.), bugles, saxhorns, baritone and bass bugles,

bombardons (bass-tuba), bass sousaphones, trombones (valve or sliding type), orchestral horns (e.g., French horns) and non-valved horns used in orchestras (e.g., hunting horns).

(B) **Other wind musical instruments**.

This group covers :

(1) **Keyboard pipe organs** (church-organ type). These are wind instruments in which the movement of the keys is transmitted to the pipes electrically, electro-pneumatically or mechanically.

The heading also covers the console and the organ case (i.e., the woodwork in which the organ is contained and which is usually of decorative design) when presented with the organ. If presented separately, they are **excluded** (**heading 92.09**).

This heading **does not include** orchestrions, street organs and similar pipe instruments, not fitted with a keyboard but operated either automatically or by a handle (**heading 92.08**). Electronic organs are classified in **heading 92.07**.

(2) **Harmoniums and similar keyboard instruments with free metal reeds**, but without pipes.

(3) **Accordions and similar instruments, concertinas, bandoneons** and **foot-blown accordions**.

The heading excludes electronic accordions (see the Explanatory Note to **heading 92.07**, and the General Explanatory Note to this Chapter).

(4) **Mouth organs (harmonicas)**.

(5) **So-called "wood-wind" instruments**. These instruments consist essentially of a tube (of wood or reed, metal, plastics, ebonite, glass) with holes generally fitted with keys and rings. They are usually sounded with reeds. This group includes flutes, recorders, fifes, flageolets, oboes, clarinets, cors anglais, bassoons, saxophones and sarrusophones.

The group also covers ocarinas (small egg-shaped instruments made of metal or clay, giving a flute-like sound), and sliding whistles (of metal or ebonite).

(6) **Other wind instruments** (e.g., bagpipes, Breton pipes or the musette, consisting of a wind-chest or bag made of skin or from a bladder, and three to five pipes - one pipe being the chanter and the others the drones).

9205.10

- Brass-wind instruments

9205.90

- Other

Heading 9206

Percussion musical instruments (for example, drums, xylophones, cymbals, castanets, maracas).

EXPLANATORY NOTES

92.06 - Percussion musical instruments (for example, drums, xylophones, cymbals, castanets, maracas).

Percussion musical instruments are struck with an object of a similar kind, or with a stick or similar device, or with the bare hand. These instruments are also known collectively as “the drums”.

The main instruments in this heading are :

(A) **Those with a stretched skin**, e.g. :

(1) **Tabors and tambourins**.

(2) **Drums (shallow side drums, bass or big drums, etc.)**. These consist of a wooden or metal cylinder with parchment or vellum stretched over each end (double-headed drums). They are sounded by striking with one or two plain or leather-headed sticks.

(3) **Timpani and kettle-drums**. These consist of parchment stretched over hollow copper hemispheres (varying considerably in size and usually resting on the ground). They are tuned to a definite note and are sounded with sticks.

(4) **Tambourines with jingles**. These consist of a hoop covered with skin and are fitted with jingles or copper tongues which are sounded by shaking the instrument in different ways, or by striking it with the palm of the hand, the fingertips, etc.

(5) **Tom-toms**.

(B) **Other percussion instruments** such as :

(1) **Cymbals**. These are circular plates generally sounded by striking one against the other or by rubbing them together; in some cases, one single cymbal may be sounded by striking with a soft-headed stick.

(2) **Gongs** (e.g., Chinese gongs), which are metal plates usually struck with a heavy stick tipped with a skin or felt wad.

(3) **Triangles**, which are steel rods bent into the form of equilateral triangles; they are sounded with an iron rod.

(4) **Jingles johnnies** (Chinese pavilions, Turkish crescents), which are fitted with jingles and small bells which sound on shaking the staff on which the instrument is mounted.

(5) **Castenets**, which are small wooden, bone or ivory concave or shell-shaped instruments; they are either fixed to the fingers or mounted on a handle, and are sounded by striking one against the other.

(6) **Xylophones** consisting of a series of small wooden slats of graduated lengths, mounted on two supports and played by striking with sticks.

(7) **Metallophones**, which are similar to xylophones but have narrow metal plates (steel or duralumin) instead of wooden slats; (both xylophones and metallophones are often fitted with metal resonance tongues or tubes beneath the table). The heading also includes **similar instruments with glass plates**.

(8) **Celestas** and the like, used in the percussion instruments group as a substitute for conventional chimes. These have the outward appearance of a small piano with pedal and dampers. Sound is produced by striking special thick steel plates with mechanical hammers operated by a keyboard.

(9) **Bells, sets of bells, chimes and tubular bells** (a series of tubes suspended in a frame and struck either with a bare hand or with a hammer).

(10) **Maracas** and similar instruments consisting of hollow bells or tubes sounded by shaking.

(11) "**Claves"** consisting of a pair of hard wooden sticks.

(12) **Flexatones** consisting of a metal plate mounted on a handle, and two wooden balls placed on either side of the plate. On shaking the instrument, the balls hit the plate causing it to vibrate, while the tone is controlled by bending the plate with the thumb.

Some of the instruments mentioned above are occasionally combined so that a single performer may play several at the same time. In dance-bands, for instance, the soft-headed stick used to sound the big drum is pedal-operated and, in addition, the drum is fitted with cymbals, gongs, wood-blocks (types of wooden resonance boxes either equipped with bells or forming a xylophone), etc.

Carillonsfor public buildings, suitable for producing music, are also classified here.

However, electronic percussion musical instruments are classified in **heading 92.07**.

The heading also **excludes** :

(a) Door or table bells and gongs, door chimes, etc., which are not musical instruments (**heading 83.06** or **85.31**).

(b) Chimes and other striking mechanisms for clocks (**heading 91.14**).

9206.00

Percussion musical instruments (for example, drums, xylophones, cymbals, castanets, maracas).

Heading 9207

Musical instruments, the sound of which is produced, or must be amplified, electrically (for example, organs, guitars, accordions).

EXPLANATORY NOTES

92.07 - Musical instruments, the sound of which is produced, or must be amplified, electrically (for example, organs, guitars, accordions).

9207.10 - Keyboard instruments, other than accordions

9207.90 - Other

This heading covers musical instruments in which the sound is generated or amplified **electrically** (including **electronically**) (i.e., those which cannot be played for normal hearing without their electrical or electronic components, even though the vibrating devices with which they are fitted may produce faint sounds). In this respect, they differ from certain other instruments (e.g., pianos, accordions, guitars) which, while they may be equipped with an electrical sound pick-up and amplifying device, are nevertheless independent instruments suitable for playing without such devices, in the same way as similar conventional-type instruments. Electrically operated automatic pianos are **excluded** (**heading 92.01**).

The instruments of this heading are usually based on the use of :

(A) **Electro-magnetic generators**.

In one of the systems based on this principle, the generator has a drive shaft connected by a flexible coupling to a synchronous motor which drives it at constant speed. Different sized gear wheels are placed in pairs along the shaft, each wheel driving toothed wheels known as “tone” wheels. When the instrument is connected to the mains, the synchronous motor turns the tone wheels at speeds which vary according to the diameter of the gear wheels. A permanent magnet carrying a coil at one end is fitted near each tone wheel and parallel to it. When the wheels rotate, the teeth placed at regular intervals around their edges under the pole of the associated magnets; this causes variations in the fields which in turn set up weak current changes in the coils. These currents, which are of predetermined frequencies, are electrically amplified and transmitted to loudspeakers.

This principle is used in particular for the “organ” type of instrument.

In another system, a harmonium-type “free-reed” moves across a pole of a permanent magnet, its vibrations producing variations in the magnetic field set up in a coil wound around the magnet. The resulting current is electrically amplified and transmitted to a loudspeaker.

(B) **Electrostatic generators**, of which there are several types :

(1) **Stretched wire generators**. In these the vibrations produced when a wire carrying an electric current is struck by a hammer, give rise to variations in capacitance between the wire and metal parts (studs) adjacent to it. The variations in capacitance correspond exactly to the vibrations of the string, so that they provide faithful reproduction when amplified.

(2) **Vibrating reed generators**, in which the current is carried by reeds instead of strings.

(3) **Variable-condenser generators**, in which the condensers (capacitors) are rotated at constant speed by a motor.

(C) **Oscillating electronic valve (or tube) generators, including gas discharge tube oscillators**.

(D) **Photoelectric generators**, in which a light ray passing through a perforated disc is thrown on a cell. By carefully calculating the number of apertures in the discscreen, a corresponding number of current variations is obtained and these, amplified, produce the desired sound.

Some of these instruments are called electro-magnetic, electrostatic, electronic, radio-electric, photoelectric pianos, organs, accordions, carillons, etc., but are nearly always known by their registered trade names. They enable faithful sound reproduction of most musical instruments to be obtained by simply changing registers. Such instruments may be described as “monophone” when they only give a succession of separate notes, or “polyphone” when they produce several notes at once (e.g., “organs”).

Some may be played separately; others may be adapted to an ordinary piano, the instrument being played with the right hand while the piano accompaniment is played with the left hand. Such instruments are classified here, whether or not presented with the piano.

Although they may generally be essential for the normal operation of the instruments of this heading, electrical or electronic apparatus (in particular the amplifier and loudspeaker) are **excluded** and fall in their respective headings (**Chapter 85**) whenever they are not built into the unit itself. When, however, they are incorporated in or housed in the same cabinet as the instrument they are classified with the instrument, even though they may be packed separately for convenience of transport.

This heading **does not cover** conventional type clocks (with dials showing the hours) which are used with certain electronic chimes to strike automatically the hours, half-hours, etc. (**Chapter 91**).

9207.10

- Keyboard instruments, other than accordions

9207.90

- Other

Heading 9208

Musical boxes, fairground organs, mechanical street organs, mechanical singing birds, musical saws and other musical instruments not falling within any other heading of this Chapter; decoy calls of all kinds; whistles, call horns and other mouth-blown sound signalling instruments.

EXPLANATORY NOTES

92.08 - Musical boxes, fairground organs, mechanical street organs, mechanical singing birds, musical saws and other musical instruments not falling within any other heading of this Chapter; decoy calls of all kinds; whistles, call horns and other mouth-blown sound signalling instruments.

9208.10 - Musical boxes

9208.90 - Other

(A) MUSICAL INSTRUMENTS NOT FALLING IN ANY OTHER HEADING OF THIS CHAPTER

These include :

(1) **Musical boxes**. These consist of small mechanical movements playing tunes automatically, incorporated into boxes or various other containers. The main component is a cylinder set with pins (according to the notes of the tune to be played); on rotating, the pins contact metal tongues arranged like the teeth of a comb, causing them to vibrate and produce the notes. The components are mounted on a plate and the cylinder is rotated either by a spring-operated

(clockwork) motor which is wound with a key or directly by a handle. In some types, the cylinder may be replaced by a sheet-metal disc made on the hill and dale principle.

Articles which incorporate a musical mechanism but which are essentially utilitarian or ornamental in function (for example, clocks, miniature wooden furniture, glass vases containing artificial flowers, ceramic figurines) **are not** regarded as musical boxes within the meaning of this heading. These articles are classified in the same headings as the corresponding articles not incorporating a musical mechanism.

Also, articles such as wrist watches, cups and greeting cards containing electronic musical modules **are not** regarded as goods of this heading. Such articles are classified in the same headings as the corresponding articles not incorporating such modules.

(2) **Fairground organs**, e.g., orchestrions and similar instruments. Some fairgrounds organs are large instruments fitted with two dummy keyboards, one of which plays on metal strings by means of piano key-action, while the other controls organ pipes; in addition, there are catgut strings played by mechanical bows. These instruments may incorporate drums, cymbals, accordions, etc., thereby giving orchestra-like effects. They are mainly used in amusement parks or fairgrounds, etc. They may be hand or power operated, and are played from perforated rolls or cards.

(3) **Mechanical street organs**. These consist of a case containing a barrel (or cylinder) set with copper pins which, when turned by a handle, operate valves on wood or metal pipes.

(4) **Mechanical singing birds**. These are small automatons usually enclosed in a cage. A spring-operated (clockwork) motor in the base of the cage actuates a set of pistons and bellows thereby producing a modulated note and causing the head and body of the imitation bird to move.

(5) **Musical saws**. These have a special steel blade which is caused to vibrate either with a bow or a felt-headed hammer.

(6) **Other fancy instruments** such as rattles and mouth-operated sirens.

Cards, discs and rolls, whether or not presented with instruments of this heading (see Note 2 to this Chapter), are always classified in **heading 92.09**.

(B) DECOY CALLS OF ALL KINDS AND MOUTH-BLOWN SOUND SIGNALLING INSTRUMENTS

(1) **Decoy calls and effects, etc.**, are small mouth-blown or hand-operated instruments which imitate bird or animal calls in order to attract game.

(2) **Mouth-blown sound signalling instruments** such as :

(i) **Horns and call horns**, made of horn, bone, metal, etc.

(ii) **Whistles (mouth-blown)** of metal, wood, etc., for giving signals, etc.

The heading also **excludes** :

(a) Door bells, table bells, bicycle bells, etc. (**heading 83.06** or **85.31**).

(b) Bulb-operated horns and warning horns (e.g., for vehicles), ships' sirens, portable or fixed hand-operated roof sirens; these are classified according to the constituent material, or in **Section XVI** or **XVII**, as the case may be.

(c) Electrically operated sound signalling equipment or apparatus (**heading 85.12** or **85.31**, as the case may be).

9208.10

- Musical boxes

9208.90

- Other

Heading 9209

Parts (for example, mechanisms for musical boxes) and accessories (for example, cards, discs and rolls for mechanical instruments) of musical instruments; metronomes, tuning forks and pitch pipes of all kinds.

EXPLANATORY NOTES

92.09 - Parts (for example, mechanisms for musical boxes) and accessories (for example, cards, discs and rolls for mechanical instruments) of musical instruments; metronomes, tuning forks and pitch pipes of all kinds.

9209.30 - Musical instrument strings

- Other :

9209.91 - - Parts and accessories for pianos

9209.92 - - Parts and accessories for the musical instruments of heading 92.02

9209.94 - - Parts and accessories for the musical instruments of heading 92.07

9209.99 - - Other

This heading covers :

(A) **Metronomes, tuning forks and pitch pipes**.

This group covers metronomes, tuning forks and pitch pipes whether intended for musical or other uses.

Metronomes are small mechanical devices used to indicate the exact tempo in which a piece of music is to be played; they are generally contained in a pyramid shaped box and may be fitted with a bell. The main part is a beating rod pivoted at its lower end; the movement of the rod may be accelerated or retarded according to a scale located behind the bar.

The group also includes metronomes used for industrial purposes; these are fitted with electrical contacts.

Tuning forks are usually small U-shaped metal bars which, when vibrated, emit one given note; the group also covers large concert-hall tuning forks consisting of a metal tongue mounted on a sounding box and struck with a hammer.

Pitch pipes (tuning pipes) are mouth-blown and consist of one or more reeds or pipes; these generally emit several notes (4 or 6).

The group also includes tuning forks used in medicine (in particular for hearing tests, in which case they are preset to emit a wide range of vibrations and are often put up in cases containing several instruments), for stroboscopic observations. Some are fitted with electrical devices for maintaining the vibrations.

(B) **Mechanisms for musical boxes**.

See the Explanatory Note to heading 92.08.

(C) **Musical instrument strings**.

This group covers **strings for true string instruments** (pianos, harps, violins, violoncellos, mandolines, etc.). These are usually made of :

(1) Catgut (generally from the intestines of sheep). Catgut strings are made up of a certain number of strands according to the thickness required; each strand consists either of a ribbon of gut cut lengthwise or a complete gut.

(2) Silk. Silk strings, usually made up of 140 strands of silk, have the external appearance of catgut strings. They are coated with a thin layer of gum arabic and polished with white wax.

(3) Monofilament of man-made fibre materials (usually nylon).

(4) Wire of steel (usually stainless), aluminium, silver, copper, etc. Metal strings are either single-strand, or made up of a metal core covered with metal wire (wound round the core). Strings of this kind are known as “metal-wound”.

(5) Gut, silk or nylon covered with metal wire (aluminium or other base metal, whether or not silver-plated, silver, etc.). The metal wire is wound round the core and strings of this kind are known as gut, silk- or nylon-wound.

Musical instrument strings are recognisable by their finish. (Steel strings are made of polished metal and their diameter is carefully calibrated. Gut strings are completely uniform and the diameter is constant; some gut strings are white and translucent, others, however, such as strings for harps, are occasionally dyed red or blue, etc.) Strings may also be recognisable by the way in which they are put up (small paper bags, envelopes and the like, often printed with instructions for use). In addition, some strings (particularly metal strings) have loops or small metal balls enabling them to be fitted to the instrument concerned.

The heading **does not cover** wire, gut and monofilament of synthetic textile materials (whether or not cut to length), not identifiable as musical instrument strings (**classified in their own appropriate headings**).

(D) **Other parts and accessories**.

This group covers parts and accessories of musical instruments (other than those referred to in (B) and (C) above, but **not** loudspeakers and audio-frequency amplifiers (**heading 85.18**) **nor**, generally speaking, electrical apparatus (motors, photoelectric cells, etc.), not fitted with parts or accessories of musical instruments.

This group includes :

(1) **Parts of pianos, organs, harmoniums or similar instruments**, such as :

Complete keyboards (i.e., a complete set of keys mounted on a frame); piano mechanisms (i.e., key-actions with associated hammers including sound-dampers); cases for pianos or harmoniums; sound-boards; wooden or cast-iron frames; pedal mechanisms and pedals; wrest pins; metal tongues (or reeds) for harmoniums; separate keys for keyboards; hammers, dampers, shafts and forks for hammers, etc.; organ pipes, wind-chests, bellows and other component parts (including cases) of organs.

Keys, stops, bellows and keyboards for accordions are also classified here.

However, the heading **excludes** the small strips of ivory, bone or plastics, simply cut to rectangular shape but requiring polishing, rounding of corners or further working before use as coverings for keys of musical instruments; these strips are classified in their own appropriate headings (**heading 96.01** or **Chapter 39**).

(2) **Parts and accessories of instruments falling in heading 92.02 (string musical instruments)**, such as :

Bodies of mandolines, guitars or similar instruments; guitar or mandoline “mechanisms” (i.e., the pegs and worm and tooth wheels located at the scroll-end of the neck so that the strings can be properly tensioned); parts of violins, violoncellos or the like, e.g., backs, bellies, necks (whether or not in the rough), fingerboards, nuts, bridges, tailpieces (on which the strings are mounted) and buttons therefor, ribs (between belly and back), pegs (kind of keys fitted to the scroll for varying the tension of the strings), string adjusters, etc., standards for violoncellos and double basses (for resting the instruments on the ground); bows and parts of bows (sticks, heels, tension screws, etc.) including horsehair in bundles for bows; plectra, mutes, chin-rests.

(3) **Parts and accessories for the instruments of heading 92.07**, such as :

Chests (for electronic pianos, organs and carillons), pedal mechanisms and pedals, keyboards, tone wheels (for organs, in particular).

See the Explanatory Note to heading 92.07 regarding electronic parts and accessories.

(4) **Parts and accessories for so-called “wood-wind” instruments of heading 92.05**, such as :

Turned component parts of wood for so-called “wood-wind” instruments (clarinets, flutes and the like); metal bodies of instruments; slides; extensions; mouthpieces of various types and

mouthpiece covers; reeds; valves, valve control buttons; keys, rings, ferrules, bells, mutes; key pads (for flutes, clarinets, etc.).

(5) **Parts and accessories for percussion instruments**, such as :

Sticks, whether or not soft-headed; mallets of various types; drum brushes; pedals used in dance-bands; cymbal brackets; drum-barrels and braces, etc.; slats or plates, tables and supporting frames for xylophones or similar instruments; skins for drums or the like, cut to circular or approximately circular shape and clearly identifiable; strings (usually of true hemp, jute or sisal) intended for stretching the skins of certain instruments such as drums; and the catgut or metal strings (snares) which cross the snare-heads of side-drums, when identifiable as such.

*

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The heading also covers :

(1) **Music holders for fixing to instruments**. **Stands** (**other than** monopods, bipods, tripods and similar articles, of **heading 96.20**)**for holding an instrument** (e.g. side-drums or saxophones).

(2) **Mechanical devices for playing a musical instrument**. These are auxiliary devices enabling keyboard instruments to be played mechanically with cards, discs or rolls; they may be operated by handles, pedals or by bellows, or may be mechanically or electrically driven. They may be fitted inside or outside the instrument (pianos or harmoniums usually).

(3) **Cards, discs and rolls**, for automatic musical instruments; these articles are classified here whether or not presented together with the instruments for which they are intended (see Note 2 to this Chapter).

*

* *

The heading also **excludes** :

(a) Articles of general use as defined in Note 2 to Section XV, such as hinges, handles, fittings (e.g., for pianos), of base metal (**Section XV**), and similar goods of plastics (**Chapter 39**).

(b) Tuning tools (**heading 82.05**).

(c) Spring-operated (clockwork) motors, not fitted with other parts, for musical boxes or mechanical singing birds (**heading 84.12**).

(d) Watch or clock movements not fitted with parts or accessories of musical instruments (**headings 91.08 to 91.10**).

(e) Piano stools (**heading 94.01**), music-stands or desks constructed for placing on the floor or ground (**heading 94.03**) and candle brackets for pianos (**heading 94.05**).

(f) Rosin for bow-strings, in moulded shapes (**heading 96.02**).

(g) Cleaning brushes for flutes, oboes, etc. (**heading 96.03**).

9209.30

- Musical instrument strings

9209.9

- Other :

9209.91

-- Parts and accessories for pianos

9209.92

-- Parts and accessories for the musical instruments of heading 92.02

9209.94

-- Parts and accessories for the musical instruments of heading 92.07

9209.99

-- Other

Section XIX

ARMS AND AMMUNITION; PARTS AND ACCESSORIES THEREOF

EXPLANATORY NOTES

Section XIX

ARMS AND AMMUNITION; PARTS AND ACCESSORIES THEREOF

Chapter 93

Arms and ammunition; parts and accessories thereof

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Goods of Chapter 36 (for example, percussion caps, detonators, signalling flares);

(b) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(c) Armoured fighting vehicles (heading 87.10);

(d) Telescopic sights and other optical devices suitable for use with arms, unless mounted on a firearm or presented with the firearm on which they are designed to be mounted (Chapter 90);

(e) Bows, arrows, fencing foils or toys (Chapter 95); or

(f) Collectors' pieces or antiques (heading 97.05 or 97.06).

2.- In heading 93.06, the reference to "parts thereof" does not include radio or radar apparatus of heading 85.26.

EXPLANATORY NOTES

Chapter 93

Arms and ammunition; Parts and accessories thereof

Notes.

1.- This Chapter does not cover :

(a) Goods of Chapter 36 (for example, percussion caps, detonators, signalling flares);

(b) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(c) Armoured fighting vehicles (heading 87.10);

(d) Telescopic sights and other optical devices suitable for use with arms, unless mounted on a firearm or presented with the firearm on which they are designed to be mounted (Chapter 90);

(e) Bows, arrows, fencing foils or toys (Chapter 95); or

(f) Collectors' pieces or antiques (heading 97.05 or 97.06).

2.- In heading 93.06, the reference to “parts thereof” does not include radio or radar apparatus of heading 85.26.

GENERAL

This Chapter covers :

(1) Arms of all descriptions designed for ground, sea or air warfare, for use by military armed forces or by the police or other organised services (customs, frontier guards, etc.).

(2) Arms for use by private persons for defence, hunting, target shooting (e.g., in miniature ranges, shooting galleries or fairground stands), etc.

(3) Other devices which operate by the firing of an explosive charge (e.g., line-throwing guns and Very pistols).

(4) Ammunition and missiles (**other than** articles of **Chapter 36**).

Subject to a few **exceptions** (see the Explanatory Notes to headings 93.05 and 93.06), the Chapter also includes parts and accessories of arms and parts of ammunition.

Telescopic sights and other optical devices suitable for use with arms and mounted thereon, or presented with the firearms on which they are designed to be mounted, are classified with the arm. Otherwise presented, such optical devices are **excluded** (**Chapter 90**).

Vehicles are excluded from this Chapter even if they are designed solely for military use, and whether or not they are fitted with weapons. The Chapter therefore **excludes**, for example, armoured railway vehicles (**Chapter 86**), tanks and armoured cars (**heading 87.10**), military aircraft (**heading 88.01, 88.02** or **88.06**), and warships (**heading 89.06**). However, separately presented arms for these vehicles, etc. (guns, machine-guns, etc.), fall in this Chapter (see the Explanatory Note to heading 93.01 with regard to certain arms mounted on railway or road vehicles).

The following are also **excluded** from this Chapter :

(a) Steel helmets and other military headgear (**Chapter 65**).

(b) Personal protective armour, e.g., cuirasses, coats of mail, bullet-proof jackets, etc. (classified according to their constituent materials).

(c) Cross-bows, bows and arrows for archery, and arms having the character of toys (**Chapter 95**).

(d) Collectors’ pieces and antiques (**heading 97.05** or **97.06**).

The arms and parts thereof of this Chapter may contain precious metal, metal clad with precious metal, natural or cultured pearls, precious and semi-precious stones (natural, synthetic or reconstructed), tortoise-shell, mother-of-pearl, ivory and similar materials.

Heading 9301

Military weapons, other than revolvers, pistols and the arms of heading 93.07.

EXPLANATORY NOTES

93.01 - Military weapons, other than revolvers, pistols and the arms of heading 93.07.

9301.10 - Artillery weapons (for example, guns, howitzers and mortars)

9301.20 - Rocket launchers; flame-throwers; grenade launchers; torpedo tubes and similar projectors

9301.90 - Other

This heading covers all military weapons **other than** the revolvers and pistols of **heading 93.02** and the arms of **heading 93.07**. The heading includes separately presented weapons and firearms designed to form part of the armament of vessels, armoured trains, aircraft, tanks or armoured cars.

The heading includes :

(1) **Artillery weapons and infantry support weapons**, i.e., all types of cannon and ordnance (fixed or on wheels, tracks, etc.), such as field, medium, heavy and super-heavy artillery, long-range guns, anti-aircraft guns, anti-tank guns, howitzers and mortars.

Long-range guns mounted on railway wagons also fall in this heading (and not in Chapter 86). Mobile and self-propelled guns, which should be distinguished from tanks and other armoured fighting vehicles of **heading 87.10**, are also classified here.

(2) **Arms** capable of continuous and very rapid fire; some are suitable for handling by one man.

This group includes machine-guns, sub-machine-guns (machine-pistols) and other continuous-fire weapons.

(3) **Military firearms such as rifles and carbines**.

(4) **Other specialised military projectors**, for example, military rocket projectors and launchers, **other than** those of **heading 93.03**; apparatus for the discharge of depth-charges; torpedo tubes; flame-throwers (apparatus for projecting an ignited volatile liquid at an enemy) **other than** flame guns specialised for destroying weeds (**heading 84.24**).

9301.10

- Artillery weapons (for example, guns, howitzers and mortars)

9301.20

- Rocket launchers; flame-throwers; grenade launchers; torpedo tubes and similar projectors

9301.90

- Other

Heading 9302

Revolvers and pistols, other than those of heading 93.03 or 93.04.

EXPLANATORY NOTES

93.02 - Revolvers and pistols, other than those of heading 93.03 or 93.04.

This heading covers revolvers and pistols, whatever the calibre, which are capable of discharging any missile (**other than** signal flares) by firing an explosive charge, and which are designed to be held in and fired from the hand.

Revolvers are single barrelled firearms incorporating a revolving cylinder.

Pistols have one or more barrels. They may also have interchangeable barrels. Semi-automatic pistols have a magazine which can be loaded with several rounds of ammunition, but the trigger must be operated for each round fired.

The heading also covers miniature pistols and revolvers; it also includes such weapons made in the form of other objects, for example, pencils, pocket knives or cigarette cases, **provided** they are, in fact, firearms.

The heading **excludes** continuous fire weapons (i.e., those which use pistol ammunition and which, once pressure has been applied to the trigger, continue to fire until either the magazine is exhausted or pressure is released from the trigger); these are classified in **heading 93.01** as sub-machine-guns (machine-pistols). They may be capable of being fired from the hand, but usually have extended stocks.

The heading also **excludes** :

(a) Captive-bolt type humane killers, Very pistols for the discharge of signal flares, pistols or revolvers for the firing of blank cartridges (with solid or blocked barrels, or with tapered cylinders) for race-starting, theatrical property pistols, “black powder” muzzle-loading pistols neither designed for nor capable of firing a cartridge (**heading 93.03**).

(b) Spring, air or gas pistols (**heading 93.04**).

9302.00

Revolvers and pistols, other than those of heading 93.03 or 93.04.

Heading 9303

Other firearms and similar devices which operate by the firing of an explosive charge (for example, sporting shotguns and rifles, muzzle-loading firearms, Very pistols and other devices designed to project only signal flares, pistols and revolvers for firing blank ammunition, captive-bolt humane killers, line-throwing guns).

EXPLANATORY NOTES

93.03 - Other firearms and similar devices which operate by the firing of an explosive charge (for example, sporting shotguns and rifles, muzzle-loading firearms, Very pistols and other devices designed to project only signal flares, pistols and revolvers for firing blank ammunition, captive-bolt humane killers, line-throwing guns).

9303.10 - Muzzle-loading firearms

9303.20 - Other sporting, hunting or target-shooting shotguns, including combination shotgun-rifles

9303.30 - Other sporting, hunting or target-shooting rifles

9303.90 - Other

This heading includes all firearms **not covered by headings 93.01** and **93.02**; it includes some devices which are not weapons but which operate by the firing of an explosive charge.

The heading includes :

(1) **Sporting, hunting and target shooting guns, rifles and carbines** of all calibres, smooth-bored or rifled. Sporting and hunting guns frequently have more than one barrel and sometimes have one smooth-bore barrel and one rifled barrel and may have interchangeable barrels (smooth-bore and rifled). They often have decorative chasing on metal parts and carved butts. Target shooting guns usually have only one barrel.

These guns may fire only one round at a time and be required to be reloaded manually after each shot, or they may be fitted with a magazine and capable of repetition firing, or they may have a mechanism for rapid semi-automatic fire.

Sporting guns made to resemble walking-sticks are included in this group.

(2) **Duck cannon (punt-guns)**, specially designed for shooting waterfowl. They are usually mounted on a stand or support designed to be fixed to a boat.

(3) **Muzzle-loading ("black powder") firearms** neither designed for nor capable of firing a cartridge.

(4) **Very pistols and other devices designed to project only signal flares**.

(5) **Dummy, imitation or safety pistols and revolvers** capable of firing only blank cartridges. They may have solid or blocked barrels with a vent for the escape of gases. Certain revolvers may have the chambers in the cylinder tapered, while some starters' or stage property pistols have no barrel. When used for starting races, these pistols may be fitted with electrical devices which actuate chronometer equipment.

(6) **Captive-bolt humane killers**. These resemble pistols for firing blank cartridges. The explosion drives forward a bolt sliding within the barrel in order to kill or stun the animal. The bolt does not leave the pistol but is drawn back for further use.

The heading **excludes** bullet-type pistols (usually of large calibre), occasionally used for slaughtering animals (**heading 93.02**).

(7) **Line-throwing guns**, used mainly on board ship or at lifeboat stations for life-saving and establishing communication.

(8) **Harpoon guns**, used for propelling a harpoon attached to a line to catch fish, marine mammals, turtles, etc.

(9) **Warning guns, mortars and similar apparatus**, firing blank ammunition, used to raise an alarm (e.g., at lifeboat stations), to celebrate an event or to give warning of the presence of poachers, etc.

(10) "**Hail cannon**", a kind of cannon consisting of a truncated sheet-iron cone, for firing at hail clouds to cause rain.

The heading **excludes** riveting tools, wall-plugging tools, etc., operated by means of an explosive charge (**heading 82.05**).

9303.10

- Muzzle-loading firearms

9303.20

- Other sporting, hunting or target-shooting shotguns, including combination shotgun-rifles

9303.30

- Other sporting, hunting or target-shooting rifles

9303.90

- Other

Heading 9304

Other arms (for example, spring, air or gas guns and pistols, truncheons), excluding those of heading 93.07.

EXPLANATORY NOTES

93.04 - Other arms (for example, spring, air or gas guns and pistols, truncheons), excluding those of heading 93.07.

The heading covers arms **other than** firearms of **headings 93.01 to 93.03** and arms of **heading 93.07**.

It includes the following :

(1) **Truncheons, life-preservers, weighted canes and the like** for police, etc., and **loaded walking-sticks**.

(2) **Knuckledusters**, i.e., pieces of metal shaped to fit a clenched fist and with which blows are delivered.

(3) **Catapults** designed for shooting at birds or pests. They may be in the form of a walking-stick.

Toy catapults are **excluded** (**heading 95.03**).

(4) **Air guns, rifles and pistols**. These resemble normal rifles, pistols, etc., but they have provision for compressing a column of air which is released into the barrel of the weapon when the trigger is pulled, thus ejecting the ammunition.

Guns, rifles and pistols operating on the same principle, but with gases other than air, are also included.

(5) **Similar weapons operated by the release of a heavy spring mechanism**.

(6) **Guns and pistols**, operated by compressed carbon dioxide gas, for remote projection of an automatic syringe, containing an anaesthetic or a medicament (antiserum, vaccine, etc.) at free-roaming animals.

(7) **Aerosol spray cans containing tear gas**.

9304.00

Other arms (for example, spring, air or gas guns and pistols, truncheons), excluding those of heading 93.07.

Heading 9305

Parts and accessories of articles of headings 93.01 to 93.04.

EXPLANATORY NOTES

93.05 - Parts and accessories of articles of headings 93.01 to 93.04.

9305.10 - Of revolvers or pistols

9305.20 - Of shotguns or rifles of heading 93.03

- Other :

9305.91 - - Of military weapons of heading 93.01

9305.99 - - Other

The parts and accessories of this heading include :

(1) **Parts for military weapons**, e.g., liners (tubes for barrels), recoil mechanisms and breeches for guns of all kinds; turrets, carriages, tripods and other special mountings for guns, machine-guns, sub-machine-guns, etc., whether or not with aiming and loading mechanisms.

(2) **Metal castings, stampings and forgings, for military small arms, sporting and target shooting guns, etc., revolvers and pistols**, e.g., barrels, breeches, locks, trigger guards, tumblers, levers, percussion hammers, cocking pieces, triggers, sears, extractors, ejectors, frames (of pistols), plates, butt plates, safety catches, cylinders (for revolvers), front and back sights, magazines.

(3) **Protective covers and protective cases**, for butts, sights, barrels or breeches.

(4) **Morris tubes, etc**. (small bore tubes for insertion in heavier calibre guns and rifles for practice on miniature ranges).

(5) **Butt stocks and other wooden parts** for guns, rifles or carbines and **butts and plates** (of wood, metal, ebonite, etc.) for revolvers and pistols.

(6) **Slings, band, piling or stacking and butt swivels and swivel bands** for guns, rifles or carbines.

(7) **Silencers** (sound moderators).

(8) **Removable recoil absorbers** for sporting or target shooting guns.

The heading **excludes** :

(a) Parts of general use as defined in Note 2 to Section XV (e.g., screws, rivets and springs), of base metal (**Section XV**), and similar goods of plastics (**Chapter 39**).

(b) Gun cases (**heading 42.02**).

(c) Gun cameras for aircraft (**heading 90.07**).

(d) Telescopic sights and similar sights for arms (**heading 90.13**).

(e) Accessories more specifically covered by other headings of the Nomenclature, such as pull-throughs, cleaning rods and other cleaning tools for arms (**headings 82.05, 96.03**, etc.).

9305.9

- Other :

9305.10

- Of revolvers or pistols

9305.20

- Of shotguns or rifles of heading 93.03

9305.91

-- Of military weapons of heading 93.01

9305.99

-- Other

Heading 9306

Bombs, grenades, torpedoes, mines, missiles and similar munitions of war and parts thereof; cartridges and other ammunition and projectiles and parts thereof, including shot and cartridge wads.

EXPLANATORY NOTES

93.06 - Bombs, grenades, torpedoes, mines, missiles and similar munitions of war and parts thereof; cartridges and other ammunition and projectiles and parts thereof, including shot and cartridge wads.

- Shotgun cartridges and parts thereof; air gun pellets :

9306.21 - - Cartridges

9306.29 - - Other

9306.30 - Other cartridges and parts thereof

9306.90 - Other

This heading includes :

(A) **Ammunition**, e.g. :

(1) Shells (explosive, shrapnel, armour piercing, star, flare, tracer, incendiary, smoke, etc.), and all other types of ammunition for guns and mortars.

(2) Cartridges of all types : blank (including blank cartridges for riveting tools or for starting compression ignition internal combustion piston engines), bulleted, tracer, incendiary, armour piercing, ball and shot cartridges for sporting guns, etc.

(3) Slugs, pellets (hollow, spherical, waisted, etc.) and darts for air, gas or spring guns, carbines or pistols, **other than** those for toys of **heading 95.03**.

(B) **Ballistic missiles** whose payload returns to the earth's surface after reaching its apogee and which impart to the payload a terminal velocity not exceeding 7,000 m/s .

(C) **Munitions of a type which contain their own means of propulsion after launching**, for example, torpedoes, flying bombs (missiles resembling aircraft), guided air missiles and rocket type ammunition.

(D) **Other munitions of war**, for example, land and sea mines, depth charges, hand and rifle grenades, aerial bombs.

(E) **Harpoons**, whether or not with explosive heads, for harpoon guns, etc.

(F) **Parts of ammunition and munitions of war**, for example :

(1) Grenade, mine, bomb, shell and torpedo bodies.

(2) Cartridge cases and other parts of cartridges, for example, bases (of brass), inner cups and inner bases and linings (of metal or paperboard) and wads (of felt, paper or cork, etc.).

(3) Bullets and lead shot, prepared for ammunition.

(4) Fuses (point and base detonating), whether time, percussion or proximity (electronically operated), for shells, torpedoes, etc.; parts of fuses, including protective caps.

(5) Mechanical parts for certain munitions, such as special propellers and gyroscopes for torpedoes.

(6) War-heads and buoyancy chambers for torpedoes.

(7) Strikers, safety pins, levers and other parts of grenades.

(8) Fins for bombs.

The heading **excludes** :

(a) Propellant powders and prepared explosives, even if put up in forms ready for incorporation in munitions (**headings 36.01** and **36.02**); safety fuses, detonating fuses, percussion and detonating caps, igniters and electric detonators, including primers for shells (**heading 36.03**).

(b) Signalling flares and rain rockets (**heading 36.04**).

(c) Charges for fire-extinguishers, and charged fire-extinguishing grenades (**heading 38.13**).

(d) Motors of **heading 84.11** or **84.12**, for rockets, torpedoes and similar missiles.

(e) Radio or radar apparatus of **heading 85.26** (see Note 2 to this Chapter).

(f) Watch or clock movements and parts thereof, for munitions or for parts of munitions (e.g., for fuses) (**headings 91.08 to 91.10** and **91.14**).

9306.2

- Shotgun cartridges and parts thereof; air gun pellets :
9306.21

-- Cartridges
9306.29

-- Other
9306.30

- Other cartridges and parts thereof
9306.90

- Other
Heading 9307

Swords, cutlasses, bayonets, lances and similar arms and parts thereof and scabbards and sheaths therefor.

EXPLANATORY NOTES

93.07 - Swords, cutlasses, bayonets, lances and similar arms and parts thereof and scabbards and sheaths thereof.

This heading covers weapons such as swords (including sword-sticks), cutlasses, bayonets, lances, spears, pikes, halberds, kukris commando knives, dirks, stilettos and daggers. Their blades usually consist of high quality steel, and in some cases a more or less elaborate shield or handguard is included.

The weapons remain classified in this heading even if used only for ceremonial or decorative purposes, or as theatrical properties.

Most of the weapons have a fixed blade, but some daggers and stilettos may have a movable blade normally housed within the handle. The blade may be opened and locked in position by hand or by a spring mechanism.

This heading also includes parts, for example, sword blades (including blanks therefor, even if only forged), hilts, guards and handles, and scabbards and sheaths for swords, bayonets, daggers, etc.

The heading **does not cover** :

(a) Belts and similar accoutrements, designed to support swords, bayonets, etc., of leather (**heading 42.03**) or of textile materials (**heading 62.17**); sword-knots (generally **heading 42.05** or **63.07**).

(b) Hunting, camping and other knives, being cutlery (**heading 82.11**) or sheaths for such knives (generally **heading 42.02**).

(c) Scabbards and sheaths of precious metal or of metal clad with precious metal (**heading 71.15**).

(d) Fencing foils (**heading 95.06**).

9307.00

Swords, cutlasses, bayonets, lances and similar arms and parts thereof and scabbards and sheaths therefor.

Section XX

MISCELLANEOUS MANUFACTURED ARTICLES

EXPLANATORY NOTES

Section XX

MISCELLANEOUS MANUFACTURED ARTICLES

Chapter 94

Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; luminaires and lighting fittings, not elsewhere specified or included; illuminated signs, illuminated name-plates and the like; prefabricated buildings

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Pneumatic or water mattresses, pillows or cushions, of Chapter 39, 40 or 63;

(b) Mirrors designed for placing on the floor or ground (for example, cheval-glasses (swing-mirrors)) of heading 70.09;

(c) Articles of Chapter 71;

(d) Parts of general use as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39), or safes of heading 83.03;

(e) Furniture specially designed as parts of refrigerating or freezing equipment of heading 84.18; furniture specially designed for sewing machines (heading 84.52);

(f) Lamps or light sources and parts thereof of Chapter 85;

(g) Furniture specially designed as parts of apparatus of heading 85.18 (heading 85.18), of heading 85.19 or 85.21 (heading 85.22) or of headings 85.25 to 85.28 (heading 85.29);

(h) Articles of heading 87.14;

(ij) Dentists' chairs incorporating dental appliances of heading 90.18 or dentists' spittoons (heading 90.18);

(k) Articles of Chapter 91 (for example, clocks and clock cases);

(l) Toy furniture or toy luminaire and lighting fittings (heading 95.03), billiard tables or other furniture specially constructed for games (heading 95.04), furniture for conjuring tricks or decorations (other than lighting strings) such as Chinese lanterns (heading 95.05); or

(m) Monopods, bipods, tripods and similar articles (heading 96.20).

2.- The articles (other than parts) referred to in headings 94.01 to 94.03 are to be classified in those headings only if they are designed for placing on the floor or ground.

The following are, however, to be classified in the above-mentioned headings even if they are designed to be hung, to be fixed to the wall or to stand one on the other :

(a) Cupboards, bookcases, other shelved furniture (including single shelves presented with supports for fixing them to the wall) and unit furniture;

(b) Seats and beds.

3.- (A) In headings 94.01 to 94.03 references to parts of goods do not include references to sheets or slabs (whether or not cut to shape but not combined with other parts) of glass (including mirrors), marble or other stone or of any other material referred to in Chapter 68 or 69.

(B) Goods described in heading 94.04, presented separately, are not to be classified in heading 94.01, 94.02 or 94.03 as parts of goods.

4.- For the purposes of heading 94.06, the expression “prefabricated buildings” means buildings which are finished in the factory or put up as elements, presented together, to be assembled on site, such as housing or worksite accommodation, offices, schools, shops, sheds, garages or similar buildings.
Prefabricated buildings include modular "building units" of steel, normally presented in the size and shape of a standard shipping container, but substantially or completely prefitted internally. Such modular building units are normally designed to be assembled together to form permanent buildings

EXPLANATORY NOTES

Chapter 94

Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; luminaires and lighting fittings, not elsewhere specified or included; illuminated signs, illuminated name-plates and the like; prefabricated buildings

Notes.

1.- This Chapter does not cover :

(a) Pneumatic or water mattresses, pillows or cushions, of Chapter 39, 40 or 63;

(b) Mirrors designed for placing on the floor or ground (for example, cheval-glasses (swing-mirrors)) of heading 70.09;

(c) Articles of Chapter 71;

(d) Parts of general use as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39), or safes of heading 83.03;

(e) Furniture specially designed as parts of refrigerating or freezing equipment of heading 84.18; furniture specially designed for sewing machines (heading 84.52);

(f) Lamps or light sources and parts thereof of Chapter 85;

(g) Furniture specially designed as parts of apparatus of heading 85.18 (heading 85.18), of heading 85.19 or 85.21 (heading 85.22) or of headings 85.25 to 85.28 (heading 85.29);

(h) Articles of heading 87.14;

(ij) Dentists' chairs incorporating dental appliances of heading 90.18 or dentists' spittoons (heading 90.18);

(k) Articles of Chapter 91 (for example, clocks and clock cases);

(l) Toy furniture or toy luminaires and lighting fittings (heading 95.03), billiard tables or other furniture specially constructed for games (heading 95.04), furniture for conjuring tricks or decorations (other than lighting strings) such as Chinese lanterns (heading 95.05); or

(m) Monopods, bipods, tripods and similar articles (heading 96.20).

2.- The articles (other than parts) referred to in headings 94.01 to 94.03 are to be classified in those headings only if they are designed for placing on the floor or ground.

The following are, however, to be classified in the above-mentioned headings even if they are designed to be hung, to be fixed to the wall or to stand one on the other :

(a) Cupboards, bookcases, other shelved furniture (including single shelves presented with supports for fixing them to the wall) and unit furniture;

(b) Seats and beds.

3.- (A) In headings 94.01 to 94.03 references to parts of goods do not include references to sheets or slabs (whether or not cut to shape but not combined with other parts) of glass (including mirrors), marble or other stone or of any other material referred to in Chapter 68 or 69.

(B) Goods described in heading 94.04, presented separately, are not to be classified in heading 94.01, 94.02 or 94.03 as parts of goods.

4.- For the purposes of heading 94.06, the expression "prefabricated buildings" means buildings which are finished in the factory or put up as elements, presented together, to be assembled on site, such as housing or worksite accommodation, offices, schools, shops, sheds, garages or similar buildings.

Prefabricated buildings include modular "building units" of steel, normally presented in the size and shape of a standard shipping container, but substantially or completely prefitted internally. Such modular building units are normally designed to be assembled together to form permanent buildings

GENERAL

This Chapter covers, **subject** to the exclusions listed in the Explanatory Notes to this Chapter :

(1) All furniture and parts thereof (headings 94.01 to 94.03).

(2) Mattress supports, mattresses and other articles of bedding or similar furnishing, sprung, stuffed or internally fitted with any material, or of cellular rubber or plastics, whether or not covered (heading 94.04).

(3) Luminaires and lighting fittings and parts thereof, not elsewhere specified or included, of any material (**excluding** those of materials described in Note 1 to Chapter 71), and illuminated signs, illuminated name-plates and the like, having a permanently fixed light source, and parts thereof not elsewhere specified or included (heading 94.05).

(4) Prefabricated buildings (heading 94.06).

For the purposes of this Chapter, the term "furniture" means :

(A) Any "movable" articles (**not included** under other more specific headings of the Nomenclature), which have the essential characteristic that they are constructed for placing on the floor or ground, and which are used, mainly with a utilitarian purpose, to equip private dwellings, hotels, theatres, cinemas, offices, churches, schools, cafés, restaurants, laboratories, hospitals, dentists' surgeries, etc., or ships, aircraft, railway coaches, motor vehicles, caravan-trailers or similar means of transport. (It should be noted that, for the purposes of this Chapter, articles are considered to be "movable" furniture even if they are designed for bolting, etc., to the floor, e.g., chairs for use on ships). Similar articles (seats, chairs, etc.) for use in gardens, squares, promenades, etc., are also included in this category.

(B) The following :

(i) Cupboards, bookcases, other shelved furniture (including single shelves presented with supports for fixing them to the wall) and unit furniture, designed to be hung, to be fixed to the wall or to stand one on the other or side by side, for holding various objects or articles (books, crockery, kitchen utensils, glassware, linen, medicaments, toilet articles, radio or television receivers, ornaments, etc.) and separately presented elements of unit furniture.

(ii) Seats or beds designed to be hung or to be fixed to the wall.

Except for the goods referred to in subparagraph (B) above, the term "furniture" **does not apply** to articles used as furniture but designed for placing on other furniture or shelves or for hanging on walls or from the ceiling.

It therefore follows that this Chapter **does not cover** other wall fixtures such as coat, hat and similar racks, key racks, clothes-brush hangers and newspaper racks, nor furnishings such as radiator screens. Similarly, the Chapter **excludes** the following types of goods **not** designed for placing on the floor : small articles of cabinet-work and small furnishing goods of wood (**heading 44.20**), and office equipment (e.g., sorting boxes, paper trays) of plastics or of base metal (**heading 39.26** or **83.04**).

However, equipment (cupboards, radiator screens, etc.) built-in or designed to be built-in, presented at the same time as the prefabricated buildings of heading 94.06 and forming an integral part thereof, remain classified in that heading.

Headings 94.01 to 94.03 cover articles of furniture **of any material** (wood, osier, bamboo, cane, plastics, base metals, glass, leather, stone, ceramics, etc.). Such furniture remains in these headings whether or not stuffed or covered, with worked or unworked surfaces, carved, inlaid, decoratively painted, fitted with mirrors or other glass fitments, or on castors, etc.

It should, however, be noted that furniture is **excluded** if it incorporates more than minor components (e.g., monograms, bands, ferrules, etc.) of precious metal or of metal clad with precious metal (**Chapter 71**).

Articles of furniture presented **disassembled** or **unassembled** are to be treated as assembled articles of furniture, **provided** the parts are presented together. This applies whether or not the furniture incorporates sheets, fittings or other parts of glass, marble or other materials (e.g., a wooden table with a glass top, a wooden wardrobe with a mirror, a sideboard with a marble top).

PARTS

This Chapter only covers parts, whether or not in the rough, of the goods of headings 94.01 to 94.03 and 94.05, when identifiable by their shape or other specific features as parts designed solely or principally for an article of those headings. They are classified in this Chapter when not more specifically covered elsewhere.

Parts of prefabricated buildings of heading 94.06, presented separately, are in all cases classified in their own appropriate headings.

In addition to the exclusions referred to in the individual Explanatory Notes below, this Chapter also **excludes** :

(a) Beadings and mouldings, of **heading 44.09**.

(b) Grooved strips of particle board, covered with plastics or other materials, intended to be cut and then folded along these cuts into a "U" shape so as to form parts of furniture (e.g., partitions of a drawer) (**heading 44.10**).

(c) Sheets of glass (including mirrors), marble or other stone or of any other material referred to in **Chapter 68** or **69**, whether or not cut to shape, unless they are combined with other parts which clearly identify them as parts of furniture (e.g., a mirror-door for a wardrobe).

(d) Springs, locks and other parts of general use as defined in Note 2 to Section XV, of base metal (Section XV), and similar goods of plastics (**Chapter 39**).

(e) Toy furniture and toy lamps or lighting fittings (**heading 95.03**).

(f) Collectors' pieces and antiques (**Chapter 97**).

Heading 9401

Seats (other than those of heading 94.02), whether or not convertible into beds, and parts thereof.

EXPLANATORY NOTES

94.01 - Seats (other than those of heading 94.02), whether or not convertible into beds, and parts thereof (+).

9401.10 - Seats of a kind used for aircraft

9401.20 - Seats of a kind used for motor vehicles

- Swivel seats with variable height adjustment :

9401.31 - - Of wood

9401.39 - - Other

- Seats other than garden seats or camping equipment, convertible into beds :

9401.41 - - Of wood

9401.49 - - Other

- Seats of cane, osier, bamboo or similar materials :

9401.52 - - Of bamboo

9401.53 - - Of rattan

9401.59 - - Other

- Other seats, with wooden frames :

9401.61 - - Upholstered

9401.69 - - Other

- Other seats, with metal frames :

9401.71 - - Upholstered

9401.79 - - Other

9401.80 - Other seats

- Parts :

9401.91 - - Of wood

9401.99 - - Other

Subject to the exclusions mentioned below, this heading covers all seats (including those for vehicles, provided that they comply with the conditions prescribed in Note 2 to this Chapter), for example :

Lounge chairs, arm-chairs, folding chairs, deck chairs, infants' high chairs and children's seats designed to be hung on the back of other seats (including vehicle seats), grandfather chairs, benches, couches (including those with electrical heating), settees, sofas, ottomans and the like, stools (such as piano stools, draughtsmen's stools, typists' stools, and dual purpose stool-steps), seats which

incorporate a sound system and are suitable for use with video game consoles and machines, television or satellite receivers, as well as with DVD, music CD, MP3 or video cassette players.

Seats of this heading may incorporate complementary non-seat components, for example, toy components, a vibration function, music or sound players, as well as lighting features.

Armchairs, couches, settees, etc., remain in this heading even if they are convertible into beds.

The heading **does not**, however, **include** :

(a) Steps (usually **headings 44.21** and **73.26**).

(b) Seat-sticks (**heading 66.02**).

(c) Articles of **heading 87.14** (e.g., saddles).

(d) Adjustable-speed revolving chairs for reflex-testing (**heading 90.19**).

(e) Chairs and seats of **heading 94.02**.

(f) Stools and foot-stools (whether or not rocking) designed to rest the feet, baby walkers, and linen and similar chests having a subsidiary use as seats (**heading 94.03**).

PARTS

The heading also covers identifiable parts of chairs or other seats, such as backs, bottoms and arm-rests (whether or not upholstered with straw or cane, stuffed or sprung), seat or backrest covers for permanent attachment to a seat, and spiral springs assembled for seat upholstery.

Separately presented cushions and mattresses, sprung, stuffed or internally fitted with any material or of cellular rubber or plastics whether or not covered, are **excluded** (**heading 94.04**) even if they are clearly specialised as parts of upholstered seats (e.g., settees, couches, sofas). When these articles are combined with other parts of seats, however, they remain classified in this heading. They also remain in this heading when presented with the seats of which they form part.

°

° °

Subheading Explanatory Notes.

Subheading 9401.31

Swivel seats of wood with variable height adjustment are chairs having seats that can revolve and, in some cases, tilt. For swivel seats with a back, the back may tilt independently of the seat. Most of the area of the seat, and also of the back, if applicable, should be of wood. The seat is raised or lowered with a hydraulic/gas cylinder or screw. They may or may not have wheels.

Subheadings 9401.61 and 9401.71

“Upholstered seats” are those having a soft layer of, for example, wadding, tow, animal hair, cellular plastics or rubber, shaped (whether or not fixed) to the seat and covered with a material such as woven fabric, leather or sheeting of plastics. Also classified as upholstered seats are seats the upholstering materials of which are not covered or have only a white fabric cover which is itself intended to be covered (known as upholstered seats “in muslin”), seats which are presented with detachable seat or back cushions and which could not be used without such cushions, and seats with helical springs (for upholstery). On the other hand, the presence of horizontally-acting tension springs, designed to attach to the frame a steel wire lattice, taut woven fabric, etc., is not sufficient to cause the seats to be classified as upholstered. Similarly, seats covered directly with materials such as woven fabric, leather, sheeting of plastics, without the interposition of upholstering materials or springs, and seats to which a single woven fabric backed with a thin layer of cellular plastics has been applied, are not regarded as upholstered seats.

Subheading 9401.80

This subheading also covers safety seats suitable for use for the carriage of infants and toddlers in motor vehicles or other means of transport. They are removable and are attached to the vehicle’s seats by means of the seat belt and a tether strap.

9401.3

- Swivel seats with variable height adjustment :
9401.4

- Seats other than garden seats or camping equipment, convertible into beds :
9401.5

- Seats of cane, osier, bamboo or similar materials :
9401.6

- Other seats, with wooden frames :
9401.7

- Other seats, with metal frames :
9401.9

- Parts :
9401.10

- Seats of a kind used for aircraft
9401.20

- Seats of a kind used for motor vehicles
9401.31

-- Of wood
9401.39

-- Other
9401.41

-- Of wood
9401.49

-- Other
9401.52

-- Of bamboo
9401.53

-- Of rattan

9401.59

-- Other

9401.61

-- Upholstered

CLASSIFICATION OPINIONS

1. **Seat** with a wooden frame and with brushed aluminum arms, upholstered and covered with a sheeting of plastics, incorporating a sound system, a side control panel and input/output jacks, and which is suitable for use with video game consoles or machines, television or satellite receivers, as well as DVD, music CD, MP3 or video cassette players. **Application of GIRs 1 and 6.** Adoption : 2012



9401.69

-- Other

9401.71

-- Upholstered

CLASSIFICATION OPINIONS

1. **Infant seat** with a textile upholstered cover over a metal frame incorporating toys, a vibration mechanism and a sound system. The product has a curved bottom portion which can convert into a rocking chair. It can also be locked into a non-rocking position. **Application of GIRs 1 and 6.**

   Adoption : 2015



2. **Baby seat** with an upholstered covering over a metal frame, incorporating a vibration mechanism, a sound system, and a removable toy bar. It is designed for a baby until it is able to sit upright.
Application of GIRs 1 and 6.

Adoption : 2015



3. **Baby seat** consisting of a padded ring, covered with plastics, that is suspended from three steel posts by three covered springs, incorporating a lighting mechanism, a sound system and toy components. The posts are attached to a round steel tubular base. It is designed for babies who are able to hold their heads upright unassisted but who are unable to walk.
Application of GIRs 1 and 6.

Adoption : 2015



4. **Swing-seat for babies** which is mounted on a painted metal frame with fittings of plastics and is designed to be placed on the floor. It is powered by batteries and can be set to six different

speeds. It includes toys and a musical apparatus. The seat part is padded and includes a harness-type belt for securing the baby. **Application of GIRs 1 and 6.**

Adoption : 2015



9401.79

-- Other

9401.80

- Other seats

CLASSIFICATION OPINIONS

1. Car safety seats suitable for use for the carriage of infants and toddlers in motor vehicles or other means of transport. They are removable and are attached to the vehicle's seats by means of the seat belt and a tether strap. **Application of GIRs 1 and 6.** Adoption : 2003



9401.91

-- Of wood

9401.99

-- Other

CLASSIFICATION OPINIONS

1. Covers for seats of motor vehicles consisting of assembled pieces made from leather, textile fabrics or plastic materials. These covers are equipped with several elements and cut-outs for fixing and adapting them to the seat carcass. They serve as permanent covers of the seats for specific motor vehicles. After the assembly of the seats, the covers cannot be removed without disassembling the seats.
Application of GIRs 1 and 6.
Adoption : 2017



Heading 9402

Medical, surgical, dental or veterinary furniture (for example, operating tables, examination tables, hospital beds with mechanical fittings, dentists' chairs); barbers' chairs and similar chairs, having rotating as well as both reclining and elevating movements; parts of the foregoing articles.

EXPLANATORY NOTES

94.02 - Medical, surgical, dental or veterinary furniture (for example, operating tables, examination tables, hospital beds with mechanical fittings, dentists' chairs); barbers' chairs and similar chairs, having rotating as well as both reclining and elevating movements; parts of the foregoing articles.

9402.10 - Dentists', barbers' or similar chairs and parts thereof

9402.90 - Other

(A) MEDICAL, SURGICAL, DENTAL OR VETERINARY FURNITURE

This group includes :

(1) Operating tables for general or specialised surgery, designed to enable the patient to be placed in the position required for different operations by adjusting, inclining, rotating or raising the table.

(2) Special orthopaedic tables for complex operations (e.g., on the hips, shoulders, spinal column).

(3) Vivisection and similar tables for animals, frequently equipped with restraining apparatus.

(4) Tables, table-beds and the like for clinical examinations, medical treatment, massage, etc.; beds and seats, e.g., for obstetrical, gynaecological, urological, cystoscopical, etc., examinations or operations, or for use in ear, nose, throat or eye treatment.

It should, however, be noted that the heading **excludes** tables and seats specialised for X-ray work, etc. (**heading 90.22**).

(5) Special seats for doctors and surgeons.

(6) Confinement beds (sometimes called birthing beds), usually consisting of a lower part with a basin which slides under the upper part.

(7) Mechanical beds for raising injured or sick persons without shaking, or for giving them hygienic attention without moving them.

(8) Beds with hinged mattress-supports specially designed for therapeutic treatment of pulmonary tuberculosis or other diseases.

(9) Beds combined with splints or other dislocation or fracture appliances and the like.

However, when such equipment is of a type designed to be simply attached to, but not fixed to the bed, it falls in **heading 90.21**; beds without the mechanism fall in **heading 94.03**.

(10) Stretchers and trolley-stretchers for moving patients inside hospitals, clinics, etc.

Carriages used to carry disabled persons in the street are **excluded** (**Chapter 87**).

(11) Small tables, table-cupboards and the like, whether or not on wheels (trolleys), of a type specially designed for instruments or bandages, medical or surgical supplies or anaesthetic equipment; instrument sterilising trolleys; special disinfection wash-basins, self-opening sterile dressing boxes (generally on wheels) and waste bins for soiled dressings (whether or not on wheels); bottle-holders, irrigator or douche carriers and the like, whether or not on pivoting castors; special instrument or dressing cabinets and cases.

(12) Dentists' chairs (including anaesthetising chair-beds) not incorporating dental appliances of heading 90.18, with mechanisms (usually telescopic) for raising as well as tilting and sometimes turning on a centre column, whether or not fitted with equipment such as lighting fittings.

Dentists' spittoon mouth rinsers, whether or not on a base or stand, and dentists' chairs incorporating dental appliances of heading 90.18, are **excluded** (**heading 90.18**).

It should be noted that this group is restricted to furniture of a type specially designed for medical, surgical, dental or veterinary use; furniture for general use not having such characteristics is therefore **excluded**.

(B) BARBERS' CHAIRS AND SIMILAR CHAIRS, HAVING ROTATING AS WELL AS BOTH RECLINING AND ELEVATING MOVEMENTS

This group includes barbers' chairs and similar chairs, having rotating as well as both reclining and elevating movements.

It should, however, be noted that the heading excludes piano stools, mechanical type rocking-chairs, swivel chairs, etc. (**heading 94.01**).

(C) PARTS

Parts of the foregoing articles are classified in this heading **provided** they are recognisable as such parts.

These parts include :

(1) Articles of a kind specially designed for fixing to operating tables to immobilise patients (such as shoulder, leg or thigh grips, leg supports, immobilising head-rests, arm or thorax supports and the like).

(2) Certain clearly identifiable parts of dentists' chairs (e.g., head-rests, back pieces, foot-rests, arm-rests, elbow-rests, etc.).

9402.10

- Dentists', barbers' or similar chairs and parts thereof

9402.90

- Other

Heading 9403

Other furniture and parts thereof.

EXPLANATORY NOTES

94.03 - Other furniture and parts thereof.

9403.10 - Metal furniture of a kind used in offices

9403.20 - Other metal furniture

9403.30 - Wooden furniture of a kind used in offices

9403.40 - Wooden furniture of a kind used in the kitchen

9403.50 - Wooden furniture of a kind used in the bedroom

9403.60 - Other wooden furniture

9403.70 - Furniture of plastics

- Furniture of other materials, including cane, osier, bamboo or similar materials :

9403.82 - - Of bamboo

9403.83 - - Of rattan

9403.89 - - Other

- Parts :

9403.91 - - Of wood

9403.99 - - Other

This heading covers furniture and parts thereof, **not covered** by the previous headings. It includes furniture for general use (e.g., cupboards, show-cases, tables, telephone stands, writing-desks, escritoires, book-cases, and other shelved furniture (including single shelves presented with supports for fixing them to the wall), etc.), and also furniture for special uses.

The heading includes furnitures for :

(1) **Private dwellings, hotels, etc.**, such as : cabinets, linen chests, bread chests, log chests; chests of drawers, tallboys; pedestals, plant stands; dressing-tables; pedestal tables; wardrobes, linen presses; hall stands, umbrella stands; side-boards, dressers, cupboards; food-safes; bedside tables; beds (including wardrobe beds, camp-beds, folding beds, cots, etc.); needlework tables; stools and foot-stools (whether or not rocking) designed to rest the feet, fire screens; draught-screens; pedestal ashtrays; music cabinets, music stands or desks; play-pens; serving trolleys (whether or not fitted with a hot plate).

(2) **Offices**, such as : clothes lockers, filing cabinets, filing trolleys, card index files, etc.

(3) **Schools**, such as : school-desks, lecturers' desks, easels (for blackboards, etc.).

(4) **Churches**, such as : altars, confessional boxes, pulpits, communion benches, lecterns, etc.

(5) **Shops, stores, workshops, etc.**, such as : counters; dress racks; shelving units; compartment or drawer cupboards; cupboards for tools, etc.; special furniture (with cases or drawers) for printing-works.

(6) **Laboratories or technical offices**, such as : microscope tables; laboratory benches (whether or not with glass cases, gas nozzles and tap fittings, etc.); fume-cupboards; unequipped drawing tables.

The heading **does not include** :

(a) Travelling chests, trunks and the like, not having the character of furniture (**heading 42.02**).

(b) Ladders and steps, trestles, carpenters' benches and the like not having the character of furniture; these are classified according to their constituent material (**headings 44.21, 73.26**, etc.).

(c) Builders' fittings (e.g., frames, doors and shelves) for cupboards, etc. to be built into walls (**heading 44.18** if of wood).

(d) Waste-paper baskets (of plastics, **heading 39.26**; of basket or wickerwork, **heading 46.02**; of base metal, **headings 73.26**, **74.19**, etc.).

(e) Hammocks (generally **heading 56.08** or **63.06**).

(f) Mirrors designed for standing on the ground, such as cheval-glasses, swing-mirrors for shoe-shops, tailors, etc. (**heading 70.09**).

(g) Armoured or reinforced safes (**heading 83.03**). On the other hand, containers specially designed to resist fire, impact and crushing and whose walls in particular do not offer any serious resistance to attempts at breaking them open by drilling or cutting are classified in this heading.

(h) Refrigerators, ice cream machines, etc. (i.e., cabinets, etc., having the character of furniture but also equipped either with a refrigerating unit or with an evaporator of a refrigerating unit, or designed to receive such equipment) (**heading 84.18**) (see Note (1) (e) to this Chapter). **However**, ice-boxes, ice-chests and the like, and also insulated cabinets not equipped or designed to contain an active refrigerating element but insulated simply by glass fibre, cork, wool, etc., **remain classified in this heading**.

(ij) Furniture specially designed for containing or providing a stand for sewing machines, whether or not it has a subsidiary use as furniture when the machine is not in use; protective covers, drawers, extensions and other component parts of such furniture (**heading 84.52**).

(k) Furniture specially designed as part of apparatus of heading 85.18 (**heading 85.18**), of heading 85.19 or 85.21 (**heading 85.22**) or of headings 85.25 to 85.28 (**heading 85.29**).

(l) Drawing tables fitted with instruments such as pantographs, (**heading 90.17**).

(m) Dentists' spittoons (**heading 90.18**).

(n) Mattress supports (**heading 94.04**).

(o) Standard lamps and other luminaires and lighting fittings (**heading 94.05**).

(p) Billiard tables, or other furniture specially constructed for games, of **heading 95.04**, and tables for conjuring tricks, of **heading 95.05**.

9403.8

- Furniture of other materials, including cane, osier, bamboo or similar materials :

9403.9

- Parts :

9403.10

- Metal furniture of a kind used in offices

CLASSIFICATION OPINIONS

1. Metal filing cabinets, floor-standing, equipped with a set of push-buttons for control of a built-in electro-mechanical device which brings the selected "tray" containing the documents to be consulted to the desired level.

Adoption : 1972

9403.20

- Other metal furniture

CLASSIFICATION OPINIONS

1. **Display units for stores, supermarkets, etc., of sheet steel,** consisting of a base (generally with screw-in feet for levelling), a back panel (wall unit) or a central post (free-standing unit with one set of shelving on each side), and a varying number of adjustable shelves or other display accessories (racks, bins, etc.), for placing on the floor. Adoption : 1969

2. **Checkout counter** of aluminium, measuring 210 cm in length, featuring a conveyor belt and designed to house a cash register, of a kind used in shops and supermarkets. **Application of GIRs 1 and 6.** Adoption : 2014



3. **Steel cabinet** (dimensions (H x W x D) : 2000 mm (45 RU – "Rack Unit") x 600 mm x 600 mm), designed to be free-standing and having the following specifications :

   - lockable glass front door;
   - open back;
   - open base (no plinth);
   - two steel side doors, lockable and removable, allowing cabinets to be placed side by side and the equipment therein to be interconnected when the facing sides are removed; and
   - four perforated posts screwed to the cabinet's side walls, to which the equipment to be housed in it can be bolted on.

The cabinet is presented together with patch panels (50-port voice), which are designed to be fitted to the cabinet interior but are supplied unassembled for ease of shipping. Other apparatus and equipment, namely a circuit breaker, a service board, power sockets, jumper bars/cable holders and a router, not presented together with the cabinet, will be fitted to the cabinet interior later.
The patch panels presented together with the cabinet are classified separately.
Application of GIRs 1 and 6.
See also Opinion 8536.90/2.
Adoption : 2014



4. Steel cabinet (dimensions (H x W x D) : 605 mm (12 RU – "Rack Unit") x 600 mm x 600 mm), designed to be wall-mounted and having the following specifications :

- lockable glass front door;
- open back (back is fixed to the wall);
- two perforated posts screwed to the cabinet's side walls, to which the equipment to be housed therein can be bolted on;
- perforated top and bottom to facilitate air flow; and
- special provision (space) at the bottom of the cabinet for connecting cables.

Patch panels, which are not presented together with the cabinet, will be fitted to the cabinet interior later. However, its technical characteristics also allow for the installation of other networking hardware, electrical feed and distribution equipment. **Application of GIRs 1 (Note 2 (a) to Chapter 94) and 6.** Adoption : 2014



5. Audio/video floor stand made of aluminium (dimensions (H x W x D) : 195 cm x 89 cm x 69 cm) on castors, also known as a "conference TV cart". The stand is presented unassembled. It is designed to be used in conference rooms, classrooms, meeting rooms, training rooms, trade shows, marketing events, etc. **Application of GIRs 1 (Note 2 to Chapter 94), 2 (a) and 6.** Adoption : 2016



6. Audio/video floor stand (overall height : 180 cm) on castors, also known as a "wide body TV cart", constructed mainly of steel. The stand is presented unassembled and without the flat panel display. It is built to accommodate up to a 42-inch (106.7 cm) flat panel display weighing 68 kg.
Application of GIRs 1 (Note 2 to Chapter 94), 2 (a) and 6. Adoption : 2016



7. Steel cabinets, with a door on the front side, presented empty (dimensions: height 250 mm to 1800 mm; width 250 mm to 1000 mm; depth 150 mm to 300 mm). The cabinets are designed to be mounted on a wall, or fixed on a flat surface and are fitted with a special lock, metal plate for fixing electrical devices, lid for the input-output conductors, grounded dowel pin, gaskets,

etc.
Application of GIRs 1 (Note 2 to Chapter 94) and 6.
Adoption : 2018



8. **Stainless steel cabinets**, with a door on the front side, and anti-corrosion treatment, presented empty (dimensions: height 250 mm to 1200 mm; width 250 mm to 800 mm; depth 150 mm to 300 mm). The cabinets are designed to be mounted on a wall, or fixed vertically on a flat surface and are fitted with a special lock, metal plate for fixing electrical devices, lid for the input-output conductors, grounded dowel pin, gaskets, etc.
Application of GIRs 1 (Note 2 to Chapter 94) and 6.
Adoption : 2018



9403.30

- Wooden furniture of a kind used in offices

9403.40

- Wooden furniture of a kind used in the kitchen

9403.50

- Wooden furniture of a kind used in the bedroom

9403.60

- Other wooden furniture

CLASSIFICATION OPINIONS

1. **Set** consisting of a square (76 x 76 cm) solid hardwood table and two matching wooden chairs with plaid fabric cushion seat, put up in a single box for retail sale. The table and chairs are presented unassembled.
Application of GIRs 1, 2 (a), 3 (c) and 6.
Adoption : 2007



2. **A-frame easel**, with three legs, two at the front and one at the rear, designed to be placed on the floor. With the "mast" extended, it has a maximum height of 2.28 m (minimum height is 1.67 m) and holds articles such as canvasses, paintings or blackboards up to 1.27 m high. **Application of GIRs 1 (Note 2 to Chapter 94) and 6.** Adoption : 2017



9403.70

- Furniture of plastics

CLASSIFICATION OPINIONS

1. **Baby walker** of plastics with a folding tubular-steel frame mounted on eight casters. It moves on the casters and includes a seat formed by a piece of fabric in which two holes have been made to allow the baby's legs to pass through, together with a table to which toys are attached. It is intended to help babies learn safely how to walk. **Application of GIRs 1 and 6.** Adoption : 2003



2. Plastic cabinet, with a door on the front side, presented empty (dimensions (height x width x depth): 200 mm x 300 mm x 130 mm). The cabinet is designed to be mounted on a wall, or fixed vertically on a flat surface. It is intended for extension or distribution of cable lines and can also be used as a meter box. It is resistant to chemical agents, heat and ultra-violet (UV) rays.
Application of GIRs 1 (Note 2 to Chapter 94) and 6. Adoption : 2018



3. Plastic cabinet, with a transparent door on the front side, presented empty (dimensions (height x width x depth): 500 mm x 700 mm x 250 mm). The cabinet is designed to be mounted on a wall, or fixed vertically on a flat surface. It is intended for extension or distribution of cable lines and can also be used as a meter box. It is resistant to chemical agents, heat and ultra-violet (UV) rays.
Application of GIRs 1 (Note 2 to Chapter 94) and 6. Adoption : 2018



9403.82

-- Of bamboo
9403.83

-- Of rattan
9403.89

-- Other
9403.91

-- Of wood
9403.99

-- Other

CLASSIFICATION OPINIONS

1. **Drawer sides fitted with runners** designed to receive a sliding drawer. Each side consists of a double-walled metal profile together with a base with grooves and notches. The grooves and the notches are designed to accommodate the runners, the front, the rear and the bottom of the drawer. The sides are presented with the runners and the fixings and clips for attaching the drawer to the piece of furniture for which it is intended.
The drawer sides are manufactured to specific dimensions and are used with other parts to form furniture drawers; e.g., for pedestals, cabinets, bureaus, dressers or tables with drawers.
Application of GIRs 1 and 6.
Adoption : 2019



Heading 9404

Mattress supports; articles of bedding and similar furnishing (for example, mattresses, quilts, eiderdowns, cushions, pouffes and pillows) fitted with springs or stuffed or internally fitted with any material or of cellular rubber or plastics, whether or not covered.

EXPLANATORY NOTES

94.04 - Mattress supports; articles of bedding and similar furnishing (for example, mattresses, quilts, eiderdowns, cushions, pouffes and pillows) fitted with springs or stuffed or internally fitted with any material or of cellular rubber or plastics, whether or not covered.

9404.10 - Mattress supports

- Mattresses :

9404.21 - - Of cellular rubber or plastics, whether or not covered

9404.29 - - Of other materials

9404.30 - Sleeping bags

9404.40 - Quilts, bedspreads, eiderdowns and duvets (comforters)

9404.90 - Other

This heading covers :

(A) **Mattress supports**, i.e., the sprung part of a bed, normally consisting of a wooden or metal frame fitted with springs or steel wire mesh (spring or wire supports), or of a wooden frame with internal springs and stuffing covered with fabric (mattress bases).

But the heading **excludes** spiral springs assembled together for chairs or other seats (**heading 94.01**) and woven iron or steel wire mesh, unmounted (**heading 73.14**).

(B) **Articles of bedding and similar furnishing** which are sprung or stuffed or internally fitted with any material (cotton, wool, horsehair, down, synthetic fibres, etc.), or are of cellular rubber or plastics (whether or not covered with woven fabric, plastics, etc.). For example :

(1) Mattresses, including mattresses with a metal frame.

(2) Quilts and bedspreads (including counterpanes, and also quilts for baby-carriages), eiderdowns and duvets (comforters) (whether of down or any other filling), mattress-protectors (a kind of thin mattress placed between the mattress itself and the mattress support), bolsters, pillows, cushions, pouffes, etc.

(3) Sleeping bags.

These articles remain classified in this heading whether or not they incorporate electric heating elements.

This heading also **excludes** :

(a) Water-mattresses (generally **heading 39.26** or **40.16**).

(b) Pneumatic mattresses or pillows (**heading 39.26, 40.16** or **63.06**) or pneumatic cushions (**heading 39.26, 40.14, 40.16, 63.06** or **63.07**).

(c) Leather covers for pouffes (**heading 42.05**).

(d) Blankets (**heading 63.01**).

(e) Pillow-cases, eiderdown or duvet covers (**heading 63.02**).

(f) Cushion covers (**heading 63.04**).

See the Explanatory Note to heading 94.01 concerning cushions or mattresses having the character of parts of seats.

9404.2

- Mattresses :

9404.10

- Mattress supports

9404.21

-- Of cellular rubber or plastics, whether or not covered

9404.29

-- Of other materials

9404.30

- Sleeping bags

9404.40

- Quilts, bedspreads, eiderdowns and duvets (comforters)

9404.90

- Other

Heading 9405

Luminaires and lighting fittings including searchlights and spotlights and parts thereof, not elsewhere specified or included; illuminated signs, illuminated name-plates and the like, having a permanently fixed light source, and parts thereof not elsewhere specified or included.

EXPLANATORY NOTES

94.05 - Luminaires and lighting fittings including searchlights and spotlights and parts thereof, not elsewhere specified or included; illuminated signs, illuminated name-plates and the like, having a permanently fixed light source, and parts thereof not elsewhere specified or included.

- Chandeliers and other electric ceiling or wall lighting fittings, excluding those of a kind used for lighting public open spaces or thoroughfares :

9405.11 - - Designed for use solely with light-emitting diode (LED) light sources

9405.19 - - Other

- Electric table, desk, bedside or floor-standing luminaires :

9405.21 - - Designed for use solely with light-emitting diode (LED) light sources

9405.29 - - Other

- Lighting strings of a kind used for Christmas trees :

9405.31 - - Designed for use solely with light-emitting diode (LED) light sources

9405.39 - - Other

- Other electric luminaires and lighting fittings :

9405.41 - - Photovoltaic, designed for use solely with light-emitting diode (LED) light sources

9405.42 - - Other, designed for use solely with light-emitting diode (LED) light sources

9405.49 - - Other

9405.50 - Non-electrical luminaires and lighting fittings

- Illuminated signs, illuminated name-plates and the like :

9405.61 - - Designed for use solely with light-emitting diode (LED) light sources

9405.69 - - Other

- Parts :

9405.91 - - Of glass

9405.92 - - Of plastics

9405.99 - - Other

(I) LUMINAIRES AND LIGHTING FITTINGS, NOT ELSEWHERE SPECIFIED OR INCLUDED

Luminaires and lighting fittings of this group can be constituted of any material (**excluding** those materials described in Note 1 to Chapter 71) and use any source of light (candles, oil, petrol, paraffin (or kerosene), gas, acetylene, electricity, etc.). Electrical luminaires and lighting fittings of this heading may be equipped with lamp-holders, switches, flex and plugs, transformers, etc., or, as in the case of fluorescent strip fixtures, a starter or a ballast.

This heading covers in particular :

(1) **Luminaires and lighting fittings normally used for the illumination of rooms**, e.g. : hanging lamps; bowl lamps; ceiling lamps; chandeliers; wall lamps; standard lamps; table lamps; bedside lamps; desk lamps; night lamps; water-tight lamps.

(2) **Luminaires for exterior lighting**, e.g. : street lamps; porch and gate lamps; special illumination lamps for public buildings, monuments, parks.

(3) **Specialised lamps**, e.g. : darkroom lamps; machine lamps (presented separately); photographic studio lamps; inspection lamps (**other than** those of **heading 85.12**); non-flashing beacons for aerodromes; shop window lamps; lighting strings (including those fitted with fancy lamps for carnival or entertainment purposes or for decorating Christmas trees).

(4) **Luminaires and lighting fittings for the vehicles of Chapter 86, for aircraft or for ships or boats**, e.g. : headlamps for trains; locomotive and railway rolling stock lanterns; headlamps for aircraft; ships' or boats' lanterns. It should be noted, however, that sealed beam lamp units are classified in **heading 85.39**.

(5) **Portable lamps** (**other than** those of **heading 85.13**), e.g., : hurricane lamps; stable lamps; hand lanterns; miners' lamps; quarrymen's lamps.

(6) **Candelabra, candlesticks, candle brackets, e.g., for pianos**.

This group also includes **searchlights and spotlights**. These throw a concentrated beam of light (which can usually be regulated) over a distance onto a given point or surface, by means of a reflector and lenses, or with a reflector only. The reflectors are usually of silvered glass, or of polished, silvered or chromium-plated metal. The lenses are usually plano-convex or stepped (Fresnel lenses).

Searchlights are used, e.g., for anti-aircraft operations, and spotlights, e.g., for stage sets and in photographic or film studios.

(II) ILLUMINATED SIGNS, ILLUMINATED NAME-PLATES AND THE LIKE

This group covers advertising lamps, signs, illuminated name-plates (including road signs) and like articles such as advertising plates and address plates, of any material, provided that they have a permanently fixed light source.

*

* *

PARTS

The heading also covers identifiable **parts** of luminaires and lighting fittings, illuminated signs, illuminated name-plates and the like, not more specifically covered elsewhere, e.g., :

(1) Suspension assemblies (rigid or chain type) for lighting pendants.

(2) Globe holders.

(3) Bases, handles and cases for hand lamps.

(4) Burners for lamps; mantle holders.

(5) Lantern frames.

(6) Reflectors.

(7) Lamp glasses or chimneys (bottle-necked, etc.).

(8) Small cylinders of thick glass for miner's safety lamps.

(9) Diffusers (including alabaster diffusers).

(10) Bowls, cups, shades (including skeleton wire frames for making lampshades), globes and similar articles.

(11) Chandeliertrimmings, such as balls, pear-shaped drops, flower-shaped pieces, pendants, small plates and the like, identifiable by their size or their fixing or fastening devices.

Non-electrical parts of articles of this heading, combined with electrical parts, remain classified here. Separately presented electrical fittings (e.g., switches, lamp holders, flex, plugs, transformers, starters, ballasts) are **excluded** (**Chapter 85**).

This heading also **excludes** :

(a) Candles (**heading 34.06**).

(b) Resin torches (**heading 36.06**).

(c) Signs, name-plates and the like, not illuminated or illuminated by a light source not permanently fixed, (**heading 39.26**, **Chapter 70**, **heading 83.10**, etc.).

(d) Printed globes, with internal lighting fittings, of **heading 49.05**.

(e) Wicks for lamps, of woven, plaited or knitted textile materials (**heading 59.08**).

(f) Glass beads and fancy glass smallwares (e.g., fringes) made of threaded glass beads or bugles and intended for trimming lampshades (**heading 70.18**).

(g) Electrical lighting and signalling equipment for cycles and motor vehicles (**heading 85.12**).

(h) Electric filament lamps, discharge lamps (including sealed beam lamp units and ultra-violet or infra-red lamps as well as tubes in various complex forms such as scrolls, letter, figures, stars, etc.), arc- lamps and light-emitting diode (LED) light sources (**heading 85.39**).

(ij) Photographic flashlight apparatus (including electrically ignited photographic flashbulbs) (**heading 90.06**).

(k) Optical light-beam signalling apparatus (**heading 90.13**).

(l) Medical diagnostic, probing, irradiation, etc., lamps (**heading 90.18**).

(m) Decorations, such as Chinese lanterns (**heading 95.05**).

9405.1

- Chandeliers and other electric ceiling or wall lighting fittings, excluding those of a kind used for lighting public open spaces or thoroughfares :

9405.2

- Electric table, desk, bedside or floor-standing luminaires :

9405.3

- Lighting strings of a kind used for Christmas trees :

9405.4

- Other electric luminaires and lighting fittings :

9405.6

- Illuminated signs, illuminated name-plates and the like :

9405.9

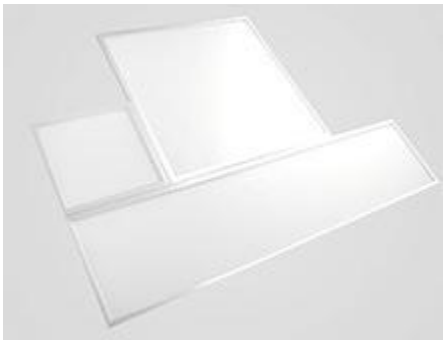
- Parts :

9405.11

-- Designed for use solely with light-emitting diode (LED) light sources

CLASSIFICATION OPINIONS

1. LED light panels which are lighting products in sizes 1' x 1', 2' x 2', 1' x 4' and 2' x 4', that fit into a dropped ceiling grid. These light panels are encased in an anodized aluminium frame or steel frame with prismatic acrylic lens powered by a low voltage constant current driver and come with a cord to connect to a socket or directly to the mains power supply. These lights are made for standard T-Bar mounting and come with clips for the four sides and wiring nuts for wiring. They are ready to use when imported and are presented without the mounting hardware. **Application of GIRs 1 and 6.** *Adoption : 2019*



9405.19

-- Other

9405.21

-- Designed for use solely with light-emitting diode (LED) light sources

9405.29

-- Other

9405.31

-- Designed for use solely with light-emitting diode (LED) light sources

9405.39

-- Other

9405.41

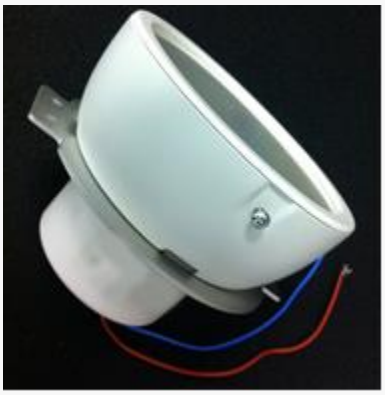
-- Photovoltaic, designed for use solely with light-emitting diode (LED) light sources

9405.42

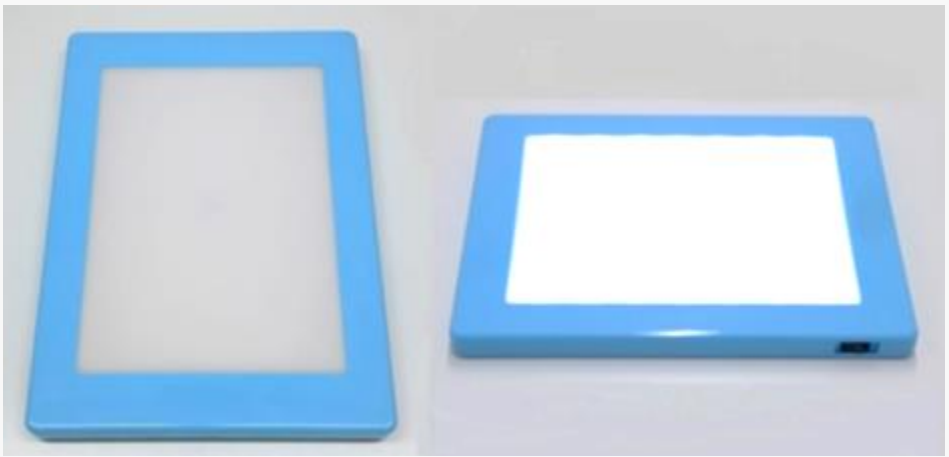
-- Other, designed for use solely with light-emitting diode (LED) light sources

CLASSIFICATION OPINIONS

1. **Lamp in the form of a light-emitting diode (LED) downlight**, constructed from a machined aluminium housing with attached mounting plate and an integrated thermal management system. Behind the lens of the lamp are eight light-emitting diodes : three red LEDs and five yellow LEDs, as well as driver electronics.
The product does not include an Edison-type screw base or a standard bi-pin connector base. Instead, two copper lead wires (line and neutral) extend from the back of the base for connection to a power source.
Application of GIRs 1 and 6.
Adoption : 2015



2. **Tracing Light Box,** consisting of a battery-powered LED light box, whose housing is made of plastics. The light box allows users to trace the outline of an image on paper as accurately as possible, by illuminating the paper, together with the original image put below, through its translucent cover using LED light. This product does not have any grid or plot on the upper surface. No accessories are attached to help drawing or drafting. It can be used for drawing, tracing, scrapbooking and other creative activities, such as calligraphy, serigraphy, embroidery, quilling and for viewing slides or negatives. Box dimensions: 250 mm × 340 mm × 25 mm.
Application of GIRs 1 and 6.
Adoption : 2022



9405.49

-- Other

9405.50

- Non-electrical luminaires and lighting fittings
9405.61

-- Designed for use solely with light-emitting diode (LED) light sources
9405.69

-- Other
9405.91

-- Of glass
9405.92

-- Of plastics
9405.99

-- Other
CLASSIFICATION OPINIONS

1. Alabaster lighting diffusers, in various sizes and shapes, usually in combination with metal fittings, and used as parts of lamps or lighting fittings such as ceiling lamps, hanging lamps, wall sconces, chandeliers or wall lamps.
Adoption : 1995

Heading 9406

Prefabricated buildings.
EXPLANATORY NOTES

94.06 - Prefabricated buildings (+).

9406.10 - Of wood

9406.20 - Modular building units, of steel

9406.90 - Other

This heading covers prefabricated buildings, also known as “industrialised buildings”, of all materials.

These buildings, which can be designed for a variety of uses, such as housing, worksite accommodation, offices, schools, shops, sheds, garages and greenhouses, are generally presented in the form of :

- complete buildings, fully assembled, ready for use;

- complete buildings, unassembled;

- incomplete buildings, whether or not assembled, having the essential character of prefabricated buildings.

In the case of buildings presented unassembled, the necessary elements may be presented partially assembled (for example, walls, trusses) or cut to size (beams, joists, in particular) or, in some cases, in indeterminate or random lengths for cutting on the site (sills, insulation, etc.).

The buildings of this heading may or may not be equipped. However, only built-in equipment normally supplied is to be classified with the buildings. This includes electrical fittings (wiring, sockets, switches, circuit-breakers, bells, etc.), heating and air conditioning equipment (boilers, radiators, air conditioners, etc.), sanitary equipment (baths, showers, water heaters, etc.), kitchen equipment (sinks, hoods, cookers, etc.) and items of furniture which are built in or designed to be built in (cupboards, etc.).

Prefabricated buildings include “modular building units” with a steel structure, also referred to as modules. They are normally presented in the size and shape of a standard shipping container intended for multi-modal transport. However, they are substantially or completely pre-fitted internally with internal walls, floorings, ceilings, doors, windows and electrical and plumbing facilities as appropriate to the type of building module. They may also be equipped with other fixtures and fittings such as staircases, built-in furniture, kitchen equipment, sanitary fixtures, external cladding and roofing. They are structurally self-supporting and designed for assembly with other modules horizontally or vertically to become permanent buildings, such as hospitals, hotels, residential, communal facilities, or schools. They may be presented with assembly components to link modules.

However, modular building units **do not include** units with a permanent chassis (“mobile homes”) (**Chapter 87**).

Material for the assembly or finishing of prefabricated buildings (e.g., nails, glues, plaster, mortar, electric wire and cables, tubes and pipes, paints, wallpaper, carpeting) is to be classified with the buildings, **provided** it is presented therewith in appropriate quantities.

Presented separately, parts of buildings and equipment, whether or not identifiable as intended for these buildings, are **excluded** from the heading and are in all cases classified in their own appropriate headings.

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° °

Subheading Explanatory Notes

Subheading 9406.10

For the purposes of classification in this subheading, the expression “of wood” refers to prefabricated buildings with wooden structure, exterior walls, floor (if floor present), and other characteristic constructive elements consisting predominantly of wood.

Subheading 9406.20

This subheading does not cover fabricated buildings that are presented as either “flat pack” or in assembly units that are not structurally self-supporting (subheading 9406.90) and fully self-contained buildings, such as those used as street kiosks or worksite offices, which have been built using steel shipping containers, but are not designed for assembly with other modules (**subheading 9406.90**).

9406.10

- Of wood

CLASSIFICATION OPINIONS

1. Grain silos, farm type, consisting of several circular sections, of decreasing diameter, made of fibreboard of wood, designed for assembly by being placed one on top of the other and held together by iron tubes; these silos were not fitted with mechanical or thermal equipment.
Adoption : 1977

9406.20

- Modular building units, of steel

9406.90

- Other

Chapter 95

Toys, games and sports requisites; parts and accessories thereof

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Candles (heading 34.06);

(b) Fireworks or other pyrotechnic articles of heading 36.04;

(c) Yarns, monofilament, cords or gut or the like for fishing, cut to length but not made up into fishing lines, of Chapter 39, heading 42.06 or Section XI;

(d) Sports bags or other containers of heading 42.02, 43.03 or 43.04;

(e) Fancy dress of textiles, of Chapter 61 or 62; sports clothing and special articles of apparel of textiles, of Chapter 61 or 62, whether or not incorporating incidentally protective components such as pads or padding in the elbow, knee or groin areas (for example, fencing clothing or soccer goalkeeper jerseys);

(f) Textile flags or bunting, or sails for boats, sailboards or land craft, of Chapter 63;

(g) Sports footwear (other than skating boots with ice or roller skates attached) of Chapter 64, or sports headgear of Chapter 65;

(h) Walking-sticks, whips, riding-crops or the like (heading 66.02), or parts thereof (heading 66.03);

(ij) Unmounted glass eyes for dolls or other toys, of heading 70.18;

(k) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(l) Bells, gongs or the like of heading 83.06;

(m) Pumps for liquids (heading 84.13), filtering or purifying machinery and apparatus for liquids or gases (heading 84.21), electric motors (heading 85.01), electric transformers (heading 85.04) , discs, tapes, solid-state non-volatile storage devices, "smart cards" and other media for the recording of sound or of other phenomena, whether or not recorded (heading 85.23), radio remote control apparatus (heading 85.26) or cordless infrared remote control devices (heading 85.43);

(n) Sports vehicles (other than bobsleighs, toboggans and the like) of Section XVII;

(o) Children’s bicycles (heading 87.12);

(p) Unmanned aircraft (heading 88.06);

(q) Sports craft such as canoes and skiffs (Chapter 89), or their means of propulsion (Chapter 44 for such articles made of wood);

(r) Spectacles, goggles or the like, for sports or outdoor games (heading 90.04);

(s) Decoy calls or whistles (heading 92.08);

(t) Arms or other articles of Chapter 93;

(u) Electric garlands of all kinds (heading 94.05);

(v) Monopods, bipods, tripods and similar articles (heading 96.20);

(w) Racket strings, tents or other camping goods, or gloves, mittens and mitts (classified according to their constituent material); or

(x) Tableware, kitchenware, toilet articles, carpets and other textile floor coverings, apparel, bed linen, table linen, toilet linen, kitchen linen and similar articles having a utilitarian function (classified according to their constituent material).

2.- This Chapter includes articles in which natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed), precious metal or metal clad with precious metal constitute only minor constituents.

3.- Subject to Note 1 above, parts and accessories which are suitable for use solely or principally with articles of this Chapter are to be classified with those articles.

4.- Subject to the provisions of Note 1 above, heading 95.03 applies, *inter alia*, to articles of this heading combined with one or more items, which cannot be considered as sets under the terms of General Interpretative Rule 3 (b), and which, if presented separately, would be classified in other headings, provided the articles are put up together for retail sale and the combinations have the essential character of toys.

5.- Heading 95.03 does not cover articles which, on account of their design, shape or constituent material, are identifiable as intended exclusively for animals, for example, “pet toys” (classification in their own appropriate heading).

6.- For the purposes of heading 95.08 :

(a) The expression “amusement park rides” means a device or combination of devices or equipment that carry, convey, or direct a person or persons over or through a fixed or restricted course, including watercourses, or within a defined area for the primary purposes of amusement or entertainment. Such rides may be combined within an amusement park, theme park, water park or fairground.These amusement park rides do not include equipment of a kind commonly installed in residences or playgrounds;

(b) The expression “water park amusements” means a device or combination of devices or equipment that are characterised by a defined area involving water, with no purposes built path. Water park amusements only include equipment designed specifically for water parks; and

(c) The expression “fairground amusements” means games of chance, strength or skill, which commonly employ an operator or attendant and may be installed in permanent buildings or independent concession stalls. Fairground amusements do not include equipment of heading 95.04.

This heading does not include equipment more specifically classified elsewhere in the Nomenclature.

Subheading Note.

1.- Subheading 9504.50 covers :

(a) Video game consoles from which the image is reproduced on a television receiver, a monitor or other external screen or surface; or

(b) Video game machines having a self-contained video screen, whether or not portable.

This subheading does not cover video game consoles or machines operated by coins, banknotes, bank cards, tokens or by any other means of payment (subheading 9504.30).

EXPLANATORY NOTES

Chapter 95

Toys, games and sports requisites; parts and accessories thereof

Notes.

1.- This Chapter does not cover :

(a) Candles (heading 34.06);

(b) Fireworks or other pyrotechnic articles of heading 36.04;

(c) Yarns, monofilament, cords or gut or the like for fishing, cut to length but not made up into fishing lines, of Chapter 39, heading 42.06 or Section XI;

(d) Sports bags or other containers of heading 42.02, 43.03 or 43.04;

(e) Fancy dress of textiles, of Chapter 61 or 62; sports clothing and special articles of apparel of textiles, of Chapter 61 or 62, whether or not incorporating incidentally protective components such as pads or padding in the elbow, knee or groin areas (for example, fencing clothing or soccer goalkeeper jerseys);

(f) Textile flags or bunting, or sails for boats, sailboards or land craft, of Chapter 63;

(g) Sports footwear (other than skating boots with ice or roller skates attached) of Chapter 64, or sports headgear of Chapter 65;

(h) Walking-sticks, whips, riding-crops or the like (heading 66.02), or parts thereof (heading 66.03);

(ij) Unmounted glass eyes for dolls or other toys, of heading 70.18;

(k) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(l) Bells, gongs or the like of heading 83.06;

(m) Pumps for liquids (heading 84.13), filtering or purifying machinery and apparatus for liquids or gases (heading 84.21), electric motors (heading 85.01), electric transformers (heading 85.04) , discs, tapes, solid-state non-volatile storage devices, "smart cards" and other media for the recording of sound or of other phenomena, whether or not recorded (heading 85.23), radio remote control apparatus (heading 85.26) or cordless infrared remote control devices (heading 85.43);

(n) Sports vehicles (other than bobsleighs, toboggans and the like) of Section XVII;

(o) Children's bicycles (heading 87.12);

(p) Unmanned aircraft (heading 88.06);

(q) Sports craft such as canoes and skiffs (Chapter 89), or their means of propulsion (Chapter 44 for such articles made of wood);

(r) Spectacles, goggles or the like, for sports or outdoor games (heading 90.04);

(s) Decoy calls or whistles (heading 92.08);

(t) Arms or other articles of Chapter 93;

(u) Electric garlands of all kinds (heading 94.05);

(v) Monopods, bipods, tripods and similar articles (heading 96.20);

(w) Racket strings, tents or other camping goods, or gloves, mittens and mitts (classified according to their constituent material); or

(x) Tableware, kitchenware, toilet articles, carpets and other textile floor coverings, apparel, bed linen, table linen, toilet linen, kitchen linen and similar articles having a utilitarian function (classified according to their constituent material).

2.- This Chapter includes articles in which natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed), precious metal or metal clad with precious metal constitute only minor constituents.

3.- Subject to Note 1 above, parts and accessories which are suitable for use solely or principally with articles of this Chapter are to be classified with those articles.

4.- Subject to the provisions of Note 1 above, heading 95.03 applies, *inter alia*, to articles of this heading combined with one or more items, which cannot be considered as sets under the terms of General Interpretative Rule 3 (b), and which, if presented separately, would be classified in other headings, provided the articles are put up together for retail sale and the combinations have the essential character of toys.

5.- Heading 95.03 does not cover articles which, on account of their design, shape or constituent material, are identifiable as intended exclusively for animals, for example, “pet toys” (classification in their own appropriate heading).

6.- For the purposes of heading 95.08 :

(a) The expression “amusement park rides” means a device or combination of devices or equipment that carry, convey, or direct a person or persons over or through a fixed or restricted course, including watercourses, or within a defined area for the primary purposes of amusement or entertainment. Such rides may be combined within an amusement park, theme park, water park or fairground.These amusement park rides do not include equipment of a kind commonly installed in residences or playgrounds;

(b) The expression “water park amusements” means a device or combination of devices or equipment that are characterised by a defined area involving water, with no purposes built path. Water park amusements only include equipment designed specifically for water parks; and

(c) The expression “fairground amusements” means games of chance, strength or skill, which commonly employ an operator or attendant and may be installed in permanent buildings or independent concession stalls. Fairground amusements do not include equipment of heading 95.04.

This heading does not include equipment more specifically classified elsewhere in the Nomenclature.

Subheading Note.

1.- Subheading 9504.50 covers :

(a) Video game consoles from which the image is reproduced on a television receiver, a monitor or other external screen or surface; or

(b) Video game machines having a self-contained video screen, whether or not portable.

This subheading does not cover video game consoles or machines operated by coins, banknotes, bank cards, tokens or by any other means of payment (subheading 9504.30).

GENERAL

This Chapter covers toys of all kinds whether designed for the amusement of children or adults. It also includes equipment for indoor or outdoor games, appliances and apparatus for sports, gymnastics or athletics, certain requisites for fishing, hunting or shooting, and roundabouts and other fairground amusements.

Each of the headings of this Chapter also covers identifiable parts and accessories of articles of this Chapter which are suitable for use solely or principally therewith, and **provided** they are **not** articles excluded by Note 1 to this Chapter.

The articles of this Chapter may, in general, be made of any material **except** natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed), precious metal or metal clad with precious metal. They may, however, incorporate **minor constituents** made of these materials.

Apart from the articles excluded in the following Explanatory Notes, this Chapter also **excludes** :

(a) Fireworks or other pyrotechnic articles of **heading 36.04**.

(b) Rubber tyres and other articles of **heading 40.11, 40.12** or **40.13**.

(c) Tents and camping goods (generally **heading 63.06**).

(d) Pumps for liquids (**heading 84.13**), filtering or purifying machinery and apparatus for liquids or gases (**heading 84.21**), electric motors (**heading 85.01**), electric transformers (**heading 85.04**), discs, tapes, solid-state non-volatile storage devices, "smart cards" and other media for the recording of sound or of other phenomena, whether or not recorded (**heading 85.23**), radio remote control apparatus (**heading 85.26**) or cordless infrared remote control devices (**heading 85.43**).

(e) Arms and other articles of **Chapter 93**.

Heading 9503

Tricycles, scooters, pedal cars and similar wheeled toys; dolls' carriages; dolls; other toys; reduced-size ("scale") models and similar recreational models, working or not; puzzles of all kinds.

EXPLANATORY NOTES

95.03 - Tricycles, scooters, pedal cars and similar wheeled toys; dolls' carriages; dolls; other toys; reduced-size ("scale") models and similar recreational models, working or not; puzzles of all kinds.

This heading covers :

(A) **Wheeled toys**.

These articles are usually designed for propulsion either by means of pedals, hand levers or other simple devices which transmit power to the wheels through a chain or rod, or, as in the case of certain scooters, by direct pressure of a person’s foot against the ground. Other types of wheeled toys may be simply drawn or pushed by another person or driven by a motor.

These toys include :

(1) Children’s tricycles and the like, but **excluding** bicycles of **heading 87.12**.

(2) Two- or three-wheeled scooters designed to be ridden by children, as well as youngsters and adults, with an adjustable or non-adjustable steering column and small solid or inflatable

wheels. They are sometimes equipped with a bicycle-type handle-bar, a hand brake or a foot brake on the rear wheel.

(3) Pedal- or hand-propelled wheeled toys in the form of animals.

(4) Pedal cars, frequently in the form of miniature sports cars, jeeps, lorries, etc.

(5) Wheeled toys, propelled by hand levers.

(6) Other wheeled toys (with no mechanical transmission system) which are designed to be drawn or pushed, and are large enough for children to ride.

(7) Children's cars powered by a motor.

(B) **Dolls' carriages (e.g., strollers), including folding types**.

This group covers doll's carriages, whether or not folding, fitted with two or more wheels, such as push-chairs, perambulators, strollers, etc. It also covers bedding for carriages, similar to that used for doll's beds.

(C) **Dolls**.

This group includes not only dolls designed for the amusement of children, but also dolls intended for decorative purposes (e.g., boudoir dolls, mascot dolls), or for use in Punch and Judy or marionette shows, or those of a caricature type.

Dolls are usually made of rubber, plastics, textile materials, wax, ceramics, wood, paperboard, papier maché or combinations of these materials. They may be jointed and contain mechanisms which permit limb, head or eye movements as well as reproductions of the human voice, etc. They may also be dressed.

Parts and accessories of dolls of this heading include : heads, bodies, limbs, eyes (**other than** those unmounted of glass, of **heading 70.18**), moving mechanisms for eyes, voice-producing or other mechanisms, wigs, dolls' clothing, shoes and hats.

(D) **Other toys**.

This group covers toys intended essentially for the amusement of persons (children or adults). However, toys which, on account of their design, shape or constituent material, are identifiable as intended exclusively for animals, e.g., pets, do not fall in this heading, but are classified in their own appropriate heading. This group includes :

All toys **not included** in **(A) to (C)**. Many of the toys are mechanically or electrically operated.

These include :

(i) Toys representing animals or non-human creatures even if possessing predominantly human physical characteristics (e.g., angels, robots, devils, monsters), including those for use in marionette shows.

(ii) Toy pistols and guns.

(iii) Constructional toys (construction sets, building blocks, etc.).

(iv) Toy vehicles (**other than** those of **group A**), trains (whether or not electric), aircraft, boats, etc., and their accessories (e.g., railway tracks, signals).

(v) Toys designed to be ridden by children but not mounted on wheels, e.g., rocking horses.

(vi) Non-electric toy motors, toy steam engines, etc.

(vii) Toy balloons and toy kites.

(viii) Tin soldiers and the like, and toy armaments.

(ix) Toy sports equipment, whether or not in sets (e.g., golf sets, tennis sets, archery sets, billiard sets; baseball bats, cricket bats, hockey sticks).

(x) Toy tools and implements; children's wheelbarrows.

(xi) Toy cinematographs, magic lanterns, etc.; toy spectacles.

(xii) Toy musical instruments (pianos, trumpets, drums, gramophones, mouth organs, accordions, xylophones, musical boxes, etc.).

(xiii) Dolls' houses and furniture, including bedding.

(xiv) Toy tableware and other toy household articles; toy shops and the like, farmyard sets, etc.

(xv) Toy counting frames (abaci).

(xvi) Toy sewing machines.

(xvii) Toy clocks and watches.

(xviii) Educational toys (e.g., toy chemistry, printing, sewing and knitting sets).

(xix) Hoops, skipping ropes (**other than** those of **heading 95.06**), diabolo spools and sticks, spinning and humming tops, balls (**other than** balls of **heading 95.04** or **95.06**).

(xx) Books or sheets consisting essentially of pictures, toys or models, for cutting out and assembly; also books containing "stand-up" or movable figures **provided** they have the essential character of toys (see the Explanatory Note to heading 49.03).

(xxi) Toy marbles (e.g., veined glass marbles put up in any form, or glass balls of any kind put up in packets for the amusement of children).

(xxii) Toy money boxes; babies' rattles, jack-in-the-boxes; toy theatres with or without figures, etc.

(xxiii) Play tents for use by children indoors or outdoors.

Certain of the above articles (toy arms, tools, gardening sets, tin soldiers, etc.) are often put up in sets.

Certain toys (e.g., electric irons, sewing machines, musical instruments, etc.) may be capable of a limited "use"; but they are generally distinguishable by their size and limited capacity from real sewing machines, etc.

(E) **Reduced-size ("scale") models and similar recreational models**.

This includes models of a kind mainly used for recreational purposes, for example, working or scale models of boats, aircraft, trains, vehicles, etc., and kits of materials and parts for making such models, other **than** sets having the character of competitive games of **heading 95.04** (e.g., sets comprising slot-racing motor cars with their track layout).

This group also includes life-size or enlarged reproductions of articles **provided** they are for recreational purposes

(F) **Puzzles of all kinds**.

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Collections of articles, the individual items of which if presented separately would be classified in other headings in the Nomenclature, are classified in this heading when they are put up in a form clearly indicating their use as toys (e.g., instructional toys such as chemistry, sewing, etc., sets).

Also, as provided by Note 4 to this Chapter, subject to Note 1 to this Chapter, this heading includes articles of the heading combined with one or more items which would be classified in other headings if presented separately, provided that :

(a) the combined items are put up together for retail sale, but the combination cannot be considered as a set under the terms of General Interpretative Rule 3 (b); and

(b) the combination has the essential character of toys. Such combinations generally consist of an article of this heading and one or more items of minor importance (e.g., small promotional articles or small amounts of confectionery).

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* *

PARTS AND ACCESSORIES

This heading also covers identifiable parts and accessories of the articles of this heading, which are suitable for use solely or principally therewith and **provided** they are **not** articles excluded by Note 1 to this Chapter. Such parts and accessories include :

(1) Musical box movements which, by their form, constituent material and simple design, could not be used in musical boxes of **heading 92.08**.

(2) Miniature internal combustion piston engines and other engines (**other than** electric motors of **heading 85.01**) for example, for model aircraft, ships, which are characterised, *inter alia*, by small cylinder capacity and power rating, low weight and small size.

This heading also **excludes :**

(a) Paints put up for children's use (**heading 32.13**).

(b) Modelling pastes put up for children's amusement (**heading 34.07**).

(c) Children's picture, drawing or colouring books of **heading 49.03**.

(d) Transfers (**heading 49.08**).

(e) Bells (including bells for tricycles or for other wheeled toys), gongs or the like, of **heading 83.06**.

(f) Unmanned aircraft (**heading 88.06**);

(g) Musical boxes which have a doll figure attached (**heading 92.08**).

(h) Card games (**heading 95.04**).

(ij) Paper hats, "blow-outs", masks, false noses and the like (**heading 95.05**).

(k) Crayons and pastels for children's use, of **heading 96.09**.

(l) Slates and blackboards, of **heading 96.10**.

(m) Lay figures and automata of a kind used for shop window dressing (**heading 96.18**).

(n) Jump balls with one or more handles designed for physical exercises.

9503.00

Tricycles, scooters, pedal cars and similar wheeled toys; dolls' carriages; dolls; other toys; reduced-size ("scale") models and similar recreational models, working or not; puzzles of all kinds.

CLASSIFICATION OPINIONS

1. **Mini-vehicles** with a one- or two-seat body of high-density polyethylene on a tube-type chassis. The vehicles are mechanically propelled by means of a four-stroke reciprocating piston engine and a continuously variable transmission. They incorporate a brake for the rear axle or a hydraulic disc brake and have a chain rear drive on one or both rear wheels. The

maximum payload is 200 kg and the top speed is about 20 km/h. The vehicles are designed to be used by children and young people to learn the highway code and to acquire driving skills, while having fun. They are used under supervision at locations specially designed for road-traffic exercises.
Adoption : 1999





2. **Two-wheeled foot propelled scooters,** designed to be ridden by children, consisting of a platform, a non-adjustable steering column and small solid wheels.
Application of GIR 1.
Adoption : 2002



3. **Two-wheeled foot propelled scooters,** designed to be ridden by children, youngsters and adults, consisting of a platform, height-adjustable steering column, small solid wheels and a foot brake on the rear wheel.
Application of GIR 1.
Adoption : 2002



4. Cosmetic kit, consisting of two bottles containing imitation nail varnish, a pair of ear-rings, a ring, a chain with a medallion which opens to reveal space for one of the bottles of nail varnish. All these elements are made of plastics (except the chain which is made of metal), and the whole is intended for amusement purposes and put up for retail sale in a cardboard box. **Application of GIR 1.**
Adoption : 1998

5. Set for melting and moulding chocolate, consisting of moulds, a melting dish, combs, a spoon, spatula, brush and funnel (all made of plastics), greaseproof paper, metal foil paper, two bars of chocolate, small edible pearls, a leaflet with instructions for use and a second leaflet with five recipes. The whole is intended for amusement purposes and put up for retail sale in a cardboard box. **Application of GIR 3 (b).**
Adoption : 1998

6. Compound optical microscopes (other than special-purpose microscopes) : **Other than** those having the following two characteristics :

(i) eyepiece diameter (outside diameter of the lens tube) : not less than 16 mm;
(ii) tube-length (distance between the face where the eyepiece is attached and the face where the objective is attached) : not less than 110 mm.

See also Opinion 9011.80/1.
Adoption : 1970

7. Play tent of small size (0.95 m in height x 1.15 m in width at the base x 1.25 m in depth) for use by children indoors or outdoors, consisting of a sheet of nylon cover fabric, a plastic tubular frame and small metal rods for pegging down the tent when used outdoors. **Application of GIR 1 (text of heading 95.03 and Note 1 (t) to Section XI).**
Adoption : 2001



8. Plastic article in the shape of an egg containing two toy rings and a sealed packet of candy. The article is approximately 55 mm in length by 40 mm in diameter. It consists of two separable halves which fit snugly together at the edges, forming a container in which there are two toy rings of plastics with decoration, and a sealed plastic bag containing tiny drops of candy.

Application of GIR 1 (Note 4 to Chapter 95).

Adoption : 2005



9. Toy fan with a container extension holding candy. One version consists of a plastic toy fan (70 mm in diameter). This fan forms the lid of a handle made of transparent rigid plastics (190 mm long and 7 mm in diameter) containing tiny drops of candy. Another version consists of three toy plastic fans (70 mm in diameter) mounted one above the other. These fans form the lid of a handle made of transparent rigid plastics (145 mm long and 10 mm in diameter), which contains tiny drops of candy.

Application of GIR 1 (Note 4 to Chapter 95)

Adoption : 2005



10. Toy fan in the form of one of the characters of the confectionery brand attached to a cylindrical container holding a sachet of chocolate confectionery with a net weight of 20 g, put up for retail sale. The fan is operated by an electric motor powered by one AA battery (included) and sits on top of the container.
Application of GIR 1 (Note 4 to Chapter 95).
See also Opinions 1806.90/3 and 1806.90/4
Adoption : 2017



11. Set of toys of plastics and modelling paste, consisting of three cans of modelling paste in different colours and the following items of plastics : head with ears, electric drill, tweezers, dentist tool, mirror or braces roller, toothbrush, tooth mould.
Application of GIRs 1 and 3 (b).
Adoption : 2018




12. **Set of toys of plastics and modelling paste**, consisting of five cans of modelling paste in different colours and the following items of plastics : four cutters to create circle, square, star, and heart-shaped cookies, a textured rolling pin and an extruder. **Application of GIRs 1 and 3 (b).** Adoption : 2018




13. **Polyurethane anti-stress ball**, designed to be repeatedly squeezed by the hand as a stress relief exercise. Squeezing the anti-stress ball increases circulation of blood and causes a sensation of relaxation. **Application of GIR 1.** *Adoption : 2021*




Heading 9504

Video game consoles and machines, table or parlour games, including pintables, billiards, special tables for casino games and automatic bowling equipment, amusement machines operated by coins, banknotes, bank cards, tokens or by any other means of payment.

EXPLANATORY NOTES

95.04 - Video game consoles and machines, table or parlour games, including pintables, billiards, special tables for casino games and automatic bowling equipment, amusement machines operated by coins, banknotes, bank cards, tokens or by any other means of payment (+).

9504.20 - Articles and accessories for billiards of all kinds

9504.30 - Other games, operated by coins, banknotes, bank cards, tokens or by any other means of payment, other than automatic bowling alley equipment

9504.40 - Playing cards

9504.50 - Video game consoles and machines, other than those of subheading 9504.30

9504.90 - Other

This heading includes :

(1) Billiard tables of various types (with or without legs), and accessories therefor (e.g., billiard cues, cue rests, balls, billiard chalks, ball or slide type markers). But the heading **excludes** mechanical counters (roller-type and the like) (**heading 90.29**), meters which employ a clock movement to indicate the time in play or the amount payable based on that time (**heading 91.06**), and billiard-cue racks (classified in **heading 94.03** or according to their constituent material).

(2) Video game consoles and machines as defined in Subheading Note 1 to this Chapter.

Video game consoles and machines whose objective characteristics and principal function are such that they are intended for entertainment purposes (game-playing) remain classified in this heading, whether or not they fulfil the conditions of Note 6 (A) to Chapter84 regarding automatic data processing machines.

The heading also includes parts and accessories of video game consoles and machines (for example cases, game cartridges, game controllers, steering wheels), provided they fulfil the conditions of Note 3 to this Chapter.

However, the heading **excludes** :

(a) Optional peripherals (keyboards, mouses, disk storage units, etc.) which fulfil the conditions of Note 6 (C) to Chapter 84 (**Section XVI**).

(b) Optical discs recorded with game software and used solely with a game machine of this heading (**heading 85.23**).

(3) Tables of the furniture type specially constructed for games (e.g., tables with a draught-board top).

(4) Special tables for casino or parlour games (e.g., for roulette or for miniature horse races); croupiers' rakes, etc.

(5) Table football or similar games.

(6) Machines, operated by coins, banknotes, bank cards, tokens or by other means of payment, of the kind used in amusement arcades, cafés, funfairs, etc., for games of skill or chance (e.g., machines for revolver practice, pintables of various types).

(7) Automatic bowling alley equipment, whether or not equipped with motors and electro-mechanical features.

For the purpose of this heading the expression "automatic bowling alley equipment" applies not only to equipment where the pins are arranged in triangular form but also to other types (e.g., those in which the pins are arranged in a square).

(8) Skittles and indoor croquet requisites.

(9) Sets comprising slot-racing motor cars with their track layouts, having the character of competitive games.

(10) Dartboards and darts.

(11) Card games of all kinds (bridge, tarot, "lexicon", etc.).

(12) Boards and pieces (chessmen, draughtsmen, etc.) for games of chess, draughts, dominoes, mah-jong, halma, ludo, snakes and ladders, etc.

(13) Certain other accessories common to a number of games of this heading, for example, dice, dice boxes, counters, suit indicators, specially designed playing cloths (e.g., for roulette).

The heading also **excludes** :

(a) Lottery tickets, "scratch cards" , raffle tickets and tombola tickets (generally **heading 49.11**).

(b) Card tables of **Chapter 94**.

(c) Seats which incorporate a sound system and are suitable for use with video game consoles and machines, television or satellite receivers, as well as with DVD, music CD, MP3 or video cassette players (**heading 94.01**).

(d) Puzzles (**heading 95.03**).

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Subheading Explanatory Note.

Subheading 9504.50.

This subheading does not cover video game consoles or machines operated by coins, banknotes, bank cards, tokens or by any other means of payment; these are to be classified in subheading **9504.30**.

9504.20

- Articles and accessories for billiards of all kinds

9504.30

- Other games, operated by coins, banknotes, bank cards, tokens or by any other means of payment, other than automatic bowling alley equipment

9504.40

- Playing cards

9504.50

- Video game consoles and machines, other than those of subheading 9504.30

CLASSIFICATION OPINIONS

1. **An apparatus presented in a box for retail sale**, together with a controller module with a connecting cable, a cable to connect the apparatus to an audio/video device, a power supply cable and, in certain cases a CD-ROM. The apparatus includes the following components :

- a central processing unit (CPU),
- a 32 Mbits DRAM main memory module,
- a digital versatile disk (DVD) drive,
- a graphics chip,
- 2 universal serial bus (USB) connector ports,
- 2 controller module ports,
- 2 memory card slots,
- an audio/video connector port (IEEE 1394),
- an optical digital output connector port.

Besides the controller module, several devices can be connected to the apparatus such as a standard keyboard, a mouse, a television receiver, a data monitor or a printer. A drive bay inside the apparatus allows incorporation of a hard disk drive and an Ethernet adaptor.

The apparatus is capable of :

- processing dedicated software for playing video games,
- converting digital information from compact video disks (DVD) or compact audio disks (CD) into video/audio signals for reproduction by television receivers or audio systems,
- being programmed in "YABASIC".

The controller module has several control buttons, which are mainly used for playing video games.

Application of GIRs 1 and 6.

Adoption : 2004

2. **An apparatus (video game console) presented in a box for retail sale,** together with a wireless game controller, a wireless remote controller for the Blu-ray/DVD/CD drive, a memory

card adaptor, a power supply cable, a cable to connect the console to an audio/video device, a USB cable and a LAN cable. The console includes the following components :

- a central processing unit,
- 256 MB Main Random Access Memory (RAM),
- 256 MB Video Random Access Memory (VRAM)?
- a 2.5" 60 GB hard drive,
- a Blu-ray/DVD/CD drive (read-only),
- a graphical controller,
- 4 universal serial bus (USB) ports,
- a Memory Stick slot,
- an SD memory card slot,
- a Compact Flash slot,
- an Ethernet connector,
- an HDMI port,
- an analogue - AV multi out port,
- a digital audio-digital out (optical) port.

The apparatus is capable of communication by means of Ethernet (10BASE-T, 100BASE-TX, 1000BASE-T), Wi-Fi (IEEE 802.11 b/g) and Bluetooth 2.0 standards. Besides the wireless controllers, several devices can be connected to the console such as a USB or wireless keyboard or mouse, a television receiver, or a monitor.
The apparatus is capable of :

- processing dedicated software for playing video games,
- converting digital information from Blu-ray disks, DVDs or CDs into video/audio signals for reproduction by television receivers or audio systems,
- being programmed in Linux or other operating systems and
- running Linux-based end-user applications, including e-mail, word processing, Internet browsing and graphics viewing.

The wireless game controller has several control buttons, which are mainly used for playing video games.
Application of GIRs 1 (Note 1 (p) to Section XVI) and 6.
Adoption : 2008

3. Virtual reality set for a video game console, presented in a box for retail sale, consisting of a head-mount display (virtual reality headset), a processing unit, a stereo headphone with earpieces, connecting cables (HDMI, USB and virtual headset), an AC adaptor and a power cord.
The virtual reality headset, which resembles goggles, incorporates sensors, video display module (it can display two side-by-side images) and two magnifying lenses allowing the user to see a stereoscopic view of the screen of the video display module. The processor unit is designed to synchronise the virtual reality headset and the video game console (it delivers the video signal from the console to the headset and the detected signal from the headset to the console).
Application of GIRs 1, (Note 3 to Chapter 95), 3 (b) and 6.
Adoption : 2017



9504.90

- Other

CLASSIFICATION OPINIONS

1. Circular-shaped silver coloured metal discs printed on both sides. One side shows the picture of a fictitious character. On the other side, trademarks appear. In addition, each disc has a number indicating its place in the numerical sequence of the collection which comprises several fictitious characters.
Although the collectible discs are used as promotional gimmicks to stimulate the sales of a particular brand, they are designed for playing games.
Application of GIRs 1 and 6.
Adoption : 2005



Heading 9505

Festive, carnival or other entertainment articles, including conjuring tricks and novelty jokes.

EXPLANATORY NOTES

95.05 - Festive, carnival or other entertainment articles, including conjuring tricks and novelty jokes.

9505.10 - Articles for Christmas festivities

9505.90 - Other

This heading covers :

(A) **Festive, carnival or other entertainment articles**, which in view of their intended use are generally made of non-durable material. They include :

(1) Festive decorations used to decorate rooms, tables, etc. (such as garlands, lanterns, etc.); decorative articles for Christmas trees (tinsel, coloured balls, animals and other figures, etc); cake decorations which are traditionally associated with a particular festival (e.g., animals, flags).

(2) Articles traditionally used at Christmas festivities, e.g., artificial Christmas trees, nativity scenes, nativity figures and animals, angels, Christmas crackers, Christmas stockings, imitation yule logs, Father Christmases.

(3) Articles of fancy dress, e.g., masks, false ears and noses, wigs, false beards and moustaches (**not being** articles of postiche – **heading 67.04**), and paper hats.

(4) Throw-balls of paper or cotton-wool, paper streamers (carnival tape), cardboard trumpets, "blow-outs", confetti, carnival umbrellas, etc.

The heading excludes:

(a) Statuettes, statues and the like of a kind used for decorating places of worship.

(b) Articles that contain a festive design, decoration, emblem or motif and have a utilitarian function, e.g., tableware, kitchenware, toilet articles, carpets and other textile floor coverings, apparel, bed linen, table linen, toilet linen, kitchen linen.

(c) Carnival and festive design headgear made of durable material having a utilitarian function (Chapter 65).

(B) **Conjuring tricks and novelty jokes**, e.g., packs of cards, tables, screens and containers, specially designed for the performance of conjuring tricks; novelty jokes such as sneezing powder, surprise sweets, water-jet button-holes and "Japanese flowers".

This heading also **excludes** :

(a) Natural Christmas trees (**Chapter 6**).

(b) Candles (**heading 34.06**).

(c) Packagings of plastics or of paper, used during festivals (classified according to constituent material, for example, **Chapter 39** or **48**).

(d) Christmas tree stands (classified according to constituent material).

(e) Textile flags or bunting of **heading 63.07**.

(f) Lighting string of all kinds (**heading 94.05**).

9505.10

- Articles for Christmas festivities

9505.90

- Other

Heading 9506

Articles and equipment for general physical exercise, gymnastics, athletics, other sports (including table-tennis) or outdoor games, not specified or included elsewhere in this Chapter; swimming pools and paddling pools.

EXPLANATORY NOTES

95.06 - Articles and equipment for general physical exercise, gymnastics, athletics, other sports (including table- tennis) or outdoor games, not specified or included elsewhere in this Chapter; swimming pools and paddling pools.

- Snow-skis and other snow-ski equipment :

9506.11 - - Skis

9506.12 - - Ski-fastenings (ski-bindings)

9506.19 - - Other

- Water-skis, surf-boards, sailboards and other water-sport equipment :

9506.21 - - Sailboards

9506.29 - - Other

- Golf clubs and other golf equipment :

9506.31 - - Clubs, complete

9506.32 - - Balls

9506.39 - - Other

9506.40 - Articles and equipment for table-tennis

- Tennis, badminton or similar rackets, whether or not strung :

9506.51 - - Lawn-tennis rackets, whether or not strung

9506.59 - - Other

- Balls, other than golf balls and table-tennis balls :

9506.61 - - Lawn-tennis balls

9506.62 - - Inflatable

9506.69 - - Other

9506.70 - Ice skates and roller skates, including skating boots with skates attached

- Other :

9506.91 - - Articles and equipment for general physical exercise, gymnastics or athletics

9506.99 - - Other

This heading covers :

(A) **Articles and equipment for general physical exercise, gymnastics or athletics**, e.g. :

Trapeze bars and rings; horizontal and parallel bars; balance beams, vaulting horses; pommel horses; spring boards; climbing ropes and ladders; wall bars; Indian clubs; dumb bells and bar bells; medicine balls; jump balls with one or more handles designed for physical exercises; rowing, cycling and other exercising apparatus; chest expanders; hand grips; starting blocks; hurdles; jumping stands and standards; vaulting poles; landing pit pads; javelins, discuses, throwing hammers and putting shots; punch balls (speed bags) and punch bags (punching bags); boxing or wrestling rings; assault course climbing walls; skipping ropes designed for sports activities and fitness classes.

(B) **Requisites for other sports and outdoor games (other than** toys presented in sets, or separately, of **heading 95.03**), e.g. :

(1) Snow-skis and other snow-ski equipment, (e.g., ski-fastenings (ski-bindings), ski brakes, ski poles).

(2) Water-skis, surf-boards, sailboards and other water-sport equipment, such as diving stages (platforms), chutes, divers' flippers and respiratory masks of a kind used without oxygen or compressed air bottles, and simple underwater breathing tubes (generally known as "snorkels") for swimmers or divers.

(3) Golf clubs and other golf equipment, such as golf balls, golf tees.

(4) Articles and equipment for table-tennis (ping-pong), such as tables (with or without legs), bats (paddles), balls and nets.

(5) Tennis, badminton or similar rackets (e.g., squash rackets), whether or not strung.

(6) Balls, other than golf balls and table-tennis balls, such as tennis balls, footballs, rugby balls and similar balls (including bladders and covers for such balls); water polo, basketball and similar valve type balls; cricket balls.

(7) Ice skates and roller skates, including skating boots with skates attached.

(8) Sticks and bats for hockey, cricket, lacrosse, etc.; chistera (jai alai scoops); pucks for ice hockey; curling stones.

(9) Nets for various games (tennis, badminton, volleyball, football, basketball, etc.).

(10) Fencing equipment : fencing foils, sabres and rapiers and their parts (e.g., blades, guards, hilts and buttons or stops), etc.

(11) Archery equipment, such as bows, arrows and targets.

(12) Equipment of a kind used in children's playgrounds (e.g., swings, slides, see-saws and giant strides).

(13) Protective equipment for sports or games, e.g., fencing masks and breast plates, elbow and knee pads, cricket pads, shin-guards, ice hockey pants with built-in guards and pads.

(14) Other articles and equipment, such as requisites for deck tennis, quoits or bowls; skate boards; racket presses; mallets for polo or croquet; boomerangs; ice axes; clay pigeons and clay pigeon projectors; bobsleighs (bobsleds), luges and similar non-motorised vehicles for sliding on snow or ice.

(C) **Swimming pools and paddling pools**.

The heading **excludes** :

(a) Strings for lawn tennis and other rackets (**Chapter 39**, **heading 42.06** or **Section XI**).

(b) Sports bags and other containers of **heading 42.02, 43.03** or **43.04**.

(c) Sports gloves, mittens and mitts (generally **heading 42.03**).

(d) Enclosure nets, and net carrying-bags for footballs, tennis balls, etc. (generally **heading 56.08**).

(e) Sports clothing of textiles, of **Chapter 61** or **62**, whether or not incorporating incidentally protective components such as pads or padding in the elbow, knee or groin areas (e.g., fencing clothing or soccer goalkeeper jerseys).

(f) Sails for boats, sailboards or landcraft, of **heading 63.06**.

(g) Sports footwear (**other than** ice or roller skating boots with skates attached) of **Chapter 64** and sports headgear of **Chapter 65**.

(h) Walking-sticks, whips, riding-crops and the like (**heading 66.02**), and parts thereof (**heading 66.03**).

(ij) Sports craft (such as marine jets, canoes and skiffs) and sports vehicles (**other than** bobsleighs (bobsleds), toboggans and the like), of **Section XVII**.

(k) Frogmen's and other goggles (**heading 90.04**).

(l) Electro-medical apparatus and other instruments and appliances of **heading 90.18**.

(m) Mechano-therapy appliances (**heading 90.19**).

(n) Breathing appliances of a kind used with oxygen or compressed air bottles (**heading 90.20**).

(o) Articles for sports purposes of **Chapter 91**.

(p) Bowling requisites of all kinds (including automatic bowling alley equipment) and other equipment for parlour, table or funfair games (**heading 95.04**).

(q) Activity pools and wave pools designed for amusement park rides, water park amusements or fairground amusements, which circulate water for amusement, to mobilize or lubricate a rider along a purpose built path or to generate waves and currents. (**heading 95.08**).

9506.1

- Snow-skis and other snow-ski equipment :

9506.2

- Water-skis, surf-boards, sailboards and other water-sport equipment :

9506.3

- Golf clubs and other golf equipment :

9506.5

- Tennis, badminton or similar rackets, whether or not strung :

9506.6

- Balls, other than golf balls and table-tennis balls :

9506.9

- Other :

9506.11

-- Skis

9506.12

-- Ski-fastenings (ski-bindings)

9506.19

-- Other

9506.21

-- Sailboards

9506.29

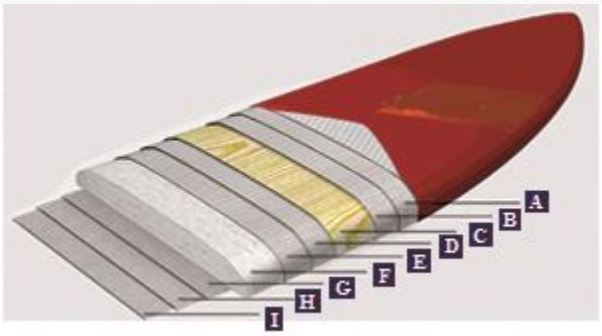
-- Other

CLASSIFICATION OPINIONS

1. Stand Up Paddleboard (SUP) with Medium Density Expanded Polystyrene (EPS) core, wood reinforcement and glass. **Application of GIRs 1 and 6.** Adoption : 2018

A Glass
B Glass
C Wood Reinforcement
D Glass
E Glass
F Medium Density Expanded Polystyrene (EPS) Core
G Glass
H Glass
I Glass





9506.31

-- Clubs, complete
9506.32

-- Balls
9506.39

-- Other
9506.40

- Articles and equipment for table-tennis
9506.51

-- Lawn-tennis rackets, whether or not strung
9506.59

-- Other
9506.61

-- Lawn-tennis balls
9506.62

-- Inflatable
9506.69

-- Other
9506.70

- Ice skates and roller skates, including skating boots with skates attached

CLASSIFICATION OPINIONS

1. **"Roller shoes"** consisting of shoes covering the ankle, with uppers of leather and outer soles of rubber, incorporating two permanently attached, retractable wheels that fit into special cavities in the outer sole, thus providing the option of using the footwear as in-line skates (roller blades) when the wheels are pulled out. **Application of GIRs 1 and 6.** Adoption : 2003




9506.91

-- Articles and equipment for general physical exercise, gymnastics or athletics

CLASSIFICATION OPINIONS

1. **Jump ball with a soft one-piece handle, of plastics**, presented in three versions, with 45 cm, 55 cm or 66 cm of diameter. The recommended maximum weight of the user is 45 kg, 70 kg and 90 kg, respectively. The inflatable jump ball is intended to exercise the user's coordination and balance.
   Application of GIRs 1, 3 (c) and 6.
   Adoption : 2016



2. **Skipping rope**, consisting of a solid core 5 mm PVC cord, approximately 3 m long, that can be used on any surface (concrete, pavement, wood flooring, etc.), and two handles made of plastics. The cord attaches at a 90º angle. The skipping rope is intended to be used for physical exercise.
   Application of GIRs 1 and 6.
   Adoption : 2017



9506.99

-- Other

CLASSIFICATION OPINIONS

1. Ice hockey pants, specially designed to be worn for the protection of the body against injury while playing ice hockey, consisting of an interior comprising several pieces of protective equipment of plastics, fitted in an exterior textile shell. **Application of GIRs 1 and 6.** Adoption : 2010



Heading 9507

Fishing rods, fish-hooks and other line fishing tackle; fish landing nets, butterfly nets and similar nets; decoy «birds» (other than those of heading 92.08 or 97.05) and similar hunting or shooting requisites.

EXPLANATORY NOTES

95.07 - Fishing rods, fish-hooks and other line fishing tackle; fish landing nets, butterfly nets and similar nets; decoy "birds" (other than those of heading 92.08 or 97.05) and similar hunting or shooting requisites.

9507.10 - Fishing rods

9507.20 - Fish-hooks, whether or not snelled

9507.30 - Fishing reels

9507.90 - Other

This heading covers :

(1) **Fish-hooks** of all kinds (e.g., with single or multiple barbs) and sizes. These are usually made of steel but they may be bronzed, tinned, silvered or gilded.

(2) **Fish landing nets, butterfly nets and similar nets**. These usually consist of pocket-like nets of textile yarn or cord, mounted on a wire support and fixed to a handle.

(3) **Line fishing rods and tackle**. Fishing rods may be of various sizes, and may be made of various materials (bamboo, wood, metal, glass fibre, plastics, etc.). They may consist of a single piece or be jointed. Fishing tackle comprises such items as reels and reel mountings; artificial bait (e.g., imitation fish, flies, insects or worms) and hooks mounted with such bait; spinning bait; mounted lines and casts; fishing floats (cork, glass, quill, etc.) including luminous floats; line winding frames; automatic striking devices; mounted fishing rings (**other than** mounted rings of precious or semi-precious stone); sinkers, and fishing rod bells when mounted or attached to external clamps, clips or other devices.

(4) **Certain hunting or shooting requisites** such as decoy “birds” (but **not including** decoy calls of all kinds (**heading 92.08**) or stuffed birds of **heading 97.05**) and lark mirrors.

This heading also **excludes** :

(a) Feathers for making artificial flies (**heading 05.05** or **67.01**).

(b) Yarns, monofilaments, cords, and real or imitation gut, cut to length but not made up into fishing lines (**Chapter 39**, **heading 42.06** or **Section XI**).

(c) Sports bags and other containers (e.g., fishing rod cases and game bags) of **heading 42.02, 43.03** or **43.04**.

(d) Unmounted rings (classified in their own appropriate headings).

(e) Traps, snares, etc. (classified according to constituent materials).

(f) Bells, non-electric, of base metal, for fishing tackle, not mounted or attached to external clamps, clips, or other devices (**heading 83.06**).

(g) Clay pigeons (**heading 95.06**).

9507.10

- Fishing rods

9507.20

- Fish-hooks, whether or not snelled

9507.30

- Fishing reels

9507.90

- Other

Heading 9508

Travelling circuses and travelling menageries; amusement park rides and water park amusements; fairground amusements, including shooting galleries; travelling theatres.

EXPLANATORY NOTES

95.08 - Travelling circuses and travelling menageries; amusement park rides and water park amusements; fairground amusements, including shooting galleries; travelling theatres.

9508.10 - Travelling circuses and travelling menageries

- Amusement park rides and water park amusements :

9508.21 - - Roller coasters

9508.22 - - Carousels, swings and roundabouts

9508.23 - - Dodge'em cars

9508.24 - - Motion simulators and moving theatres

9508.25 - - Water rides

9508.26 - - Water park amusements

9508.29 - - Other

9508.30 - Fairground amusements

9508.40 - Travelling theatres

Amusement park rides, water park amusements, fairground amusements, travelling circuses, travelling menageries and travelling theatres fall in this heading **provided** they comprise all the essential units required for their normal operation. The heading also includes items of auxiliary equipment **provided** they are presented with, and as components of, these various amusements, notwithstanding that when presented separately such items (e.g., tents, animals, musical instruments, power plants, motors, lighting fittings, seats, and arms and ammunition) would fall in other headings of the Nomenclature.

Subject to the provisions of Note 1 to this Chapter, articles which are identifiable as designed solely or principally for use as parts and accessories of such amusements (e.g., boats for swings and water-chutes), remain classified here when presented separately.

Amusement park rides and water park amusements falling in this heading include:

(1) Roller coasters. These employ a specialized car in which the rider is seated and restrained while being transported on a track that rises and drops in designed patterns, sometimes with one or more inversions (such as vertical loops). Roller coasters may have single cars or multiple cars.

(2) Carousels, swings and roundabouts. These operate on a single level over a controlled, fixed course or track.

(3) “Dodge’em” cars or bumper cars.

(4) Motion simulators and moving theaters. These are rides with a seating platform, where the audience is shown a movie or otherwise experiences a virtual reality while their seats move to correspond to the sights and actions of the ride.

(5) Water rides. A water circulating system is used to mobilize or lubricate the rider’s transportation along a purpose-built path, where the action of the ride involves possible and purposeful immersion of the rider’s body in whole or in part in water.

(6) Water park amusements. These are characterized by a defined area involving water, but with no purpose-built path. They may include slides, climbable and climb-resistant aquatic play components, composite aquatic play structures, user controls, water sprays, fountains, wave action, leisure rivers, and vortex pools.

Fairground amusements falling in this heading include :

Games of chance, strength or skill, such as shooting galleries, coconut shies, coin tosses, mazes, and lotteries (e.g., wheels of fortune). They commonly employ an operator or attendant and may be installed in permanent buildings or independent concession stalls. Fairground amusements do not include equipment of headings 95.04 and 95.06, or articles specified or included elsewhere in this Chapter.

The heading **excludes** :

(a) Travelling stalls for the sale of goods (confectionary and other products, etc.), for advertising or for educational or similar exhibitions.

(b) Tractors and other transport vehicles, including trailers, **other than** those specially designed for and forming part of fairground amusements (e.g., ring-stand trailers).

(c) Amusement machines operated by coins, banknotes, bank cards, tokens or by any other means of payment (**heading 95.04**).

(d) Goods for distribution of prizes.

9508.2

- Amusement park rides and water park amusements :

9508.10

- Travelling circuses and travelling menageries

9508.21

-- Roller coasters

9508.22

-- Carousels, swings and roundabouts

9508.23

-- Dodge'em cars

9508.24

-- Motion simulators and moving theatres

CLASSIFICATION OPINIONS

1. Computer controlled motion simulation theatre system comprising : a computerized system to control and monitor motion; a set of seat rows with permanently mounted mobile seats arranged for 8, 10 or 12 individual seats per row; a hydraulic cylinder system enabling the seats to move in eight directions; 70 mm films; projection and sound equipment and giant screens.
This system executes movements corresponding to the action taking place in the film, intended to give the viewer the sensation of actually being in the film. It is intended for fairs, stadia, exhibition centres, amusement parks, etc., for recreational purposes.
Application of GIRs 1 and 6
Adoption : 1996

9508.25

-- Water rides

9508.26

-- Water park amusements

9508.29

-- Other

9508.30

- Fairground amusements

9508.40

- Travelling theatres

Chapter 96

Miscellaneous manufactured articles

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Pencils for cosmetic or toilet uses (Chapter 33);

(b) Articles of Chapter 66 (for example, parts of umbrellas or walking-sticks);

(c) Imitation jewellery (heading 71.17);

(d) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(e) Cutlery or other articles of Chapter 82 with handles or other parts of carving or moulding materials; heading 96.01 or 96.02 applies, however, to separately presented handles or other parts of such articles;

(f) Articles of Chapter 90 (for example, spectacle frames (heading 90.03), mathematical drawing pens (heading 90.17), brushes of a kind specialised for use in dentistry or for medical, surgical or veterinary purposes (heading 90.18));

(g) Articles of Chapter 91 (for example, clock or watch cases);

(h) Musical instruments or parts or accessories thereof (Chapter 92);

(ij) Articles of Chapter 93 (arms and parts thereof);

(k) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings);

(l) Articles of Chapter 95 (toys, games, sports requisites); or

(m) Works of art, collectors' pieces or antiques (Chapter 97).

2.- In heading 96.02 the expression "vegetable or mineral carving material" means :

(a) Hard seeds, pips, hulls and nuts and similar vegetable materials of a kind used for carving (for example, corozo and dom);

(b) Amber, meerschaum, agglomerated amber and agglomerated meerschaum, jet and mineral substitutes for jet.

3.- In heading 96.03 the expression "prepared knots and tufts for broom or brush making" applies only to unmounted knots and tufts of animal hair, vegetable fibre or other material, which are ready for incorporation without division in brooms or brushes, or which require only such further minor processes as trimming to shape at the top, to render them ready for such incorporation.

4.- Articles of this Chapter, other than those of headings 96.01 to 96.06 or 96.15, remain classified in the Chapter whether or not composed wholly or partly of precious metal or metal clad with precious metal, of natural or cultured pearls, or precious or semi-precious stones (natural, synthetic or reconstructed). However, headings 96.01 to 96.06 and 96.15 include articles in which natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed), precious metal or metal clad with precious metal constitute only minor constituents.

EXPLANATORY NOTES

Chapter 96

Miscellaneous manufactured articles

Notes.

1.- This Chapter does not cover :

(a) Pencils for cosmetic or toilet uses (Chapter 33);

(b) Articles of Chapter 66 (for example, parts of umbrellas or walking-sticks);

(c) Imitation jewellery (heading 71.17);

(d) Parts of general use, as defined in Note 2 to Section XV, of base metal (Section XV), or similar goods of plastics (Chapter 39);

(e) Cutlery or other articles of Chapter 82 with handles or other parts of carving or moulding materials; heading 96.01 or 96.02 applies, however, to separately presented handles or other parts of such articles;

(f) Articles of Chapter 90 (for example, spectacle frames (heading 90.03), mathematical drawing pens (heading 90.17), brushes of a kind specialised for use in dentistry or for medical, surgical or veterinary purposes (heading 90.18));

(g) Articles of Chapter 91 (for example, clock or watch cases);

(h) Musical instruments or parts or accessories thereof (Chapter 92);

(ij) Articles of Chapter 93 (arms and parts thereof);

(k) Articles of Chapter 94 (for example, furniture, luminaires and lighting fittings);

(l) Articles of Chapter 95 (toys, games, sports requisites); or

(m) Works of art, collectors' pieces or antiques (Chapter 97).

2.- In heading 96.02 the expression "vegetable or mineral carving material" means :

(a) Hard seeds, pips, hulls and nuts and similar vegetable materials of a kind used for carving (for example, corozo and dom);

(b) Amber, meerschaum, agglomerated amber and agglomerated meerschaum, jet and mineral substitutes for jet.

3.- In heading 96.03 the expression “prepared knots and tufts for broom or brush making” applies only to unmounted knots and tufts of animal hair, vegetable fibre or other material, which are ready for incorporation without division in brooms or brushes, or which require only such further minor processes as trimming to shape at the top, to render them ready for such incorporation.

4.- Articles of this Chapter, other than those of headings 96.01 to 96.06 or 96.15, remain classified in the Chapter whether or not composed wholly or partly of precious metal or metal clad with precious metal, of natural or cultured pearls, or precious or semi-precious stones (natural, synthetic or reconstructed). However, headings 96.01 to 96.06 and 96.15 include articles in which natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed), precious metal or metal clad with precious metal constitute only minor constituents.

GENERAL

This Chapter covers carving and moulding materials and articles of these materials, certain brooms, brushes and sieves, certain articles of haberdashery, certain articles of writing and office equipment, certain requisites for smokers, certain toilet articles, certain sanitary absorbent products (sanitary towels (pads) and tampons, napkins and napkin liners and similar articles, of any material) andvarious other articles **not more specifically covered** by other headings in the Nomenclature.

The articles described in **headings 96.07 to 96.14 and 96.16 to 96.18** may be made wholly or partly of natural or cultured pearls, of precious or semi-precious stones (natural, synthetic or reconstructed), or of precious metal or metal clad with precious metal. However, the articles described in **headings 96.01 to 96.06 and 96.15** may incorporate those materials as **minor constituents** only.

Heading 9601

Worked ivory, bone, tortoise-shell, horn, antlers, coral, mother-of-pearl and other animal carving material, and articles of these materials (including articles obtained by moulding).

EXPLANATORY NOTES

96.01 - Worked ivory, bone, tortoise-shell, horn, antlers, coral, mother-of-pearl and other animal carving material, and articles of these materials (including articles obtained by moulding).

9601.10 - Worked ivory and articles of ivory

9601.90 - Other

This heading relates to worked animal materials (**other than** those referred to in **heading 96.02**). These materials are mainly worked by carving or cutting. Most of them may also be moulded.

For the purposes of this heading, the expression “worked” refers to materials which have undergone processes extending beyond the simple preparations permitted in the heading for the raw material in question (see the Explanatory Notes to headings 05.05 to 05.08). The heading therefore covers pieces

of ivory, bone, tortoise-shell, horn, antlers, coral, mother-of-pearl, etc., in the form of sheets, plates, rods, etc., cut to shape (including square or rectangular) or polished or otherwise worked by grinding, drilling, milling, turning, etc. However, pieces which are identifiable as parts of articles are **excluded** from this heading if such parts are covered by another heading of the Nomenclature. Thus, piano-key plates and plates for insertion in butts of firearms fall in **headings 92.09** and **93.05** respectively. However, worked materials not identifiable as parts of articles remain classified in this heading (e.g., simple discs, plates or strips for inlaying, etc., or for subsequent use in the manufacture of piano-keys).

Providedthey are worked or in the form of articles, the heading includes the following :

(I) Ivory. Throughout the Nomenclature, elephant, hippopotamus, walrus, narwhal and wild boar tusks, rhinoceros horns and the teeth of all animals are regarded as ivory (see Note 3 to Chapter 5).

(II) Bone, the hard solid parts of the bodies of many animals, worked almost solely by cutting.

(III) Tortoise-shell, obtained almost exclusively from turtles. Tortoise-shell, which is yellowish, brownish or black in colour, is very malleable and becomes highly ductile when heated; when cooled it retains the shape given to it.

(IV) Horn and antlers, obtained from the foreheads of ruminants. (Horn-cores are not used as carving or moulding materials but almost exclusively in the manufacture of gelatin.)

(V) Natural coral (i.e., the calcareous skeletons of marine polyps) and agglomerated coral.

(VI) Mother-of-pearl, the lustrous, iridescent nacreous lining of certain shells; its surface appears to be undulated although, in fact, it is perfectly smooth.

(VII) Hooves, nails, claws and beaks.

(VIII) Bone and similar materials obtained from marine mammals.

(IX) Quills of feathers.

(X) Shells of crustaceans and molluscs.

The heading covers :

(A) **Worked animal carving materials**.

The carving materials mentioned in the heading are classified here **provided** they have undergone processes extending **beyond** cleaning or scraping, simple sawing to remove useless parts, cutting (sometimes followed by rough planing) and, in some cases, bleaching, flattening, trimming or splitting.

Thus, tortoise-shell is **excluded** if it has not undergone processes extending beyond the straightening and surface-levelling of scales (this last operation is exceptional since unworked tortoise-shell is almost always presented in sheets of uneven thickness and with curved surfaces)

(see the Explanatory Note to **heading 05.07**, Part (B)). The heading similarly **excludes** coral from which only the outer crust has been removed (**heading 05.08**).

Also included are moulded products, of any shape, made from tortoise-shell scales, plates or claws, or from reconstituted materials obtained from powder or waste of any of the carving materials of the heading.

One of the properties of tortoise-shell is that it can be joined together by heating without the use of any special binder; advantage is taken of this property to obtain comparatively thick plates by uniting thin scales in layers, and to make articles. A characteristic of horn is that it becomes soft when heated and can then be flattened or reduced to a pasty consistency; it can, therefore, be worked by moulding in the same manner as tortoise-shell.

Polished or unpolished discs not having the character of button blanks (see the Explanatory Note to **heading 96.06**) and Jerusalem pearls, (i.e., irregular mother-of-pearl beads, simply pierced, but **not** polished, graded or further worked) remain classified in this heading even if temporarily strung.

(B) **Articles of animal carving materials of the heading**.

This group includes :

(1) Cigar or cigarette cases, snuff-boxes, powder-boxes, buckles, clasps, lipstick cases.

(2) Handles or mountings for brushes, presented separately.

(3) Boxes of various kinds, cachou boxes, protective covers for watches.

(4) Handles for tools, knives, forks, razors, etc., of Chapter 82, presented separately.

(5) Paper-knives, letter-openers, book-markers.

(6) Frames for pictures, paintings, etc.

(7) Book-covers.

(8) Articles of religious use.

(9) Crochet hooks and knitting needles.

(10) Small ornamental articles (e.g., trinkets, carved articles **other than** those of **heading 97.03**).

(11) Shoe horns.

(12) Tableware such as knife-rests, small spoons and serviette rings.

(13) Ornamental mounted horns and antlers (trophies, etc.).

(14) Cameos and intaglios **other than** those constituting articles of jewellery.

The heading also includes articles made from special shells, and articles (e.g., tooth-picks and special tips for cigars) made from quills of feathers. However, the heading **excludes** quills simply cut to length and not further worked (**heading 05.05**) and quills prepared for use as fishing floats (**heading 95.07**).

Articles overlaid or inlaid with animal carving materials are classified in this heading, **provided** the overlaying or inlaying forms the main characteristic of the finished article. This may be so in the case of wooden boxes, caskets, etc., overlaid or inlaid with, e.g., ivory, bone, tortoise-shell or horn.

This heading also **excludes** :

(a) Articles of **Chapter 66** (e.g., parts of umbrellas, sunshades, walking-sticks, etc., for example, handles, stems and tips).

(b) Framed glass mirrors (**heading 70.09**).

(c) Articles of animal carving materials, composed partly of precious metal or metal clad with precious metal, or of natural or cultured pearls, or precious or semi-precious stones (natural, synthetic or reconstructed) (**Chapter 71**). **Nevertheless** such articles **remain** classified in this heading when the natural or cultured pearls, precious or semi-precious stones (natural synthetic or reconstructed), precious metal or metal clad with precious metal constitute only minor constituents (e.g., monograms, initials, ferrules, rims, etc.).

(d) Articles of imitation jewellery (**heading 71.17**).

(e) Cutlery or other articles of **Chapter 82** with handles or other parts of carving or moulding materials; **however**, such handles and other parts, when presented separately, **remain** classified in this heading.

(f) Articles of **Chapter 90** (e.g., binoculars; also frames and mountings, and parts of frames and mountings, for spectacles, pince-nez, lorgnettes, goggles and the like).

(g) Articles of **Chapter 91** (e.g., watch and clock cases). Protective covers for watches **remain**, however, classified in this heading.

(h) Articles of **Chapter 92**, e.g., musical instruments and parts thereof (hunting horns, piano or accordion keys, pegs, bridges, etc.).

(ij) Articles of **Chapter 93** (e.g., parts of arms).

(k) Articles of **Chapter 94** (e.g., furniture, luminaires and lighting fittings).

(l) Articles of **Chapter 95** (toys, games, sports requisites).

(m) Articles of **headings 96.03** (e.g., brooms and brushes) and **96.04**. Brush handles or mountings, when presented separately **remain**, however, classified in this heading.

(n) Articles of **headings 96.05, 96.06, 96.08, 96.11** or **96.13 to 96.16** (e.g., buttons and button blanks; fountain pens, pen-holders, etc.; smoking pipes, and pipe bowls, stems and other parts of pipes; cigar and cigarette holders and parts thereof; combs).

(o) Articles of **Chapter 97** (e.g., original sculptures and statuary; collectors' pieces of zoological interest).

9601.10

- Worked ivory and articles of ivory

9601.90

- Other

Heading 9602

Worked vegetable or mineral carving material and articles of these materials; moulded or carved articles of wax, of stearin, of natural gums or natural resins or of modelling pastes, and other moulded or carved articles, not elsewhere specified or included; worked, unhardened gelatin (except gelatin of heading 35.03) and articles of unhardened gelatin.

EXPLANATORY NOTES

96.02 - Worked vegetable or mineral carving material and articles of these materials; moulded or carved articles of wax, of stearin, of natural gums or natural resins or of modelling pastes, and other moulded or carved articles, not elsewhere specified or included; worked, unhardened gelatin (except gelatin of heading 35.03) and articles of unhardened gelatin.

For the definition of the term "worked", the second paragraph of the Explanatory Note to heading 96.01 applies, *mutatis mutandis*, to this heading (see also the Explanatory Notes to headings 14.04, 15.21, 25.30, 27.14, 34.04, 34.07, 35.03, for example).

(I) WORKED VEGETABLE OR MINERAL CARVING MATERIAL AND ARTICLES OF THESE MATERIALS

(A) **Worked vegetable carving materials**.

This group covers worked vegetable carving materials of the kind mentioned in Note 2 (a) to this Chapter. These include corozo (also known as "vegetable ivory"), the nuts of the dom palm and similar nuts of other palms (Tahiti, Palmyra, etc.), coconut shell, seeds of the *Canna indica* variety of reed (Indian shot), seeds of the *Abrus precatorius* (or bead tree), date stones, olive stones, the seeds of the piassava palm and locust beans.

It also covers articles produced by moulding powders of vegetable carving materials.

(B) **Worked mineral carving materials**.

This group covers mineral carving materials of the kind mentioned in Note 2 (b) to this Chapter.

The heading **does not cover** the following products which fall in **heading 25.30** :

(i) Rough blocks or lumps of meerschaum or amber;

(ii) Agglomerated meerschaum and agglomerated amber obtained from waste of natural meerschaum and amber scrap by agglomerating or moulding, in the form of plates, rods, sticks and similar shapes, not worked after moulding.

(C) **Articles of vegetable or mineral carving materials**.

Subject to the exclusions set out below, this group includes articles of vegetable or mineral carving materials, such as :

(i) Small ornaments (e.g., statuettes).

(ii) Small articles such as boxes and caskets.

(iii) Discs, whether or not polished (**other than** button blanks, see the Explanatory Note to **heading 96.06**).

(II) MOULDED OR CARVED ARTICLES OF WAX, OF STEARIN, OF NATURAL GUMS OR NATURAL RESINS OR OF MODELLING PASTES, AND OTHER MOULDED OR CARVED ARTICLES, NOT ELSEWHERE SPECIFIED OR INCLUDED; WORKED, UNHARDENED GELATIN AND ARTICLES OF UNHARDENED GELATIN

This group includes, on the one hand, moulded and carved **articles** of various materials, **provided** those articles are **not specified or included** in other headings of the Nomenclature (e.g., articles of plastics - **Chapter 39**, or of ebonite - **Chapter 40**). It also covers worked **unhardened gelatin and articles thereof** (**other than** goods of **heading 35.03** or **Chapter 49**).

For the purposes of these materials, the expression "**moulded articles**" means articles which have been moulded to a shape appropriate to their intended use. On the other hand, materials moulded in the shape of blocks, cubes, plates, bars, sticks, etc., whether or not **impressed** during moulding, are **not included**.

Subject to the exclusions mentioned below, this group includes :

(1) Moulded or carved articles of wax :

(i) Artificial honeycombs.

(ii) Moulding shapes for electroplating.

(iii) Imitation flowers, foliage or fruit, moulded in one piece, or assembled **otherwise** than by the processes (e.g., binding, glueing or similar methods) which make the goods classifiable in **heading 67.02**.

(iv) Busts, heads, figures or statuettes (**other than** articles of a kind used as tailors' dummies - see the Explanatory Note to **heading 96.18**, and original sculptures and statuary - see **heading 97.03**).

(v) Wax pearls.

(vi) T-shaped tubes made from a preparation based on wax, and used in certain surgical operations.

(vii) Imitation sweets, bars of chocolate and other imitation articles made of wax for window dressing.

(viii) Earplugs of wax on a cotton wool support.

(ix) Strips of wax enclosed in textile material used to fill in the gaps in wooden foundry shapes.

(2) Moulded or carved articles of paraffin wax (especially containers for hydrofluoric acid).

(3) Moulded or carved articles of stearin.

(4) Moulded or carved articles of rosin (e.g., rosin for violin bows).

(5) Moulded or carved articles of copal (usually imitations of articles of amber).

(6) Moulded or carved articles of modelling wax (e.g., flowers or plants moulded in one piece, figures, statuettes and similar ornaments).

(7) Moulded or carved articles made with a basis of flour or starch, agglomerated with gum and lacquered (imitation flowers or fruit, moulded in one piece, statuettes, etc.).

(8) Sheets of unhardened gelatin cut to shape **other than square or rectangular**. Sheets cut to rectangular (including square) shape, whether or not surface worked, fall in **heading 35.03** or in **Chapter 49** (e.g., postcards) (see the Explanatory Note to heading 35.03). Articles of unhardened gelatin include, for example :

(i) Small discs for sticking billiard cue tips.

(ii) Capsules for pharmaceutical products and for mechanical lighter fuel.

*

* *

Articles overlaid or inlaid with vegetable or mineral carving materials or with moulding materials are classified in this heading, **provided** the overlaying or inlaying forms the main characteristic of the finished article. This may be so in the case of wooden boxes, caskets, etc., overlaid or inlaid with materials described in this heading.

*

* *

The provisions of the Explanatory Note to heading 96.01 as regards the products **excluded** from that heading are also applicable to this heading.

The heading also **excludes** :

(a) Sealing wax, including bottle-sealing wax (**heading 32.14** or **34.04**).

(b) Candles, tapers and the like of paraffin or other waxes, stearin, etc. (**heading 34.06**).

(c) Modelling pastes, including those put up for children's amusement, and preparations known as "dental wax" or as "dental impression compounds", put up in sets, in packings for retail sale or in plates, horseshoe shapes, sticks or similar forms (**heading 34.07**).

(d) Copying pastes with a basis of gelatin (**heading 38.24**).

(e) Moulded articles of peat (**heading 68.15**).

(f) Demonstrational models (**heading 90.23**).

9602.00

Worked vegetable or mineral carving material and articles of these materials; moulded or carved articles of wax, of stearin, of natural gums or natural resins or of modelling pastes, and other moulded or carved articles, not elsewhere specified or included; worked, unhardened gelatin (except gelatin of heading 35.03) and articles of unhardened gelatin.

CLASSIFICATION OPINIONS

1. Article of wax, plated with silver, in the shape of a pear. The method of production consists of moulding the shape in wax and spraying a coating of brass (Cu-Zn) powder over the entire surface of the wax shape. The article is then covered with silver coating (an average of 0.184 mm in thickness) by electroplating.
The thin layer (0.01 mm) of copper alloy serves only as a conductive layer for the electrodeposition of the silver.
Adoption : 1996

Heading 9603

Brooms, brushes (including brushes constituting parts of machines, appliances or vehicles), hand-operated mechanical floor sweepers, not motorised, mops and feather dusters; prepared knots and tufts for broom or brush making; paint pads and rollers; squeegees (other than roller squeegees).

EXPLANATORY NOTES

96.03 - Brooms, brushes (including brushes constituting parts of machines, appliances or vehicles), hand-operated mechanical floor sweepers, not motorised, mops and feather dusters; prepared knots and tufts for broom or brush making; paint pads and rollers; squeegees (other than roller squeegees).

9603.10 - Brooms and brushes, consisting of twigs or other vegetable materials bound together, with or without handles

- Tooth brushes, shaving brushes, hair brushes, nail brushes, eyelash brushes and other toilet brushes for use on the person, including such brushes constituting parts of appliances :

9603.21 - - Tooth brushes, including dental-plate brushes

9603.29 - - Other

9603.30 - Artists' brushes, writing brushes and similar brushes for the application of cosmetics

9603.40 - Paint, distemper, varnish or similar brushes (other than brushes of subheading 9603.30); paint pads and rollers

9603.50 - Other brushes constituting parts of machines, appliances or vehicles

9603.90 - Other

(A) BROOMS AND BRUSHES, CONSISTING OF TWIGS OR OTHER VEGETABLE MATERIALS BOUND TOGETHER, WITH OR WITHOUT HANDLES

These are rather roughly made articles, with or without handles, used mainly for sweeping the ground (streets, yards, stables, etc.) or floors (e.g., vehicle floors). They usually consist either of a single bundle of vegetable material (twigs, straw, etc.) roughly bound together, or of one or more bundles of thick straw or reeds forming a core on which thinner and longer straw is fixed with textile threads; these textile threads may at the same time form decorative motifs. For use, these articles are generally mounted on a handle.

This group also includes fly-whisks, made in the same way but of lighter materials.

These brooms and brushes are generally made from birch, hazel, holly, heather or broom twigs, sorghum, millet, camelina, etc., straw (or panicles), or fibres of aloe, coco (coir), palm (piassava, in particular), etc., or buckwheat stalks.

(B) OTHER BROOMS AND BRUSHES

This group comprises a variety of articles, differing considerably both in materials and shape, used for toilet purposes, for household cleaning, for applying paints, adhesive or liquid products, and for certain industrial operations (cleaning, polishing, etc.).

In general, the brooms and brushes of this group consist either of small tufts or knots of flexible or springy fibres or filaments mounted in a broom or brush stock or back, or, as in the case of paint brushes, of a bunch of hairs or fibres strongly secured to the end of a short stock or handle with or without the aid of a metal ferrule or other retaining device.

The group also includes brooms and brushes of rubber or plastics moulded in one piece.

A very wide range of raw materials is used in the manufacture of the above articles. The materials used for the tufts, etc., may be :

(A) Of animal origin : bristles of pig or wild boar; hair of horses, oxen, goats, badgers, martens, skunks, squirrels, polecats, etc.; fibres of horn; shafts of feathers.

(B) Of vegetable origin : couch-grass roots, istle (or Tampico), coco (coir) or piassava fibres, esparto grass, sorghum panicles or split bamboo.

(C) Of man-made filaments (e.g., nylon or viscose rayon).

(D) Of wire (steel, brass, bronze, etc.), or of various other materials, e.g., cotton or wool yarn or twine, glass fibres.

The materials used for mountings include : wood, plastics, bone, horn, ivory, tortoise-shell, ebonite, certain metals (steel, aluminium, brass, etc.). In some brushes (e.g., circular brushes for machines, or brushes for special sweepers) leather, paperboard, felt or woven fabrics are also used. Quills of feathers are used as mountings for certain paint brushes.

Brushes in which natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed), precious metal or metal clad with precious metal constitute only **minor constituents** (e.g., monograms or rims) are also included in this group.

The heading **excludes** brushes containing natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed), precious metal or metal clad with precious metal otherwise than as minor constituents (**Chapter 71**).

This group includes :

(1) Tooth brushes, including dental-plate brushes.

(2) Shaving brushes.

(3) Brushes for toilet use (e.g., brushes for the hair, beard, moustache or eyelashes; nail brushes; brushes for hair dyeing, etc.); hairdressers' neck brushes.

(4) Brushes of rubber or plastics, moulded in one piece, for toilet use (washing hands, etc.), for cleaning lavatory pans, etc.

(5) Clothes, hat or shoe brushes; comb-cleaning brushes.

(6) Brushes for household use (e.g., scrubbing brushes, dish-washing brushes, sink-cleaning brushes, lavatory brushes, furniture brushes, radiator brushes, crumb brushes).

(7) Brooms and brushes for sweeping roads, floors, etc.

(8) Special car cleaning brushes of textile materials, whether or not impregnated with cleaning products.

(9) Brushes for grooming animals (horses, dogs, etc.).

(10) Brushes for oiling weapons, bicycles, etc.

(11) Brushes for gramophone records, including those for mounting on the sound-arm to clean the record automatically.

(12) Brushes for cleaning printing type or type-bars of typewriters.

(13) Brushes for cleaning sparking plugs, files, parts to be welded, etc.

(14) Brushes for removing moss or old bark from trees or bushes.

(15) Brushes for stencilling, whether or not with ink reservoir and ink-flow control.

(16) Paint and other brushes (round or flat) for plasterers, house painters, decorators, cabinet-makers, artists, etc. For example, brushes for washing off old paint-work, distempering brushes, paper-hanging brushes, varnishing brushes, etc.; brushes for oil or water colours, wash-tinting brushes; brushes for painting ceramics, gilding brushes, etc.; small brushes for office use.

This group also includes :

(I) Brushes mounted on wire (usually strands of wire twisted together), for example, flue brushes; brushes for bottle-washing or for cleaning cylindrical lamp glasses; brushes for cleaning tubes and piping, etc.; cleaners for smoking pipes; cleaning brushes for rifles, revolvers or pistols; funnel and tube brushes for musical instruments, etc.

(II) Brushes constituting machinery parts, for example, for road-sweepers; for spinning or weaving machines; for grinding, polishing or other machine-tools; for milling or paper-making machines; for watch-makers' or jewellers' lathes; for machines used in the leather, fur or shoe-making industries.

(III) Brushes for electrical household appliances (e.g., floor polishers or waxers, vacuum cleaners).

This heading **excludes** :

(a) Brush mountings or handles (classified according to the constituent material).

(b) Textile polishing discs or pads (**heading 59.11**).

(c) Card clothing (**heading 84.48**).

(d) Diskettes for cleaning disk drives in ADP machines, etc. (**heading 84.73**).

(e) Brushes of a kind specialised for use in dentistry or for medical, surgical or veterinary purposes (e.g., laryngeal brushes, and brushes for mounting on dental drills) (**heading 90.18**).

(f) Brushes having the character of toys (**heading 95.03**).

(g) Powder-puffs and pads for the application of cosmetics or toilet preparations (**heading 96.16**).

(C) HAND-OPERATED MECHANICAL FLOOR SWEEPERS, NOT MOTORISED

These are simple articles, usually consisting of a wheeled housing containing one or more cylindrical brushes operated by the movement of the wheels, propelled manually by means of a handle and used in particular for cleaning carpets.

The heading **excludes** motorised sweepers (**heading 84.79**).

(D) MOPS AND FEATHER DUSTERS

Mopsconsist of a bundle of textile cords or vegetable fibres mounted on a handle. Certain other mops consist of a mop-head pad made of textile or other material fitted or attached to a frame or other base connected to the handle. They include dust mops, spray mops and sponge mops used in dry or wet applications for cleaning up stains or liquid spills, cleaning floors, washing dishes, etc.

Feather dusters consist of a bundle of feathers mounted on a handle and are used for dusting furniture, shelves, shop windows, etc. In other types of feather dusters the “feathers” have been replaced by lambs' wool, textile materials, etc., fixed to or wrapped around a handle.

This heading **excludes** cleaning cloth made of textile materials designed for use as hand cloths or for attachment to the mop-head frame or other base, when presented separately (**Section XI**).

(E) PREPARED KNOTS AND TUFTS

In accordance with Note 3 to this Chapter, this group is restricted to unmounted knots or tufts of animal hair, vegetable fibre, man-made filaments, etc., which are ready for incorporation without division in brooms or brushes, or which require only such further minor processes as trimming to shape at the top, to render them ready for such incorporation.

The heading therefore **excludes**, *inter alia*, bundles (or similar trade presentations) of animal hair, vegetable fibres or other materials which have not been prepared for broom or brush making. The heading also **excludes** assemblies of hair or fibres which have been prepared for broom or brush making, but which still require to be divided into smaller tufts before mounting into broom or brush heads, etc.

The prepared knots and tufts included in this group are mainly used for shaving brushes, paint brushes and painting or drawing brushes.

To bind them into a compact bundle, the fibre tufts (or knots) are usually dipped, up to about one quarter of their length, into a varnish or some other coating material; sometimes sawdust is also added for greater strength. Knots or tufts mounted in collars (usually of metal) are **excluded** (**group (B) above**).

Prepared tufts or knots which have to undergo other finishing processes after being mounted on a handle (rounding their ends, grinding of the fibre ends to give them required softness, etc.) remain in this group.

(F) PAINT PADS AND ROLLERS; SQUEEGEES (OTHER THAN ROLLER SQUEEGEES)

Paint rollers consist of a roller covered with lambskin or other material mounted on a handle.

Paint pads consist of a flat surface, for example, of woven fabric attached to a hard back, usually of plastics; they may have handles.

Squeegees are generally made of strips of plastics, rubber or felt mounted between two blades of wood, metal, etc., or mounted on a block of wood, metal, etc., and used as a broom on wet surfaces.

However, the group **excludes** roller squeegees, consisting of one or more rollers mounted on a handle and used in photography (**heading 90.10**).

9603.2

- Tooth brushes, shaving brushes, hair brushes, nail brushes, eyelash brushes and other toilet brushes for use on the person, including such brushes constituting parts of appliances :

9603.10

- Brooms and brushes, consisting of twigs or other vegetable materials bound together, with or without handles

9603.21

-- Tooth brushes, including dental-plate brushes

9603.29

-- Other

9603.30

- Artists' brushes, writing brushes and similar brushes for the application of cosmetics

9603.40

- Paint, distemper, varnish or similar brushes (other than brushes of subheading 9603.30); paint pads and rollers

9603.50

- Other brushes constituting parts of machines, appliances or vehicles

9603.90

- Other

CLASSIFICATION OPINIONS

1. Tufts for shuttles, consisting of man-made bristles, from 12 to 24 mm long, glued together at one end to form a tuft; for lining shuttles used on looms for weaving certain textile fibres (e.g., jute), their function being to control the unwinding of the yarn during weaving.
Adoption : 1967

Heading 9604

Hand sieves and hand riddles.

EXPLANATORY NOTES

96.04 - Hand sieves and hand riddles.

The expression “hand sieves and hand riddles” applies to articles made of strong gauze or other mesh material (of various mesh sizes) mounted in a rectangular or circular frame (generally of wood or metal), and used for separating **solid** substances according to particle size.

The materials most commonly used for the mesh are horsehair, man-made monofilaments, silk yarns, spun gut, wire (steel, iron, brass wire, etc.).

The heading includes :

Hand sieves and hand riddles for cinders, sand, seeds, garden mould, etc.; bolting cloth sieves (e.g., for flour); household sieves (e.g., for flour); sieves used in laboratories (to test fineness of cement,

moulding sands, fertilisers, wood flour, etc.), including those which can be connected together to form a series; precision sieves for sorting precious or semi-precious stones (e.g., diamonds).

The heading **excludes** :

(a) Sieves and riddles in the nature of fixed articles (e.g., screens resting on the ground for sifting earth or gravel - generally **heading 73.26**).

(b) Simple strainers (e.g., for cheese) consisting of a container with a perforated sheet-metal bottom; funnels fitted with a filtering device; milk strainers; strainers for filtering paints, whitewash, fungicidal solutions, etc. (generally **Chapter 73**).

(c) Sieves and riddles designed to be mounted on machines or appliances (e.g., for the milling industry, in agriculture, for screening stones, ores, etc.), such articles being classified as parts of machinery, etc., in accordance with Note 2 to Section XVI, generally in the same heading as the machine for which they are solely or principally designed (e.g., **heading 84.37** or **84.74**).

9604.00

Hand sieves and hand riddles.

Heading 9605

Travel sets for personal toilet, sewing or shoe or clothes cleaning.

EXPLANATORY NOTES

96.05 - Travel sets for personal toilet, sewing or shoe or clothes cleaning.

The heading covers certain travel sets consisting of articles individually falling in different headings of the Nomenclature or consisting of different articles of the same heading.

The heading includes :

(1) **Toilet sets**, presented in a case of leather, fabric, plastics etc., containing, e.g., moulded plastic boxes, brushes, a comb, scissors, tweezers, a nail file, a mirror, a razor holder and manicure instruments.

(2) **Sewing kits**, presented in a case of leather, fabric, plastics etc., containing, e.g., scissors, a measuring tape, a needle threader, sewing needles and sewing thread, safety pins, a thimble, buttons and press-studs.

(3) **Shoe-cleaning kits**, presented in a case of leather, fabric, plastics, cardboard covered with plastics, etc.,containing e.g., brushes, a tin or tube of polish and a fabric cleaning cloth.

The heading **excludes** manicure sets (**heading 82.14**).

This heading also **excludes** sets distributed by airlines to passengers (during their flight or at their destination if their baggage is not available), consisting of fabric bags containing articles of the type listed in Items (1) to (3) above, cosmetics, perfumery or toilet articles, handkerchiefs of cellulose wadding, but also made up textile articles such as pyjamas, T-shirts, trousers, shorts, etc. The articles of these sets are classifiable according to their **own appropriate heading**.

9605.00

Travel sets for personal toilet, sewing or shoe or clothes cleaning.

CLASSIFICATION OPINIONS

1. Toilet sets distributed by airlines to passengers (during their flight or at their destination if their baggage is not available), consisting of a rectangular fabric bag, measuring 20 x 12 x 5 cm and containing :

- 1 disposable razor mounted on a small aerosol can of shaving foam,
- 1 toothbrush and a small tube of toothpaste,
- 1 scented handkerchief,
- 1 pair of knitted socks,
- 1 textile blindfold for protection from light,
- 1 pair of ear plugs.

Application of GIR 1.
Adoption : 1999

Heading 9606

Buttons, press-fasteners, snap-fasteners and press-studs, button moulds and other parts of these articles; button blanks.

EXPLANATORY NOTES

96.06 - Buttons, press-fasteners, snap-fasteners and press-studs, button moulds and other parts of these articles; button blanks.

9606.10 - Press-fasteners, snap-fasteners and press-studs and parts therefor

- Buttons :

9606.21 - - Of plastics, not covered with textile material

9606.22 - - Of base metal, not covered with textile material

9606.29 - - Other

9606.30 - Button moulds and other parts of buttons; button blanks

This heading covers buttons, studs, and similar articles used for fastening or decorating articles of apparel, household linen, etc. These articles may be made of various materials and they may contain natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed), precious metal or metal clad with precious metal **provided** these latter materials are present as **minor components only**. Otherwise they fall in **Chapter 71**.

The principal materials used for making buttons, studs, etc., are base metals, wood, corozo, dom, bone, horn, plastics, ceramics, glass, ebonite, compressed paperboard, leather, composition leather, ivory, tortoise-shell or mother-of-pearl. They may also consist of combinations of these materials and may be textile covered.

The heading includes :

(A) **Pierced and shank buttons**. These may be of various sizes and shapes according to the purpose for which they are to be used (underwear, outer garments, footwear, etc.).

Spherical buttons may be distinguished from beads by the fact that the hole for the thread is not pierced centrally.

In some shank buttons, the shank is in the form of a spring-type hinge which enables the button to be secured to a garment without sewing. Other types (e.g., "bachelor buttons") are affixed to garments by a snap mechanism.

(B) **Press-fasteners, snap-fasteners and press-studs**. These consist of two or more parts, and operate by means of a snap mechanism. Such fasteners and studs may be designed for sewing on garments, etc., or they may be attached by "riveting" (e.g., press-studs for gloves).

Press-fasteners and the like remain classified in this heading when the separate parts are supplied already mounted on strips of narrow tape.

The heading also covers :

(1) **Button moulds**. These articles are the interior part or "body" of certain types of buttons, and are designed to be covered with textile material, paper, leather, etc. They are classified here **only** when **clearly recognisable** as designed for button manufacture. These moulds may be of wood, orris root, etc., but the most usual type consists of two metal parts, one of which is covered with textile, etc., while the other fits into the first and holds the textile in place.

(2) **Other parts of buttons, etc., identifiable as such** (e.g., shanks, bases, heads).

(3) **Button blanks**. These include :

(i) **Moulded blanks** as obtained from the mould and not yet usable as buttons. They normally require to be trimmed, pierced and polished, but are readily distinguishable as being intended for manufacture into buttons.

(ii) **Stamped metal blanks** consisting of two parts (top and base) designed to fit one into the other.

(iii) **Blanks of mother-of-pearl, corozo, wood, etc., worked** (e.g., rounded or hollowed out on one or both sides or otherwise shaped, with rimmed edges, polished or pierced) so that they are **clearly identifiable** as intended for making buttons. On the other hand, a disc merely sawn, cut or polished, but not further worked, is **not** regarded as a button blank and is to be classified according to the constituent material.

The heading **excludes** cuff-links (**heading 71.13** or **71.17**).

9606.2

- Buttons :

9606.10

- Press-fasteners, snap-fasteners and press-studs and parts therefor

9606.21

-- Of plastics, not covered with textile material
9606.22

-- Of base metal, not covered with textile material
9606.29

-- Other
9606.30

- Button moulds and other parts of buttons; button blanks
Heading 9607

Slide fasteners and parts thereof.
EXPLANATORY NOTES

96.07 - Slide fasteners and parts thereof.

- Slide fasteners :

9607.11 - - Fitted with chain scoops of base metal

9607.19 - - Other

9607.20 - Parts

This heading covers :

(1) **Slide fasteners** of any size and for any purpose (for clothing, footwear, travel goods, etc.).

Most slide fasteners consist of two narrow strips of textile material one edge of each strip being fitted with scoops (of metal, plastics, etc.), which can be made to interlock by means of a slider or runner. Another type of slide fastener consists of two strips of plastics, each with a specially shaped edge designed to interlock one with the other under the action of a slider.

(2) **Parts of slide fasteners**, e.g., chain scoops, sliders or runners, end pieces, and narrow strips of any length mounted with chain scoops.

9607.1

- Slide fasteners :
9607.11

-- Fitted with chain scoops of base metal
9607.19

-- Other
9607.20

- Parts
Heading 9608

Ball point pens; felt tipped and other porous-tipped pens and markers; fountain pens, stylograph pens and other pens; duplicating stylos; propelling or sliding pencils; pen-holders, pencil-holders and

similar holders; parts (including caps and clips) of the foregoing articles, other than those of heading 96.09.

EXPLANATORY NOTES

96.08 - Ball point pens; felt tipped and other porous-tipped pens and markers; fountain pens, stylograph pens and other pens; duplicating stylos; propelling or sliding pencils; pen-holders, pencil-holders and similar holders; parts (including caps and clips) of the foregoing articles, other than those of heading 96.09.

9608.10 - Ball point pens

9608.20 - Felt tipped and other porous-tipped pens and markers

9608.30 - Fountain pens, stylograph pens and other pens

9608.40 - Propelling or sliding pencils

9608.50 - Sets of articles from two or more of the foregoing subheadings

9608.60 - Refills for ball point pens, comprising the ball point and ink-reservoir

- Other :

9608.91 - - Pen nibs and nib points

9608.99 - - Other

This heading covers :

(1) **Ball point pens**. These generally consist of a body enclosing a tube of ink terminated by a ball.

(2) **Felt tipped and other porous-tipped pens and markers**, including those of the fountain pen type.

(3) **Fountain pens, stylograph pens and other pens** (pump, cartridge, plunger, vacuum, etc.), whether or not fitted with pen nibs or points.

(4) **Duplicating stylos**.

(5) **Propelling pencils or sliding pencils**, single or multilead type; including the spare leads normally contained therein.

(6) **Pen-holders**, whether or not in one piece, and with or without nibs or caps.

(7) **Pencil-holders and similar holders** (e.g., holders for crayons, drawing charcoals).

PARTS

The heading also covers identifiable parts not more specifically included elsewhere in the Nomenclature. For example :

Pen nibs of any design including unfinished nibs roughly cut to shape; clips; refills for ball point pens, comprising the ball point and the ink reservoir; holders for the ball points or felts of marking stylographs; ink-flow regulators; barrels for pens or pencils of this heading; filling or propelling mechanisms; ink sacs of rubber or other materials; point protectors; interchangeable renew nib units comprising nib, feed and collar; nib points (or pen points) which are small balls made from platinum alloys or from certain tungsten alloys used for pointing the tips of pen nibs to prevent premature wear.

The heading **does not cover** :

(a) Ink cartridges for fountain pens (**heading 32.15**).

(b) Steel balls for ball point pens and pencils (**heading 73.26** or **84.82**).

(c) Mathematical drawing pens (**heading 90.17**).

(d) Pencil leads (**heading 96.09**).

9608.9

- Other :

9608.10

- Ball point pens

9608.20

- Felt tipped and other porous-tipped pens and markers

9608.30

- Fountain pens, stylograph pens and other pens

9608.40

- Propelling or sliding pencils

9608.50

- Sets of articles from two or more of the foregoing subheadings

9608.60

- Refills for ball point pens, comprising the ball point and ink-reservoir

9608.91

-- Pen nibs and nib points

9608.99

-- Other

CLASSIFICATION OPINIONS

1. Tungsten carbide balls, whether or not finally ground, in diameters ranging from 0.6 to 1.25 mm inclusive.

Adoption : 1962

Heading 9609

Pencils (other than pencils of heading 96.08), crayons, pencil leads, pastels, drawing charcoals, writing or drawing chalks and tailors' chalks.

EXPLANATORY NOTES

96.09 - Pencils (other than pencils of heading 96.08), crayons, pencil leads, pastels, drawing charcoals, writing or drawing chalks and tailors' chalks.

9609.10 - Pencils and crayons, with leads encased in a sheath

9609.20 - Pencil leads, black or coloured

9609.90 - Other

The articles of this heading are of two types :

(A) Those without any covering or simply covered with a protective band of paper (e.g., chalks, drawing charcoals, pencil leads, certain crayons, pastels, and slate pencils).

(B) Pencils and crayons, with leads encased in wood or plastics or in some cases in a sheath composed of layers of paper.

The composition of pencil leads, chalks, pastels and crayons, etc., varies according to their intended use.

The heading includes :

(1) **Slate pencils** of natural or agglomerated slate.

(2) **Natural chalks in the form of sticks** (obtained by sawing or cutting).

(3) **Prepared chalks**, usually made with a basis of calcium sulphate or of calcium sulphate and calcium carbonate, sometimes mixed with colouring matter.

(4) **Drawing charcoals**, obtained usually by calcining spindle-tree wood.

(5) **Crayons and pastels**, usually made of a mixture of chalk or clay, colouring matter, shellac or wax, spirit and turpentine.

(6) **Pencils and crayons**, with leads encased in a sheath.

(7) **Pencil leads** (e.g., black leads, composed of a mixture of graphite and clay; coloured leads, consisting of metallic oxides or other mineral pigments combined with clay, chalk or wax; indelible or copying leads, composed of clay tinted with a dye, such as aniline or fuchsine).

(8) **Litho-crayons**, with a basis of lamp black, wax, soap and tallow.

(9) **"Ceramic" crayons**, with a basis of vitrifiable colours, fats, cocoa butter, wax, etc.

The heading includes pencils incorporating erasers or other fittings.

It also covers **tailors' chalks** (which are composed of steatite).

The heading **does not cover** :

(a) Chalk in the crude state (**heading 25.09**).

(b) Medicinal pencils (e.g., anti-migraine) (**heading 30.04**).

(c) Pencils for cosmetic or toilet uses (e.g., eyebrow pencils, styptic pencils) (**heading 33.04** or **33.07**).

(d) Billiard chalks (**heading 95.04**).

9609.10

- Pencils and crayons, with leads encased in a sheath

9609.20

- Pencil leads, black or coloured

9609.90

- Other

Heading 9610

Slates and boards, with writing or drawing surfaces, whether or not framed.

EXPLANATORY NOTES

96.10 - Slates and boards, with writing or drawing surfaces, whether or not framed.

This heading covers slates and boards, clearly designed to be used for writing or drawing with slate pencils, chalks, felt or fibre tipped markers (e.g., school children's slates, blackboards and certain notice boards).

These articles, framed or not, may be of slate, including agglomerated slate, or may consist of any material (wood, paperboard, textile material, asbestos cement, etc.) covered on one or both sides with a preparation of powdered slate or any other coating suitable for writing on, or sheeting of plastics.

Boards or slates may bear permanent markings (lines, squares, lists of commodities, etc.) and may incorporate counting frames.

This heading **does not cover** writing or drawing slates which are not ready for use (**heading 25.14** or **68.03**).

9610.00

Slates and boards, with writing or drawing surfaces, whether or not framed.

Heading 9611

Date, sealing or numbering stamps, and the like (including devices for printing or embossing labels), designed for operating in the hand; hand-operated composing sticks and hand printing sets incorporating such composing sticks.

EXPLANATORY NOTES

96.11 - Date, sealing or numbering stamps, and the like (including devices for printing or embossing labels), designed for operating in the hand; hand-operated composing sticks, and hand printing sets incorporating such composing sticks.

This heading covers date, sealing and similar stamps and composing sticks, **provided** they are of a type designed to be used independently in the hand. (Date, sealing and similar stamps incorporating a base for fixing on a table, desk, etc., or designed for operating on a stand are **excluded** - see the Explanatory Note to **heading 84.72**.)

These articles include :

(1) **Seals for use with sealing wax**, with or without design and whether or not provided with handles.

(2) **Stamps of all kinds**, with or without the printing band or self-inking device; for example, date stamps, multiformula stamps, docketing and ticketing stamps, numbering stamps (self-changing or not), roller stamps, pocket stamps (usually consisting of a stamp and ink-pad in a protective case).

(3) **Composing or setting sticks for receiving interchangeable characters**. Some sticks may bear a permanent text or design (e.g., post office composing or setting sticks in which only the date is changed).

(4) **Small hand printing sets (not being toys)** consisting of a box containing a hand-operated composing or setting stick, interchangeable characters, tweezers and an ink-pad.

(5) **Hand-operated devices for stamping tickets** with a date or other characters, even if incorporating a punch.

The heading **does not cover** :

(a) Plombing and sealing pliers, and animal marking pliers (**heading 82.03**).

(b) Branding irons and marking punches (**heading 82.05**).

(c) Unmounted letters, figures or other characters of a kind used in printing machines (h**eading 84.42**). Other types of unmounted characters are classified according to the constituent material.

(d) Hand-operated stamps incorporating a base plate for dry relief printing (**heading 84.72**).

(e) Apparatus with clock movements for stamping a record of the time, e.g., of the receipt of a letter (**heading 91.06**).

9611.00

Date, sealing or numbering stamps, and the like (including devices for printing or embossing labels), designed for operating in the hand; hand-operated composing sticks and hand printing sets incorporating such composing sticks.

CLASSIFICATION OPINIONS

1. **Hand-operated labelling appliance,** consisting of a sheet-steel casing containing a printing device with inking pad, a roll of paper tape 2 cm wide coated with adhesive on one side, a tape-cutter to separate the labels and an operating handle; the operation of this handle causes the simultaneous printing and cutting of the tape and the affixing of the detached (printed) portion on to the article to be labelled. Adoption : 1964

2. Hand-operated embossing appliances, of base metal or of plastics, with a pincer motion, for embossing labels or plates, comprising :

(i) a magazine for a plain tape or strip of metal or plastics;
(ii) an embossing device operated by a lever and consisting of a disc bearing letters, figures and symbols; and
(iii) a steel blade for cutting off the printed tape or strip.

Adoption : 1964

Heading 9612

Typewriter or similar ribbons, inked or otherwise prepared for giving impressions, whether or not on spools or in cartridges; ink-pads, whether or not inked, with or without boxes.

EXPLANATORY NOTES

96.12 - Typewriter or similar ribbons, inked or otherwise prepared for giving impressions, whether or not on spools or in cartridges; ink-pads, whether or not inked, with or without boxes.

9612.10 - Ribbons

9612.20 - Ink-pads

This heading covers :

(1) **Ribbons**, whether or not on spools or in cartridges, for typewriters, calculating machines, or for any other machines incorporating a device for printing by means of such ribbons (automatic balances, tabulating machines, teleprinters, etc.).

The heading also includes inked, etc., ribbons, usually having metal fixing fittings, used in barographs, thermographs, etc., to print and record the movement of the recording machine needle.

These ribbons are usually of woven textiles, but sometimes they are made of plastics or paper. To fall in the heading, they **must have been inked or otherwise prepared to give impressions** (e.g., impregnation of textile ribbons, or coating of plastics strip or paper with colouring matter, ink, etc.).

The heading **does not cover** :

(a) Rolls of carbon or other copying paper strip, not suitable for use as typewriter, etc., ribbons, but designed to produce duplicate copies in accounting machines, cash registers, etc. This strip, which is usually much wider than typewriter ribbons (generally more than 3 cm in width), falls in **Chapter 48**.

(b) Ribbons not prepared by inking, impregnation, coating, etc., to give an impression; these are classified in **Chapter 39**, **Section XI**, etc., according to the constituent material.

(c) Empty spools (classified according to their constituent material).

(2) **Ink-pads, whether or not inked, for date stamps, etc**. They are generally composed of felt, woven fabric or other absorbent material on a wooden, metallic or plastic support which is often in the form of a box.

Hand-operated ink-rollers are **excluded** from this heading and are classified according to their constituent material.

9612.10

- Ribbons

9612.20

- Ink-pads

Heading 9613

Cigarette lighters and other lighters, whether or not mechanical or electrical, and parts thereof other than flints and wicks.

EXPLANATORY NOTES

96.13 - Cigarette lighters and other lighters, whether or not mechanical or electrical, and parts thereof other than flints and wicks.

9613.10 - Pocket lighters, gas fuelled, non-refillable

9613.20 - Pocket lighters, gas fuelled, refillable

9613.80 - Other lighters

9613.90 - Parts

This heading includes :

(1) **Mechanical lighters**.

These produce sparks, usually by means of a wheel with a milled-edge which is revolved in contact with a “flint” (generally of ferro-cerium alloy).

(2) **Electrical lighters**.

Current from the mains or a battery produces a spark, or in certain types, a glowing heat in an electric resistor.

(3) **Chemical lighters**.

In these a catalyst (usually sponge platinum) is made to glow by catalytic action in the presence of a gas.

(4) **Non-mechanical lighters**.

One type consists of a container incorporating a fuel reservoir, and a small removable metal rod (the striker) fitted with a steel tip. The striking of the steel tip on a “flint” fixed on the outside of the container produces a spark which ignites an inflammable material near the tip of the striker.

The lighters classified in this heading may be of the pocket or table types, or may be designed for fixing on the wall, fitting to gas stoves, etc. The heading also includes lighters for motor cars or other vehicles.

Lighters combined with other objects (e.g., cigarette cases, powder cases, watches generally with digital faces, electronic calculators) are classified in accordance with the General Interpretative Rules.

The heading also includes identifiable parts of lighters (e.g., outer casings, milled-edged wheels, empty or full fuel reservoirs).

The heading **does not cover** igniters of **heading 36.03**, flints (**heading 36.06**), wicks (**heading 59.08** or **70.19**) or fuel in containers (ampoules, bottles, cans, etc.) of a kind used for filling or refilling cigarette or similar lighters (generally **heading 36.06**).

9613.10

- Pocket lighters, gas fuelled, non-refillable

9613.20

- Pocket lighters, gas fuelled, refillable

9613.80

- Other lighters

9613.90

- Parts

Heading 9614

Smoking pipes (including pipe bowls) and cigar or cigarette holders, and parts thereof.

EXPLANATORY NOTES

96.14 - Smoking pipes (including pipe bowls) and cigar or cigarette holders, and parts thereof.

This heading covers :

(1) **Smoking pipes** of all kinds (including calumets, chibouks or Turkish pipes, hookahs, etc.).

(2) **Pipe bowls**.

(3) **Cigar and cigarette holders**.

(4) **Blocks of wood or briar root** roughly shaped for the manufacture of pipes.

The materials most commonly used in the manufacture of these articles (or of stems, mouthpieces or other parts) are terra-cotta and other ceramics, wood (box, cherry, etc.), briar root, amber, meerschaum, copal, ivory, mother-of-pearl, ebonite, steatite and clay.

The heading also includes the following parts : stems and mouthpieces for pipes; pipe-lids; absorbent pipe bowls; liners; inner parts (including filter cartridges), etc.

This heading **excludes** :

(a) Accessories (e.g., pipe-scrapers and pipe cleaners); these fall in their own appropriate headings.

(b) Electronic cigarettes and similar personal electric vaporising devices, whether or not in a shape of a smoking pipe or water pipe (**heading 85.43**).

9614.00

Smoking pipes (including pipe bowls) and cigar or cigarette holders, and parts thereof.

Heading 9615

Combs, hair-slides and the like; hairpins, curling pins, curling grips, hair-curlers and the like, other than those of heading 85.16, and parts thereof.

EXPLANATORY NOTES

96.15 - Combs, hair-slides and the like; hair pins, curling pins, curling grips, hair-curlers and the like, other than those of heading 85.16, and parts thereof.

- Combs, hair-slides and the like :

9615.11 - - Of hard rubber or plastics

9615.19 - - Other

9615.90 - Other

This heading covers :

(1) **Toilet combs of all kinds**, including combs for animals.

(2) **Dress combs of all kinds**, whether for personal adornment or for keeping the hair in place.

(3) **Hair-slides and the like** for holding the hair in place or for ornamental purposes.

These articles are usually made of plastics, ivory, bone, horn, tortoise-shell, metal, etc.

(4) **Hairpins**.

(5) **Curling pins, curling grips, hair-curlers and the like, other than** those of **heading 85.16**, whether or not having coverings or fittings of textile, rubber or other materials.

These articles are usually made of base metal or plastics.

They fall in **Chapter 71** if containing precious metal or metal clad with precious metal, natural or cultured pearls, precious or semi-precious stones (natural, synthetic or reconstructed), **other than** as minor constituents.

This heading **excludes** textile headbands (**Section XI**).

9615.1

- Combs, hair-slides and the like :

9615.11

-- Of hard rubber or plastics

9615.19

-- Other

9615.90

- Other

Heading 9616

Scent sprays and similar toilet sprays, and mounts and heads therefor; powder-puffs and pads for the application of cosmetics or toilet preparations.

EXPLANATORY NOTES

96.16 - Scent sprays and similar toilet sprays, and mounts and heads therefor; powder-puffs and pads for the application of cosmetics or toilet preparations.

9616.10 - Scent sprays and similar toilet sprays, and mounts and heads therefor

9616.20 - Powder-puffs and pads for the application of cosmetics or toilet preparations

This heading covers :

(1) **Scent, brilliantine and similar toilet sprays**, whether of the table or pocket type, and whether for personal or professional use. They consist of a reservoir, generally in the form of a bottle (of glass, plastics, metal or other material), to which is fixed the mount; this mount incorporates the head (with its spray-forming mechanism) and a pneumatic pressure bulb (sometimes enclosed in a textile net) or a piston device.

(2) **Mounts for toilet sprays**.

(3) **Head-pieces for toilet sprays**.

(4) **Powder-puffs and pads** for applying any kind of cosmetic or toilet preparation (face-powder, rouge, talcum-powder, etc.). They may be made of any material (swan's or eider-down, skin, animal hair, pile fabrics, foam rubber, etc.), and they remain in this heading whether or not they have handles or trimmings of ivory, tortoise-shell, bone, plastics, base metal, precious metal or metal clad with precious metal.

The heading **does not apply to :**

(a) Reservoirs (bottles, flasks, etc.) for scent sprays, presented separately (classified according to constituent material).

(b) Rubber bulbs (**heading 40.14**).

(c) Dispersing or spraying appliances of **heading 84.24**.

(d) Scent spraying machines of **heading 84.76**.

9616.10

- Scent sprays and similar toilet sprays, and mounts and heads therefor

9616.20

- Powder-puffs and pads for the application of cosmetics or toilet preparations

Heading 9617

Vacuum flasks and other vacuum vessels, complete; parts thereof other than glass inners.

EXPLANATORY NOTES

96.17 - Vacuum flasks and other vacuum vessels, complete; parts thereof other than glass inners.

This heading covers :

(1) **Vacuum flasks and other similar vacuum vessels, provided they are complete**. This group includes vacuum jars, jugs, carafes, etc., designed to keep liquids, food or other products at fairly constant temperature, for reasonable periods of time. These articles usually consist of a double walled receptacle (the inner), generally of glass, with a vacuum created between the walls, and a protective outer casing of metal, plastics or other material, sometimes covered with paper, leather, leathercloth, etc. The space between the vacuum container and the outer casing may be packed with insulating material (glass fibre, cork or felt). The heading also includes double-walled stainless steel vacuum insulated thermal flasks without a protective outer case, which perform temperature retention. In the case of vacuum flasks the lid can often be used as a cup.

(2) **Outer cases, lids and cups** of metal, plastics, etc., for vacuum flasks or other vacuum vessels.

The heading **does not cover** separate glass inners (**heading 70.20**).

9617.00

Vacuum flasks and other vacuum vessels, complete; parts thereof other than glass inners.

CLASSIFICATION OPINIONS

1. Double-walled stainless steel vacuum insulated thermal flask, measuring 75 mm in diameter and having a capacity of 1.5 l. The gap between the two walls is partially evacuated of air, creating a near-vacuum insulation which prevents heat transfer by conduction or convection. Heat transfer by thermal radiation is minimized by aluminium reflection films in between the inner and outer walls of the flask's body, which can perform maximum temperature retention. **Application of GIR 1.**

Adoption : 2015



Heading 9618

Tailors' dummies and other lay figures; automata and other animated displays used for shop window dressing.

EXPLANATORY NOTES

96.18 - Tailors' dummies and other lay figures; automata and other animated displays used for shop window dressing.

This heading covers :

(1) **Tailors' and dressmakers' dummies**.

These are models of the human body used to obtain the correct fitting of clothing during making-up; generally, they represent only the trunk of the human form. They are usually moulded from papier maché, plaster, plastics, etc., but some are made from certain plaiting materials such as cane, reeds or willow. The moulded forms are usually covered with textile material, and are generally mounted on a stand so that the height of the model from the ground can be varied.

(2) **Other lay figures and similar articles**.

These are representations of the human body or parts of the human body (e.g., head, trunk, legs, arms or hands), used to display articles of clothing, headgear, stockings, gloves, etc. These figures, etc., are made from the materials mentioned at (1) above. In the case of those representing the complete human form, the limbs are usually articulated so that the forms may be made to assume various positions. These figures are also used as models by artists and sculptors, and by medical students for practising methods of applying bandages, splints, etc.

This category **does not include** silhouette or profile shapes of figures which, though sometimes used for displaying goods, are more frequently used as direction signs. These articles are usually made of wood, paperboard or metal and are classified according to their constituent material.

(3) **Automata and other animated displays used for shop window dressing**.

These range from animated representations of humans or animals to numerous other automatically operating appliances of a kind used for displaying merchandise or for publicity purposes. They may be of any material, and are generally electrically or mechanically operated. Though frequently objects of curiosity in themselves, these articles are mainly intended to serve as novel methods of attracting attention to displays of goods or to particular articles exhibited in shop windows. They may be designed in various forms according to the nature of the merchandise or service to be advertised; they serve not only as an attractive means of presentation, but also in certain cases to illustrate by suitable movements the quality, method of operation, etc., of the articles displayed.

This heading **does not include** :

(a) Apparatus or models, designed solely for demonstrational purposes, of **heading 90.23**.

(b) Dolls and toys (**Chapter 95**).

9618.00

Tailors' dummies and other lay figures; automata and other animated displays used for shop window dressing.

Heading 9619

Sanitary towels (pads) and tampons, napkins (diapers), napkin liners and similar articles, of any material.

EXPLANATORY NOTES

96.19 - Sanitary towels (pads) and tampons, napkins (diapers), napkin liners and similar articles, of any material.

This heading covers sanitary towels (pads) and tampons, napkins (diapers) and napkin liners and similar articles, including absorbent hygienic nursing pads, napkins (diapers) for adults with incontinence and pantyliners, of any material.

In general, the articles of this heading are disposable. Many of these articles are composed of (a) an inner layer (e.g., of nonwovens) designed to wick fluid from the wearer's skin and thereby prevent chafing; (b) an absorbent core for collecting and storing fluid until the product can be disposed of; and (c) an outer layer (e.g., of plastics) to prevent leakage of fluid from the absorbent core. The articles of this heading are usually shaped so that they may fit snugly to the human body. This heading also includes similar traditional articles made up solely of textile materials, which are usually re-usable following laundering.

This heading **does not cover** products such as disposable surgical drapes and absorbent pads for hospital beds, operating tables and wheelchairs or non-absorbent nursing pads or other non-absorbent articles (in general, classified according to their constituent material).

9619.00

Sanitary towels (pads) and tampons, napkins (diapers), napkin liners and similar articles, of any material.

Heading 9620

Monopods, bipods, tripods and similar articles.

EXPLANATORY NOTES

96.20 - Monopods, bipods, tripods and similar articles.

This heading covers monopods, bipods, tripods and similar articles, which are used as support for cameras, video cameras, precision instruments, etc., to reduce random movements. They may be extendable and are usually portable and may be equipped with a quick release device or head for easy mounting and release of the apparatus or instrument they support. These articles can be made of any material, e.g., wood, aluminium, carbon or a combination thereof.

A monopod is a one-legged support, sometimes called a “unipod”. A bipod is a two-legged support for providing stability along two axes of motion. A tripod is a three-legged stand, which provides significant stability for the device it supports.

For the purpose of this heading, the expression “similar articles” refers to devices with four or more legs, which have the same function as monopods, bipods and tripods in reducing random movements. Selfie pods, also known as “selfie sticks”, designed to be held in the hand, rather than to stand on the ground, to take self-portraits (“selfies”) by positioning a smartphone, a photographic camera, a digital camera or a video camera recorder in an adjustable holder at the end of the stick, are also included in the heading, whether or not they are equipped with wired or wireless remote control for picture taking.

The heading **does not cover** :

(a) Stands for microphones (**heading 85.18**).

(b) Stands for holding an instrument (e.g., side-drums or saxophones) (**heading 92.09**).

(c) Monopods, bipods, tripods and similar articles specially designed to be used with articles of **Chapter 93.**

9620.00

Monopods, bipods, tripods and similar articles.

CLASSIFICATION OPINIONS

1. **Three-legged camera support (tripod)** made from an alloy of aluminium, magnesium and titanium (AMT) and on which can be mounted a digital, photographic or video camera. The tripod is fitted with a pan-tilt head, allowing a 360° rotation. It also features a quick-release plate or "shoe" for faster mounting or removal of the apparatus. **Application of GIR 1.** Adoption : 2013



2. **Wireless "selfie-stick" made of steel**, with a handle, a power switch and a charging port on one end and a mount on the other end. A smartphone can be mounted on it with an adjustable holder. It can be paired with a smartphone's operating system via an open wireless technology standard, e.g., Bluetooth®. Self-portrait photographs are taken by pressing the button on the stick. To take wider angle image photographs, the stick can be extended from 25 to 102 cm and the head offers rotation. It can also be used with digital cameras. **Application of GIRs 1 and 3 (b).** Adoption : 2017

A Button
B Power switch and charging port
C Holder
D Charging cable



Section XXI

WORKS OF ART, COLLECTORS' PIECES AND ANTIQUES

EXPLANATORY NOTES

Section XXI

WORKS OF ART, COLLECTORS’ PIECES AND ANTIQUES

Chapter 97

Works of art, collectors' pieces and antiques

LEGAL NOTES

Notes.

1.- This Chapter does not cover :

(a) Unused postage or revenue stamps, postal stationery (stamped paper) or the like, of heading 49.07;

(b) Theatrical scenery, studio back-cloths or the like, of painted canvas (heading 59.07) except if they may be classified in heading 97.06; or

(c) Pearls, natural or cultured, or precious or semi-precious stones (headings 71.01 to 71.03).

2.- Heading 97.01 does not apply to mosaics that are mass-produced reproductions, casts or works of conventional craftsmanship of a commercial character, even if these articles are designed or created by artists.

3.- For the purposes of heading 97.02, the expression “original engravings, prints and lithographs” means impressions produced directly, in black and white or in colour, of one or of several plates wholly executed by hand by the artist, irrespective of the process or of the material employed by him, but not including any mechanical or photomechanical process.

4.- Heading 97.03 does not apply to mass-produced reproductions or works of conventional craftsmanship of a commercial character, even if these articles are designed or created by artists.

5.- (A) Subject to Notes 1 to 4 above, articles of this Chapter are to be classified in this Chapter and not in any other Chapter of the Nomenclature.

(B) Heading 97.06 does not apply to articles of the preceding headings of this Chapter.

6.- Frames around paintings, drawings, pastels, collages or similar decorative plaques, engravings, prints or lithographs are to be classified with those articles, provided they are of a kind and of a value normal to those articles. Frames which are not of a kind or of a value normal to the articles referred to in this Note are to be classified separately.

EXPLANATORY NOTES

Chapter 97

Works of art, collectors’ pieces and antiques

Notes.

1.- This Chapter does not cover :

(a) Unused postage or revenue stamps, postal stationery (stamped paper) or the like, of heading 49.07;

(b) Theatrical scenery, studio back-cloths or the like, of painted canvas (heading 59.07) except if they may be classified in heading 97.06; or

(c) Pearls, natural or cultured, or precious or semi-precious stones (headings 71.01 to 71.03).

2.- Heading 97.01 does not apply to mosaics that are mass-produced reproductions, casts or works of conventional craftsmanship of a commercial character, even if these articles are designed or created by artists.

3.- For the purposes of heading 97.02, the expression “original engravings, prints and lithographs” means impressions produced directly, in black and white or in colour, of one or of several plates wholly executed by hand by the artist, irrespective of the process or of the material employed by him, but not including any mechanical or photomechanical process.

4.- Heading 97.03 does not apply to mass-produced reproductions or works of conventional craftsmanship of a commercial character, even if these articles are designed or created by artists.

5.- (A) Subject to Notes 1 to 4 above, articles of this Chapter are to be classified in this Chapter and not in any other Chapter of the Nomenclature.

(B) Heading 97.06 does not apply to articles of the preceding headings of this Chapter.

6.- Frames around paintings, drawings, pastels, collages or similar decorative plaques, engravings, prints or lithographs are to be classified with those articles, provided they are of a kind and of a value normal to those articles. Frames which are not of a kind or of a value normal to the articles referred to in this Note are to be classified separately.

GENERAL

This Chapter covers :

(A) Certain works of art : paintings, drawings and pastels, executed entirely by hand, and collages, mosaics and similar decorative plaques (heading 97.01); original engravings, prints and lithographs (heading 97.02); original sculptures and statuary (heading 97.03).

(B) Postage or revenue and similar stamps, stamp-postmarks, first-day covers, postal stationery (stamped paper) and the like, used or unused, **other than** those **of heading 49.07** (heading 97.04).

(C) Collections and collectors’ pieces of zoological, botanical, mineralogical, anatomical, historical, archaeological, palaeontological, ethnographic or numismatic interest (heading 97.05).

(D) Antiques of an age exceeding 100 years (heading 97.06).

Articles of this Chapter may include articles of cultural significance that are subject to export or import restrictions.

It should, however, be noted that such articles are classified in **other Chapters** of the Nomenclature if they do not comply with the conditions arising from the terms of the Notes or headings of this Chapter.

Articles of a kind described in headings 97.01 to 97.05 remain classified in those headings even if they are of an age exceeding 100 years.

Heading 9701

Paintings, drawings and pastels, executed entirely by hand, other than drawings of heading 49.06 and other than hand-painted or hand-decorated manufactured articles; collages, mosaics and similar decorative plaques.

EXPLANATORY NOTES

97.01 - Paintings, drawings and pastels, executed entirely by hand, other than drawings of heading 49.06 and other than hand-painted or hand-decorated manufactured articles; collages, mosaics and similar decorative plaques.

- Of an age exceeding 100 years :

9701.21 - - Paintings, drawings and pastels

9701.22 - - Mosaics

9701.29 - - Other

- Other :

9701.91 - - Paintings, drawings and pastels

9701.92 - - Mosaics

9701.99 - - Other

(A) PAINTINGS, DRAWINGS AND PASTELS, EXECUTED ENTIRELY BY HAND, OTHER THAN DRAWINGS OF HEADING 49.06 AND OTHER THAN HAND-PAINTED OR HAND- DECORATED MANUFACTURED ARTICLES

This group covers paintings, drawings and pastels (whether ancient or modern), **executed entirely by hand**. These works may take the form of oil paintings, wax paintings, tempera paintings, acrylic paintings, water-colours, gouache paintings, pastels, miniatures, illuminated manuscripts, pencil drawings (including Conté drawings), charcoal or pen drawings, etc., executed on any material.

As these works must be executed **entirely** by hand, articles obtained **wholly or partly** by any other process are **excluded**, for example, paintings, whether or not on canvas, obtained by photomechanical processes; paintings executed by hand on an outline or on a drawing obtained by ordinary engraving or printing processes; so-called “authentic copies” of paintings, obtained by means of a number of masks or stencils, even if these copies are certified authentic by the artist.

However, copies of paintings remain in this group irrespective of their artistic value, if they are executed entirely by hand.

This group also **excludes** :

(a) Plans and drawings, for industrial, architectural or engineering purposes, being originals drawn by hand (**heading 49.06**).

(b) Designs or drawings for fashion models, jewellery, wallpaper, fabrics, furniture, etc., being originals drawn by hand (**heading 49.06**).

(c) Theatrical scenery, studio back-cloths or the like, of painted canvas (**heading 59.07** or **97.06**).

(d) Hand-decorated manufactured articles such as wall coverings consisting of hand-painted woven fabrics, holiday souvenirs, boxes and caskets, ceramic wares (plates, dishes, vases, etc.), these are classified under their own appropriate headings.

(B) COLLAGES, MOSAICS AND SIMILAR DECORATIVE PLAQUES

This group covers collages and similar decorative plaques, consisting of bits and pieces of various animal, vegetable or other materials, assembled so as to form a picture or decorative design or motif and glued or otherwise mounted on a backing, e.g., of wood, paper or textile material. The backing may be plain or it may be hand-painted or imprinted with decorative or pictorial elements which form part of the overall design. Collages range in quality from articles cheaply produced in quantity for sale as souvenirs up to products which require a high degree of craftsmanship and which may be genuine works of art.

For the purpose of this group, the term “similar decorative plaques” **does not include** articles consisting of a **single piece of material**, even if mounted or glued on a backing, which are more specifically covered by other headings of the Nomenclature such as “ornaments” of plastics, of wood, of base metal, etc. Such articles are classified in their appropriate headings (**headings 44.20, 83.06**, etc.).

The mosaics of this group are executed by hand, giving them a unique and non-reproducible character. They are made by juxtaposing small pieces of various materials (known as “tesserae”) which together form a composition featuring figures, motifs or geometric patterns. Mosaics consist of pieces of hard stones, terracotta, ceramics, marble, enamels, coloured glass or wood, of different colours.

Mosaics remain classified in heading 97.01 regardless of when they were made, provided they are not of a commercial character, e.g. mass-produced reproductions, casts or works of conventional craftsmanship, as described in Note 2 to this Chapter.

*

* *

Frames around paintings, drawings, pastels, collages or similar decorative plaques are to be classified with those articles in this heading, **only** if they are of a kind and of a value normal to those articles; in

other cases the frames are to be classified separately in their appropriate headings as articles of wood, metal, etc. (see Note 6 to this Chapter).

9701.2

- Of an age exceeding 100 years :
9701.9

- Other :
9701.21

-- Paintings, drawings and pastels
9701.22

-- Mosaics
9701.29

-- Other
9701.91

-- Paintings, drawings and pastels
9701.92

-- Mosaics
9701.99

-- Other
Heading 9702

Original engravings, prints and lithographs.
EXPLANATORY NOTES

97.02 - Original engravings, prints and lithographs.

9702.10 - Of an age exceeding 100 years

9702.90 - Other

This heading covers **original** engravings, prints and lithographs (whether ancient or modern), i.e., impressions produced directly, in black and white or in colour, from one or several plates wholly executed by hand by the artist, irrespective of the process or of the material employed by him, but **excluding** any mechanical or photomechanical process (see Note 3 to this Chapter).

Provided, they satisfy the other conditions of the preceding paragraph, the heading includes, as original works, lithographs executed by the transfer technique (in which the lithographic artist first makes his drawing on a special paper and then transfers the design to the stone).

The impressions as defined above are produced from engraved plates which may have been executed by various processes, e.g., line-engraving, dry-point, aquatint (acid process) or stipple-engraving.

Original impressions remain in this heading even if they have been retouched.

It is often difficult to distinguish the original article from the copy, fake or reproduction, but the relatively small number of impressions and the quality of the paper may be useful guides in determining originals; on the other hand, evidence of the use of half-tone screens (in photogravure and

heliogravure) and, very often, the absence of the mark left on the paper by the plate, may indicate a copy or a reproduction.

Frames around engravings, prints or lithographs are to be classified with those articles in this heading, **only** if they are of a kind and of a value normal to those articles; in other cases the frames are to be classified separately in their appropriate headings as articles of wood, metal, etc. (see Note 6 to this Chapter).

It should be noted that the heading **excludes** the plates (in copper, zinc, stone, wood or any other material) from which engravings, etc., are made (**heading 84.42**).

9702.10

- Of an age exceeding 100 years

9702.90

- Other

Heading 9703

Original sculptures and statuary, in any material.

EXPLANATORY NOTES

97.03 - Original sculpture and statuary, in any material.

9703.10 - Of an age exceeding 100 years

9703.90 - Other

This heading covers original sculptures and statuary, ancient or modern. They may be in any material (stone, reconstituted stone, terra-cotta, wood, ivory, metal, wax, etc.), in the round, in relief or in intaglio (statues, busts, figurines, groups, representations of animals, etc., including reliefs for architectural purposes).

These works may be produced by various processes including the following : in one of these the artist carves the work directly from hard materials; in another the artist models soft materials into figures; these are then cast in bronze or in plaster, or are fired or otherwise hardened, or they may be reproduced by the artist in marble or in other hard materials.

In the latter process, the artist usually proceeds on the following lines :

He begins by roughing out his idea as a model, also known as a maquette, (usually on a reduced scale) in clay or other plastic material; with this as a basis, he then models a “clay form”. This “clay form” is seldom sold, but is usually destroyed after it has served for moulding a very limited number of copies decided in advance by the artist, or it is placed in a museum for study purposes. These reproductions include, firstly, the “plaster model” produced directly from the “clay form”. This “plaster model” is used either as a model for the execution of the work in stone or wood, or for preparing moulds for casting in metal or wax.

The same sculpture may therefore be reproduced as two or three “copies” in marble, wood, wax, bronze, etc., and a few in terra-cotta or in plaster. Not only the preliminary model, but also the “clay form”, the “plaster model” and these “copies” constitute original works of the artist; the copies are in fact never quite identical as the artist has intervened at each stage with additional modelling,

corrections to casts, and for the patina imparted to each article. Only rarely does the total number of replicas exceed twelve.

The heading therefore covers not only the original models made by the sculptor but also copies and reproductions of those models made by the second process described above, whether these are made by the sculptor himself or by another artist.

The heading **excludes** the following articles, even if they are designed or created by artists :

(a) Ornamental sculptures of a commercial character.

(b) Articles of personal adornment and other works of conventional craftsmanship of a commercial character (ornaments, religious effigies, etc.).

(c) Mass-produced reproductions in plaster, staff, cement, papier maché, etc.

With the exception of articles of adornment classifiable in **heading 71.16** or **71.17**, all these articles are classified according to their constituent material (**heading 44.20** for wood, **heading 68.02** or **68.15** for stone, **heading 69.13** for ceramics, **heading 83.06** for base metal, etc.).

9703.10

- Of an age exceeding 100 years

9703.90

- Other

Heading 9704

Postage or revenue stamps, stamp-postmarks, first-day covers, postal stationery (stamped paper), and the like, used or unused, other than those of heading 49.07.

EXPLANATORY NOTES

97.04 - Postage or revenue stamps, stamp-postmarks, first-day covers, postal stationery (stamped paper), and the like, used or unused, other than those of heading 49.07.

This heading covers the following products used or unused, **other than** those of **heading 49.07** :

(A) **Postage stamps of all kinds**, i.e., the stamps of the kind normally used for affixing to correspondence or postal packages; “postage due” stamps, etc.

(B) **Revenue stamps of all kinds**, i.e., receipt stamps, registration stamps, circulation permit stamps, consular stamps, stamped revenue bands, etc.

(C) **Stamp-postmarks**, i.e., letters bearing a postmark, but no postage stamps, used before the introduction of postage stamps.

(D) **Postage stamps stuck on envelopes or cards**, including “*first-day covers*”, which are envelopes, usually marked “first-day”, bearing a postage stamp (or a set of postage stamps) postmarked with its date of issue, and “*maximum cards*”. The latter are cards bearing a postage stamp and a reproduction of the stamp’s design. The postage stamp is cancelled with an ordinary or special date-stamp showing the place associated with the design and the date of issue.

(E) **Postal stationery (stamped paper)**, i.e., franked envelopes, letter-cards, postcards, newspaper wrappers, etc.

The articles of this heading may be presented in bulk (separate stamps, date-stamped corners, complete sheets), or in collections. Albums containing collections of such articles are treated as forming part of the collections **provided** they are of a value normal to the collection.

The heading **excludes** :

(a) Maximum cards and first-day covers (whether or not illustrated) not bearing postage stamps (**heading 48.17** or **Chapter 49**).

(b) Unused postage or revenue stamps, postal stationery (stamped paper) or the like, of current or new issue in the country in which they have, or will have, a recognised face value (**heading 49.07**).

(c) Vouchers in the form of "savings stamps" issued by private or commercial bodies to customers, and stamps sometimes issued by retailers to their customers as a rebate on purchases (**heading 49.11**).

9704.00

Postage or revenue stamps, stamp-postmarks, first-day covers, postal stationery (stamped paper), and the like, used or unused, other than those of heading 49.07.

Heading 9705

Collections and collectors' pieces of archaeological, ethnographic, historical, zoological, botanical, mineralogical, anatomical, paleontological, or numismatic interest.

EXPLANATORY NOTES

97.05 - Collections and collectors' pieces of archaeological, ethnographic, historical, zoological, botanical, mineralogical, anatomical, paleontological or numismatic interest.

9705.10 - Collections and collectors' pieces of archaeological, ethnographic or historical interest

- Collections and collectors' pieces of zoological, botanical, mineralogical, anatomical or paleontological interest :

9705.21 - - Human specimens and parts thereof

9705.22 - - Extinct or endangered species and parts thereof

9705.29 - - Other

- Collections and collectors' pieces of numismatic interest :

9705.31 - - Of an age exceeding 100 years

9705.39 - - Other

These articles are very often of little intrinsic value but derive their interest from their rarity, their grouping or their presentation. The heading includes :

(A) **Collections and collectors' pieces of archaeological, ethnographic or historical interest.** Included are :

(1) Articles "of archaeological interest" provide scientific or humanistic understanding of past human behaviour, evidence of cultural adaption and artistic expression, they would normally be discovered as a result of excavation (e.g. scientific, clandestine or accidental) or exploration (i.e. on land or under water).

Such articles include, but are not limited to cave paintings, frescoes, ancient sculptures in the round and reliefs, petroglyphs and carved architectural elements such as column capitals, door lintels, etc.; necklaces, bracelets, finger rings, ear and nose ornaments, brooches, crowns, pins, pectorals, belts and lip plugs; inscribed clay tablets, inscribed shell or bone, stones with incised or raised signs, symbols and words and handwritten or illustrated texts on papyrus, wood, silk, parchment, paper or vellum.

(2) Articles "of ethnographic interest" are generally a product of an autochthonous, tribal or non-industrial society and are needed for the practice of traditional religions or are important to the cultural heritage of a people because they possess distinctive characteristics, are comparatively rare or contribute to the knowledge of the origins, development or history of that people.

Such articles include, but are not limited to, religious and ceremonial regalia and ancestral and religious figures and sculptures; relics and reliquaries, shrunken heads, scalps, decorated skulls, tools and musical instruments made from human bone; and handwritten documents or texts, sometimes with illustrations, on wood, silk, parchment, vellum, paper or leather. Documents may be found as individual sheets, scrolls or bound volumes. Examples include handwritten Bibles, Torahs, Korans and other religious texts, letters, treatises, doctrines and essays.

(3) Articles of "historical interest" are human-made, relate to significant national or global historical events of political, scientific, technological, military or social significance, or the life or achievements of leaders, thinkers, scientists and artists of national or global renown.

Such articles include, but are not limited to, a uniform or a weapon of a soldier in the Middle Ages, the royal insignia used in the coronation of a sovereign and a vessel used in an alchemy laboratory in ancient civilizations.

(B) **Collections and collectors' pieces of zoological, botanical, mineralogical, anatomical or paleontological interest.** Included are :

(1) Dead animals of any species, preserved dry or in liquid; stuffed animals for collections.

(2) Blown or sucked eggs; insects in boxes, frames, etc. (**other than** mounted articles constituting imitation jewellery or trinkets); empty shells, **other than** those of a kind suitable for industrial use.

(3) Seeds or plants, dried or preserved in liquid; herbariums.

(4) Specimens of minerals (**not being** precious or semi-precious stones falling in **Chapter 71**); specimens of petrification.

(5) Osteological specimens (skeletons, skulls, bones).

(6) Anatomical and pathological specimens.

(7) Articles "of paleontological interest" include, but are not limited to, the fossilized remains, traces or imprints of organisms, whether animal or vegetable, preserved in or on the earth's crust, which provide information about the history of non-human life on earth.

Such articles include, but are not limited to, fossils of dinosaurs, extinct plants and animals.

(C) **Collections and collectors' pieces of numismatic interest**.

These are coins, banknotes which are no longer legal tender, other than those of heading 49.07, and medals presented as collections or as separate pieces; in the latter case, each consignment usually contains only a few examples of any one coin or medal, and these are classified here **only if** clearly intended for a collection.

The heading **excludes** coins and medals not regarded as collectors' pieces nor forming a collection of numismatic interest (e.g., large consignments of any one coin or medal); these generally fall in **Chapter 71**, but any such "coins" and "medals" so battered or bent that they are fit only for remelting, etc. are *prima facie* classifiable in the **headings for scrap and waste metal**.

Coins which are legal tender in the country of issue fall in **heading 71.18** even if they are put up for general sale in presentation cases.

Coins or medals mounted as jewellery are **excluded** (**Chapter 71** or **heading 97.06**).

Banknotes which are no longer legal tender, and which are not regarded as collectors' pieces nor as forming a collection, are classified in **heading 49.07**.

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Goods produced as a commercial undertaking to commemorate, celebrate, illustrate or depict an event or any other matter, whether or not production is limited in quantity or circulation, **do not fall** in this heading as collections or collectors' pieces of historical or numismatic interest unless the goods themselves have subsequently attained that interest by reason of their age or rarity.

9705.2

- Collections and collectors' pieces of zoological, botanical, mineralogical, anatomical or paleontological interest :

9705.3

- Collections and collectors' pieces of numismatic interest :

9705.10

- Collections and collectors' pieces of archaeological, ethnographic or historical interest

9705.21

-- Human specimens and parts thereof

9705.22

-- Extinct or endangered species and parts thereof

CLASSIFICATION OPINIONS

Mounted polar bear, with a stand.
Application of GIRs 1 and 6
See also Opinions 4303.90/1, 9705.29/1 and 9705.29/2.
Adoption : 2014



9705.29

-- Other

CLASSIFICATION OPINIONS

1. **Two stuffed birds**, mounted on a habitat stand.
Application of GIRs 1 and 6.
See also Opinions 4303.90/1, 9705.22/1 and 9705.29/2.
Adoption : 2014



2. **Ornamental shoulder mounted head (cape) of an elk**, comprising the pelt from the head and neck of an elk, fitted with its antlers. The inner part, except the part of the skull bearing the antlers, has been removed and replaced by moulded polyurethane. The eyes have been replaced by artificial eyes.
Application of GIRs 1 and 6.
See also Opinions 4303.90/1, 9705.22/1 and 9705.29/1.
Adoption : 2014



9705.31

-- Of an age exceeding 100 years

9705.39

-- Other

Heading 9706

Antiques of an age exceeding 100 years.

EXPLANATORY NOTES

97.06 - Antiques of an age exceeding 100 years.

9706.10 - Of an age exceeding 250 years

9706.90 - Other

This heading covers all antiques of an age exceeding one hundred years, **provided** they are not included in **headings 97.01** to **97.05**. The interest of these articles derives from their age and, as a general consequence, their resulting rarity.

Subject to these conditions, the heading includes :

(1) Antique furniture, frames and panelling.

(2) Products of the printing industry : incunabula and other books, music, maps, engravings (**other than** those of **heading 97.02**).

(3) Vases and other ceramic articles.

(4) Textile articles : carpets, tapestries, embroidery, lace and other fabrics.

(5) Jewellery.

(6) Articles of goldsmiths' or silversmiths' wares (ewers, cups, candelabra, plate, etc.).

(7) Leaded or stained glass windows.

(8) Chandeliers and lamps.

(9) Ironmongers' and locksmiths' wares.

(10) Small ornaments for glass cabinets (boxes, sweetmeat boxes, snuff boxes, tobacco graters, caskets, fans, etc.).

(11) Musical instruments.

(12) Clocks and watches.

(13) Glyptographers' wares (cameos, carved stones) and sigillographers' wares (seals, etc.).

Provided they retain their original character, the heading includes antique articles which have been repaired or restored. For example, the heading includes : antique furniture incorporating parts of modern manufacture (e.g., reinforcements and repairs); antique tapestries, leather or fabrics, mounted on modern wood.

The heading **does not cover**, irrespective of their age, pearls, natural or cultured, or precious or semi-precious stones of headings **71.01** to **71.03**.

9706.10

- Of an age exceeding 250 years

9706.90

- Other